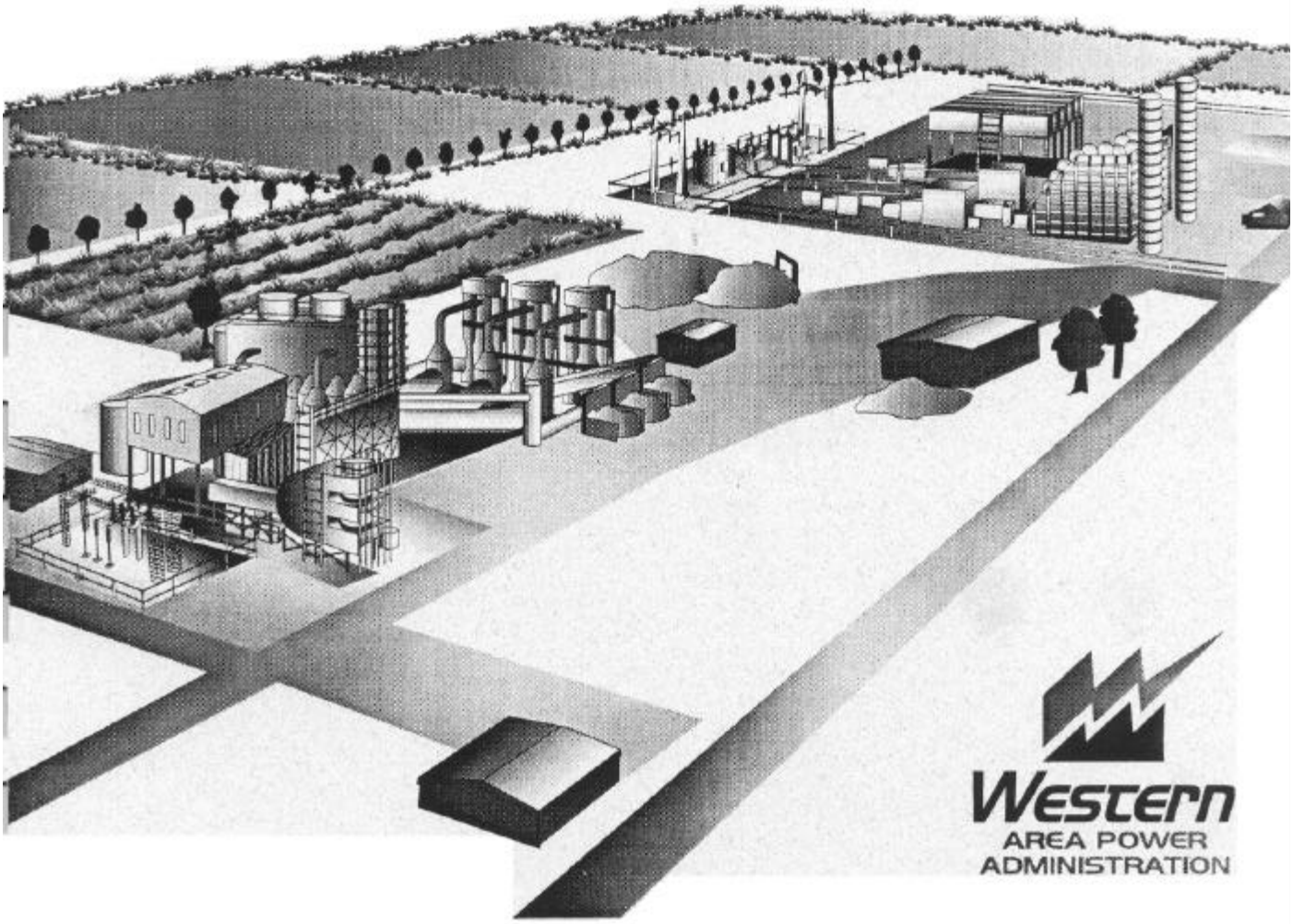
Sutter Power Project

Final Environmental Impact Statement
Volume I

DOE/EIS 0294



Sierra Nevada Customer Service Region

Western Area Power Administration
U.S. Department of Energy

APRIL 1999

Sutter Power Project

Final Environmental Impact Statement
Volume I

DOE/EIS 0294

Western
AREA POWER
ADMINISTRATION

Sierra Nevada Customer Service Region

Western Area Power Administration
U.S. Department of Energy

APRIL 1999

COVER SHEET

Project Title:	**Sutter Power Project, Final Environmental Impact Statement** Sutter County, California
Federal Lead Agency:	Western Area Power Administration, U.S. Department of Energy
Related Actions:	California Energy Commission's Certification for the Sutter Power Project Calpine Corporation's Application for Certification for the Sutter Power Project Sutter County General Plan Amendment and a Planned Development Rezone Western's Sutter Powerplant -- Interconnection Feasibility Study
Technical Assistance:	Foster Wheeler Environmental Corporation CH2M Hill R. W. Beck

ABSTRACT

Western Area Power Administration operates and maintains a high-voltage electric transmission system in California to deliver power to qualified customers. Calpine Corporation has requested that Western study and consider the feasibility of an interconnection with Western's Keswick-Elverta/Olinda-Elverta 230-kilovolt (kV) transmission lines. Calpine propossd to construct and operate of the Sutter Power Project. The project, as proposed, would include a 500 megawatt (MW) natural gas-fueled, combined-cycle, electric generation facility; a new 5.7 mile 230-kV generation tie-line; a transmission line switching station; and a 12-mile (16 inch) natural gas pipeline to connect with Pacific Gas and Electric's Line 302. The siting of the project's generation facility is proposed on a portion of a 77-acre parcel of land owned by Calpine, adjacent to Calpine's existing Greenleaf 1 cogeneration powerplant in Sutter County, approximately 7 miles south of Yuba City and 36 miles northwest of Sacramento. Calpine's stated objective for developing the Sutter Powerplant is to sell power to a mix of retail and wholesale customers in the newly deregulated electricity market. As a "merchant plant," Calpine intends to sell power on a short and mid-term basis to customers, and on the spot market. On July 29, 1998, Western issued a Sutter Powerplant Interconnection Feasibility Study. The study results indicated that the output from the proposed Sutter Powerplant Project would improve system reliability in the generation deficient Sacramento area. Based on Western's interest in improving system reliability and as the owner of the transmission lines for the proposed project interconnection, Western is the lead federal agency responsible for the project's National Environmental Policy Act compliance. The California Energy Commission has the statutory authority to license thermal powerplants of 50 MW or greater. The Energy Commission's siting facility certification process has responsibilities that are functionally equivalent to those of a lead agency under the California Environmental Quality Act. Because of these similar agency responsibilities to examine environmental impacts, Western and the Energy Commission are joint-lead agencies for this project's environmental review. Although this arrangement was successful during the scoping and *Draft Environmental Impact Statement* stages of review, the two agency processes were separated at the close of the *Draft Environmental Impact Statement* public comment period on December 14, 1998, to assure process integrity for each agency.

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Websites that contain information on this project include:

Western Area Power Adminstration	www.wapa.gov
U.S. Department of Energy	http://tis.eh.doe.gov/nepa/
California Energy Commission	www.energy.ca.gov/sitingcases/sutterpower

Summary

Sutter Power Project

Sierra Nevada Customer Service Region

SUMMARY
SUTTER POWER PROJECT

S.1 INTRODUCTION

This summary includes discussions of:

- The Proposed Action (Sec. S.2)
- The Purpose and Need for Action (Sec. S.3)
- Public Involvement and Comment (Sec. S.4)
- Alternatives (Sec. S.5)
- Impacts (Sec. S.6)

This summary provides an overview of the *Final Environmental Impact Statement (Final EIS)* prepared for the proposed Sutter Power Project by Western Area Power Administration (Western). Western is the lead federal agency on this project. This *Final EIS* was prepared to meet the requirements of the National Environmental Policy Act (NEPA) and the implementing regulations of the President's Council on Environmental Quality.[1]

S.2 PROPOSED ACTION

The Calpine Corporation (Calpine) proposes to construct and operate the Sutter Power Project (SPP), a 500-megawatt (MW) natural gas-fueled, combined-cycle, electric generation facility. The SPP would be located in Sutter County, approximately 7 miles southwest of Yuba City on South Township Road near the intersection with Best Road. The location is adjacent to Calpine's Greenleaf 1 49-MW natural gas-fueled cogeneration powerplant. The land dedicated for the facility will comprise approximately 16 acres of Calpine's existing 77-acre parcel. In addition to the proposed powerplant, the SPP will include the construction and operation of a new overhead electric transmission line, a new switching station, and a new 16-inch natural gas pipeline.

Calpine's stated objective for developing the SPP is to sell electric power to a mix of retail and wholesale customers in the newly deregulated electricity market. The project would provide support and improvement to the local transmission system by

[1]The *Draft EIS* was prepared jointly with the California Energy Commission Final Staff Assessment and meets the Commission's requirements from the California Environmental Quality Act and guidance of the Commission.

increasing voltage support in the Sacramento area. The project would also conform to the requirements of the State of California goals for an efficient electrical system.

S.3 PURPOSE AND NEED FOR AGENCY ACTION

Calpine Corporation has requested an interconnection to Western's Keswick-Elverta/Olinda-Elverta double-circuit 230-kV transmission line to transmit electricity generated by their proposed SPP. The purpose and need of the proposed action is for Western to respond to Calpine's request for interconnection.

S.4 PUBLIC INVOLVEMENT

Public involvement is an integral part of the decision-making process for both Western and the Commission. Both Western's and the Commission's processes are intended to inform the public (including individuals, interested parties and Federal, State, local, and tribal agencies), gather information from the public to identify public concerns and values and to consider such input in decision making. Western has received input on the scope of the SPP and on the alternatives through public meetings, workshops, hearings, and comments on the *Draft EIS*. The public's concerns have been focused on visual, land use and air impacts of the proposed powerplant and its affect on agriculture, the primary industry in the county. Western's responses to the public's concerns are presented in Chapter 5 of this document.

Through the combined efforts of Calpine, the Commission and Western, an extensive effort was made to notify all potentially interested parties about the SPP and the opportunities for involvement. Between June and September 1997, five prefiling workshops were held to discuss Application for Certification (AFC). The AFC was filed on December 15, 1997.

On February 13, 1998, Western published a notice of intent to prepare an environmental impact statement for the SPP in the *Federal Register.* This was intended to notify the general public, as well as other interested parties and agencies, of the upcoming scoping meeting, and request identification of issues and reasonable alternatives to be considered in the *EIS*. The scoping meeting was held in Yuba City on March 3, 1998, and the comment period was set through May 5, 1998. The Commission filed the Preliminary Staff Assessment on July 1, 1998, followed by nine workshops to discuss and receive input for the *Draft EIS*/*Final Staff Assessment* (*FSA*). The joint *Draft EIS*/*FSA* was filed on October 19, 1998. The Environmental Protection Agency's notice of availability was published in the *Federal Register* on October 30 and Western's Notice of Availability was published on November 6, 1998. Subsequently, four evidentiary hearings were held to solicit and obtain public comment. December 14, 1998, marked the end of the *Draft EIS* comment period.

Comments taken from the four public hearings covered many of the issues under consideration in the *EIS* process. More than 40 persons provided comments, observations and suggestions. Written comments were also received from individuals, organizations, and agencies on the *Draft EIS*. In addition to the comments centering on environmental impact issues, comments supported the project and comments were made on the procedures used by Western and the Commission in analyzing the environmental impacts. Western believes that all comments have been properly considered in the analysis of the impact of this project.

S.5 ALTERNATIVES

Federal agencies are required under NEPA to consider a range of alternatives that could feasibly achieve the basic objectives of the proposed SPP. The alternatives analysis is designed to provide a reasonable range of feasible alternative sites, which could substantially reduce or avoid any potentially significant adverse impacts of the proposed project. Eleven potential alternative sites were identified through discussions with the public, Sutter County staff, the Commission and from a prior local siting case (Sacramento Ethanol and Power Cogeneration Project).

The number of alternatives was reduced by a comparison of all 11 sites to specific screening criteria. Four sites remained for detailed analysis: Sacramento Ethnaol and Power Cogeneration Project (SEPCO) SAC 1, SEPCO S1, Sutter Buttes, and O'Banion Road in addition to the proposed project site. The analysis also considered the "no project" alternative, which assumed that the project would not be constructed. The Commission process differed from the typical NEPA "no action" alternative analysis, by comparing the alternatives against the proposed project instead of against the "no action" alternative. The analysis also considered technical and operational alternatives to the project proposal, which resulted in the reduction of environmental impacts.

SEPCO SAC 1

The SEPCO SAC 1 site is located in Sacramento County approximately 12 miles north of the city of Sacramento, about one mile east of Highway 99/70 between Elverta Road and Elkhorn Boulevard. The 19-acre parcel is zoned Heavy Industrial with a Flood Combining Zone applied to about half of the site. Details of this alternative include: a 4,000 foot transmission line to connect to Western's existing Elverta Substation; 16 miles of natural gas pipeline; and 200 residences within 1 mile of the site. Property ownership has not been determined.

SEPCO S1

The SEPCO S1 site is located in Sutter County approximately 28 miles south of Yuba City, about 2 miles east of Highway 99/70 on the south side of Sankey Road. The 33-

acre parcel is zoned General Agriculture and is within the South Sutter County Industrial/Commercial Area that has an Industrial/Commercial General Plan designation. Details of this alternative include: one mile of transmission, but not a separate switching station; 20 miles of natural gas pipeline; and 40 residences within 1 mile of the property with expected residential growth. The property is not for sale.

Sutter Buttes

The Sutter Buttes site is located in Sutter County approximately six miles west of Yuba City on the north side of Highway 20, about one mile south of the unincorporated area of Sutter County. The 67-acre parcel is zoned Industrial with a General Plan designation of Industrial/Commercial with prohibited height restrictions. Details of this alternative include: 5 miles of transmission line; 28 miles of natural gas pipeline; 40 residences are within 1 mile of the property; and a separate switching station would be needed. The property is currently for sale.

O'Banion Road

The O'Banion Road site is located in Sutter County approximately 10 miles south-southwest of Yuba City, about 4 roadway miles from the proposed SPP site, located on the south side of O'Banion Road at the Sutter Bypass. The 56-acre parcel is zoned for agriculture use and is in rice production and by a duck club. The site is within ½ mile of the Sutter National Wildlife Refuge. The powerplant is potentially inconsistent with the uses of the refuge, as the rice fields provide habitat for the waterfowl on the refuge, and there are increased avian collision concerns. Details of this alternative include: no transmission line or switching station would be needed; 16 miles of natural gas pipeline; and one residence within 1 mile of the property. Sixty-six percent of current property owners are unwilling to sell.

Preferred Alternative

Western identifies as the preferred alternative the proposed action with the dry-cooling alternative and a transmission line alternative that would route the line south along South Township Road to O'Banion Road, then to an alternative switchyard site at the end of O'Banion Road.

"No-Project" Alternative

This alternative assumes that the project is not constructed. In the AFC, Calpine presents three arguments stating this alternative would be infeasible because:

(1) it does not meet Calpine's business plans and the purpose of a merchant plant;

(2) the SPP will displace production from older, less efficient, higher air emission utility-owned plants; and

(3) the SPP will add stability to the Sacramento area transmission network.

The "no project" alternative does not support the growing demand for electricity in the greater Sacramento Area, and some form of additional generation would be needed within six years.

S.6 IMPACTS

The Commission holds responsibility for approving Calpine's Application for Certification. The Commission has included 166 Conditions of Certification (see Appendix O) in the *Revised Presiding Members Proposed Decision* (*PMPD*). A draft of these Conditions was included in the *Draft EIS*. These Conditions are specific requirements which determine how the proposed facility will be designed, sited, and operated to protect environmental quality, assure public health and safety, and operate in a safe and reliable manner. The impacts to the following are, or will be once the Conditions of Certification have been met, reduced to less than significant:

- Air Quality
- Public Health
- Land Use and Recreation
- Socioeconomic Resources
- Visual Resources
- Biological Resources
- Noise
- Facility Closure
- Soil and Water Resources
- Hazardous Material Management
- Waste Management
- Worker Safety and Fire Protection
- Cultural Resources
- Paleontological Resources
- Facility Design
- Powerplant Reliability
- Powerplant Efficiency
- Transmission System Engineering
- Transmission Line Safety
- Traffic and Transportation

The *PMPD* also includes requirements for Compliance Monitoring and General Conditions.

The Proposed Action will permanently remove 3.0 acres of man-made seasonal wetlands. An additional 2.83 acres will be temporarily impacted during construction activities. There will be no impact to aquatic biota because there will be no wastewater discharge. A total of 19 acres of Swainson's Hawk foraging habitat and 4.9 acres of giant garter snake upland habitat will be impacted. These impacts will be mitigated through an off-site mitigation bank purchase of 38.488 acres. There is potential for migratory bird collision with the transmission line and heat recovery steam generators stacks.

In accordance with 10 CFR1022, Western believes that there is no practicable alternative to the proposed project that would avoid impacts to floodplains/wetlands.

Websites

Electronic versions of this document and many of its components, can be found on these three websites:

Western	**http://www.wapa.gov**
U.S. Department of Energy's NEPA	**http://tis.eh.doe.gov/nepa**
Commission	**http://www.energy.ca.gov/sitingcases/sutterpower**

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A. Wetland Delineation Report for Sutter Power Plant Project, Sutter County, California by Foster Wheeler Environmental Corporation; dated June 1997.

B. Department of the Army Clean Water Act Section 404 Individual Permit for Filling Wetlands on the Proposed Sutter Power Plant Project Site (ID# 199700183); dated September 30, 1998.

C. *FSA/Draft EIS* Distribution list and transmittal letters; dated October 1998.

D. California Energy Commission Correction to the *FSA/Draft EIS* on Waste Management, Noise, Paleontological Resources, and Transmission System Engineering; dated November 2, 1998.

E. Sutter County Community Services Department correspondence to Sutter County Planning Commission regarding General Plan Amendment land use change and Rezoning; dated November 12, 1998.

F. Final Determination of Compliance for the Sutter Power Plant FRAQMD, dated November 13, 19/98.[1]

G. Revised Air Quality Testimony for the Sutter Power Plant; dated November 17, 1998.

H. Errata for Air Quality Testimony Filed on November 17, 1998; dated November 30, 1998.

I. Supplemental Testimony for the Sutter Power Project (on Alternative Project Sites, Alternative Transmission Line Routes, Socioeconomics, and Plant Closure Fund); dated November 24, 1998.

J. Calpine Corporation's Biological Resources Mitigation Implementation Plan; dated December 1998.

K. California Energy Commission Brief on Visual Resource Impacts in the matter of the Application for Certification of the Sutter Power Project; dated December 9, 1998.

L. Department of the Interior letter to Western; dated January 6, 1999.

M. Calpine Corporation letter to California Energy Commission regarding Process Water Mitigation; dated February 26, 1999.

N. State of California, Office of Historic Preservation (SHPO) letter to Western; dated March 2, 1999.

O. Complete Table of Conditions of Certification for the SPP (from *Draft EIS, Presiding Members Proposed Decision* and the *Revised Presiding Members Proposed Decision*).

[1] The version included is the errata for the DOC, which contains the redline/strikeout format; dated December 1, 1998.

P. National Marine Fisheries Service Biological Opinion on the Sutter Power Project; dated March 7, 1999.

Q. California ISO letter to Western Area Power Administration on Calpine Corporation and Proposed Sutter Power Plant; dated March 8, 1999.

R. Native American Contacts and contact letters (dated March 24, 1998) from the Cultural Resources Inventory of the Sutter Power Project, Sutter County, California by Douglas M. Davy, Ph.D. and Jennifer K. B. Nachmanoff; dated January, 1999.

S. Easement Restriction for Sutter National Wildlife Refuge, dated February 17, 1999.

T. U.S. Fish and Wildlife Service Biological Opinion on the Sutter Power Project; dated April 2, 1999.

U. Commission Order Adopting *Revised Presiding Members Proposed Decision*, Docket No. 97-AFC-2, dated March 17, 1999.

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LIST OF ACRONYMS

AFC—Application for Certification
AG — Generic Agriculture
ANSI—American National Standard Institutes
ASCE—American Society for Civil Engineers
ASTM—American Society for Testing and Materials
Cal. Pub. Res Code— California Public Resources Code
Calpine—Calpine Corporation
CCR—California Code of Regulations
CEQA—California Environmental Quality Act Cal. Pub. Res.Code 21000, *et seq*.
CESA—California Endangered Species Act, CCR § 2050, *et seq*.
CFR—Code of Federal Regulations
Commission—California Energy Commission
CPM— Compliance Project Manager
CURE—California Unions for Reliable Energy
CWA—Clean Water Act 33 U.S.C. 1251, *et seq.*
DOE— U. S. Department of Energy
EIS/FSA— Environmental Impact Statement / Final Staff Assessment
EIS—Environmental Impact Statement
EMF—electromagnetic field
ERC—Emission Reduction Credit
ER—Electricity Report
ESA—Endangered Species Act 16 U.S.C. 1531, *et seq.*
FDOC—Final Determination of Compliance
FEMA—Federal Emergency Management Agency
FERC—Federal Energy Regulatory Commission
FRAQMD—Feather River Air Quality Management District
FSA—Final Staff Assessment
FWS—U.S. Fish and Wildlife Service
gpm—gallons per minute
gpd—gallons per day
HRSG—heat recovery steam generators
IEEE—Institute of Electrical and Electronic Engineers
IIPP—Injury and Illness Prevention Plan
ISO—Independent System Operator
kV—kilovolt
LORS— laws, ordinances, regulations and standards
MW—megawatt

NEC—National Electric Code
NEPA—National Environmental Policy Act 42 U.S.C. 4371, *et seq*.
NESC—National Electrical Safety Code
NHPA—National Historic Preservation Act 16 U.S.C. 470
NMFS—National Marine Fisheries Service
OAT—Open Access Tariff
PDOC—Preliminary Determination of Compliance
PG&E—Pacific Gas and Electric Company
PMPD—Presiding Members Proposed Decision
PSA—Preliminary Staff Assessment
ROD—Record of Decision
SEPCO—Sacramento Ethanol and Power Cogeneration Project
SHPO—State Historic Preservation Office/Officer
SPP—Sutter Power Project
U.S.C.—United State Code
Western—Western Area Power Administration

Chapter 1

Introduction to the Final Environmental Impact Statement

Sierra Nevada Customer Service Region

CHAPTER 1
INTRODUCTION TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT

1.1 INTRODUCTION

Western Area Power Administration (Western) is a power marketing administration of the U.S. Department of Energy (DOE). Western owns and operates a grid of electrical transmission lines in 15 western states, including California. The Calpine Corporation (Calpine) has requested an interconnection to Western's Keswick-Elverta/Olinda-Elverta double-circuit 230-kV transmission line to transmit electricity generated by their proposed Sutter Power Project (SPP). The SPP is a proposed 500-megawatt (MW) natural gas-fueled, combined-cycle, electric generation facility. This *Final Environmental Impact Statement* (*EIS*) can be viewed on DOE's National Environmental Policy Act (NEPA) website **(http://tis.eh.doc.gov/nepa/)** or Western's website **(www.wapa.gov)**.

This *Final EIS* has been prepared in accordance with NEPA and the implementing regulations of the Council on Environmental Quality (CEQ) and the implementing procedures of DOE (10 Code of Federal Regulations [CFR] 1021). This *Final EIS* is Western's final analysis of the potential environmental impacts of the proposed SPP and its alternatives. It also contains responses to comments received on the *Draft EIS* from state and federal agencies and the public.

Western released the *Draft EIS* on the proposed project in October 1998, jointly with the *Final Staff Assessment* (*FSA*) of the California Energy Commission (Commission). The *Draft EIS*/*FSA*, as well as other documents, hearing transcripts and information on the project are available on the Commission's internet website **(http://www.energy.ca.gov/sitingcases/ sutterpower/index.html)** or may be requested from the Commission or Western.

1.2 ORGANIZATION OF THE FINAL EIS

This document is organized into five chapters. Chapter 1 presents an introduction to the *Final EIS* and an overview of the environmental review processes and other constraints that affected the evaluation and analysis of the impacts. This chapter also contains a list of the public meetings that were held to ensure full participation by the public and other organizations. Finally, it presents the environmentally preferable alternative. Chapter 2 presents a summary of the *Draft EIS* so the reader does not have to refer back to the Draft to understand issues discussed here. Chapter 3 presents a summary of the Commission's *Presiding Members Proposed Decision* for

the SPP and its revision[1] and supplemental testimony that was presented at the public hearings. Chapter 4 includes a restatement of the NEPA analysis for the project. Chapter 5 presents Western's responses to public comments received in the hearings and from written letters. Volume II contains the appendices referenced in this *Final EIS*.

1.3 ENVIRONMENTAL REVIEW MANDATES

Western and the Commission are mandated by Federal and/or state laws to perform an analysis and evaluation of the potential environmental impacts of the SPP. The two processes are functionally equivalent. Western and the Commission made a decision early in the planning stages to combine efforts in order to streamline the process and eliminate overlap and duplication. The joining of these processes, understandably, required some flexibility by each agency. Since the melding of these two environmental processes was unique, each will be described briefly then followed by a discussion of the merging of the processes.

1.3.1 WESTERN AREA POWER ADMINISTRATION PROCESS

The specific regulations under which Western operates in compliance with NEPA are found in 10 CFR 1021. Specifically in this case, 10 CFR 1021, Appendix D6 to Subpart D, requires Western to prepare an *EIS* if Western integrates into an existing transmission system additions from major new sources of generation. Appendix D7 requires that Western prepare an *EIS* when Western establishes and implements contracts that involve the addition of a major source of generation. In both cases, major generation is taken to mean an average of 50 MW or greater. Therefore, the consideration of an agreement to incorporate the power generated by the 500-MW SPP would require the preparation of an *EIS*.

The regulations in 10 CFR 1021 refer to the implementing regulations of the CEQ found in 40 CFR 1500-1508. These regulations define a process for Federal agencies to follow to ensure there is full disclosure of all environmental impacts associated with a Federal action.

The process Western follows to implement the regulations is simple. First, the scope of the action and the likely impacts to environmental variables are determined. The proposal is then taken to the public to determine if there are any issues within the scope of the action that are of particular concern (scoping meetings). At this time, the public is encouraged to comment on the action, offer suggestions and even propose alternative actions to inform the agency about potential environmental

[1] The Commission issued a revised PMPD in March, 1999. All future references are to the revised version.

impacts. The proposed project is then combined with this scoping information and a Draft EIS is prepared. The public and other interested agencies and organizations are invited to comment on the information and analysis contained in the *Draft EIS*. After a specified comment period, the comments are assembled and responses are provided. This information is then published and released publicly as a Final EIS. Following a waiting period, the agency is then required to publish a record of decision (ROD) on the proposal. The ROD is a concise public record of what the decision is, the alternatives that were considered and a determination that all practicable means to avoid or minimize environmental harm have been adopted, and if not, why not.

The EIS process is required to use a multidisciplinary approach in order to ensure the integration of natural, social and environmental sciences. The process also requires the participation of the public, as well as other agencies with expertise or jurisdiction.

1.3.2 CALIFORNIA ENERGY COMMISSION PROCESS

In the case of the SPP, interwoven into Western's mandated process, is the process of the California Energy Commission. The Commission has the siting and licensing responsibilities for all generation above 50 MW within the state of California. The Commission obtains the authority through Sec. 25500 (*et seq*.) of the California Public Resources Code (Cal. Pub. Res.). Following those regulations, the Commission also acts as state lead agency when issuing a license, in compliance with the California Environmental Quality Act (CEQA.)

CEQA is the mandate of the state of California to consider the environmental impacts of a proposal under consideration by an agency of the state. CEQA is included in a class of state environmental planning statutes known as "little NEPAs." While there are subtle differences between each of these "little NEPAs" and the Federal NEPA, each shares a goal of making informed and more public decisions on activities that may impact the environment.

There are two major differences between CEQA and NEPA. The first is a mandate in CEQA to provide mitigation for impacts deemed significant. The mitigation is intended to reduce the impacts to less than significant levels. The second is a mandate to include a discussion of growth-inducing impacts. However, the authors of CEQA and their guidelines have stressed the need to combine processes and documents where there would be a service to the public.

The Commission has its own procedures that have been determined to be the functional equivalent of the CEQA procedures. The applicant is responsible for submitting information on the specific proposal and its impacts on the environment to the Commission [Application for Certification (AFC)]. The Commission staff reviews the AFC, and if it is complete to their satisfaction, the Commission will issue a determination of the data adequacy. The staff then systematically evaluates the submission by the applicant, and public workshops are held to obtain information from the public in order to assist the staff in evaluating the submission. The results of

the evaluation are written in the *FSA*. The *FSA* is released to the public, and public hearings are held to take testimony on the adequacy of the *FSA*.

Two features distinctly mark the Commission process. First is the considerable amount of public information that is available and the amount of opportunity the general public has to influence the decision making. Through the workshops and hearings, the public has a significant amount of input to the process. The second feature is the semijudicial nature of the process. The staff assessments found in the *FSA* are considered testimony, and during the hearings on the *FSA*, the Commission staff are expected to testify to the accuracy of their analyses and the conclusions they rendered.

Following the public hearings, the Commission weighs the evidence of the AFC, the *FSA* and the testimony by staff and other witnesses, and releases a preliminary decision (*Presiding Members Proposed Decision* [*PMPD*]). The Commission holds a hearing on the *PMPD*, and then renders a final decision on the proposal. This entire process is scheduled to take no more than 12 months.

1.3.3 MERGING OF THE PROCESSES

Western and the Commission conferred very early on in this process to determine whether the two processes could be combined. Western looked at the joining of the processes as an advantage for three reasons. First, the mandated 12 month review period fit Western's desire to reduce the time needed to complete EISs, as is being urged by the DOE. The second reason was the advantage of using the expertise and experience of the Commission staff to analyze information unfamiliar to Western staff. Lastly, combining documents and processes is a clear advantage for the public, since it eliminates review of separate documents, analyses and public meetings.

Additionally, NEPA and its implementing regulations also stresses a need to reduce paperwork (40 CFR 1500.4), to reduce delay (40 CFR 1500.5) and to eliminate duplication with other procedures (40 CFR 1506.2). Specifically, the regulations (40 CFR 1506.4) suggest that an agency should combine a NEPA document with another agency document in order to reduce duplication and paperwork.

To these ends, the coordination of the two processes worked extremely well. Western provided input into the analysis of impacts, provided information and hard data and reviewed all of the work produced to ensure that Western's interests were well served. The Commission staff was well versed in the interest areas that Western was less familiar; and therefore, provided excellent analysis. Finally, the public was more than well served by the joint processes. The public had considerable access to the processes and actually provided valuable information that was incorporated into the analysis. Western was very pleased with this input, since it was considerably more than what would have been possible under a normal NEPA process.

However, merging the documents posed some challenges. The NEPA process requires a recommended format for all *EIS* documents, which includes specific content requirements. To combine processes, Western adopted the Commission's format. This decision was made since all the requirements of a NEPA document could be included in the Commission's format, and Western's process has greater flexibility than the Commissions' process. Western is providing a topical index in this document that will assist readers in finding the discussion of specific issues according to the more traditional NEPA format (Table 4.2).

1.3.4 OTHER CONSIDERATIONS

The electrical industry is currently in a state of flux due to deregulation. In 1996, the Federal Energy Regulatory Commission (FERC) issued Order No. 888 in 61 FR 21540 requiring certain transmission owners to provide (and allowing others) to provide open non-discriminatory transmission. While Western is not directly subject to the FERC order, Western is operating under the intent of the order through publication of Western's Open Access Transmission Service Tariff (OAT). The OAT provides comparable transmission service to eligible customers under the same conditions required by public utilities by the FERC Order No. 888. Western cannot place conditions on access to its transmission system based on the type of generation or on some justification by the generator that there is sufficient consumer demand. Calpine is proposing to build a "merchant" plant and is not necessarily responding to consumer demand. Instead, they are focusing on their ability sell electricity on the open market. Under Western's OAT, if Calpine meets the conditions of the OAT, if capacity is available on the requested transmission line and the requirements of NEPA are met, Western will provide transmission access.

As discussed above, Western is required to prepare an *EIS* when contemplating the incorporation of new generation greater than 50 MW into our existing grid system. However, Western's decision on that analysis only considers the interconnection of the power from the proposed plant to the transmission system. The decision for siting and certification of the generation plant itself lies with the Commission.

1.4 PUBLIC INVOLVEMENT

Public involvement is an integral part of the NEPA and Commission processes. These processes are designed to facilitate input from the public, interested parties and agencies and to guide the decision-making agencies through a collaborative and systematic decision-making process. Outlined in this section is the process initiated by Calpine and carried through by the Commission and Western for the SPP.

Calpine petitioned the Commission for an exemption from the Notice of Intention requirements of Cal. Pub. Res. Code Sec. 25502 for the SPP. Pursuant to Cal. Pub. Res. Code Sec. 25540.6(a)(1), the Commission granted the exemption June 25, 1997.

Between June and September 1997, five public prefiling workshops were held to discuss the SPP and the AFC data adequacy requirements.

On December 15, 1997, Calpine filed the SPP AFC. On January 21, 1998, the Commission found that the application met the data adequacy requirements. On February 2, 1998 to more fully understand the project and adequately analyze the potential impacts associated with the project, Commission staff filed a data request from Calpine for additional information in nine technical areas. Data responses in air quality, biology, cultural resources, hazardous materials, land use, public health, soils and water, transmission system engineering and visual resources were due by March 4, 1998.

On February 13, 1998, Western published a "Notice of Intent to Prepare an Environmental Impact Statement" in the *Federal Register* (63 FR 7412-7413). The notice announced the upcoming scoping meeting, notification to the general public and Federal, state, local, and tribal agencies. In addition, the notice requested identification by the public and agencies of issues and reasonable alternatives to be considered in the *EIS*. A scoping meeting was held in Yuba City on March 3, 1998, and the comment period was set through May 5, 1998. Project contacts were identified for both agencies, which included technical experts as well as process contacts.

The Preliminary Staff Assessment (PSA) was completed and filed on July 1, 1998. Nine workshops were held in Yuba City to discuss and receive input for the *Draft EIS/FSA*. The *Draft EIS/FSA* was sent to the parties on the mailing list (Appendix C) and was filed on October 19, 1998. The Environmental Protection Agency's Federal Notice of Availability was recorded on October 30, 1998 (Vol. 63, No. 210, p. 58379). Western's Notice of Availability and the Notice of Public Hearings were noticed in the *Federal Register* on November 6, 1998 (Vol. 63, No. 215, p. 59986) for the public evidentiary hearings that were held on November 2, 10, 16 and December 2, 1998. A chronology of public hearings, held subsequent to the filing of the AFC, is listed in Table 1.1.

Public comments and opinions from interested groups, Federal and state agencies, neighbors of the proposed project and the general public are an integral part of the decision-making process. Therefore, both the Commission and Western maintained mailing lists of interested parties. Each workshop and hearing was publicly noticed in the local community, on the Commission website and by direct mailings to those on the project mailing list. Western and the Commission have received input through public meetings, workshops, hearings, mailings and comments on the *Draft EIS/FSA* that address the scope of the project, the alternatives and the concerns of the public. These comments and Western's responses are presented in Chapter 5.

TABLE 1.1 CHRONOLOGY OF PUBLIC HEARINGS

Type of Meeting	Meeting Date	Topic(s) Covered
	Dec. 15, 1997	Application for Certification (AFC) Filed
Data Request Workshop	Feb. 10, 1998	air quality, transmission system engineering, biological resources, soils and water, public health, hazardous materials, land use, visual resources, cultural resources and paleontological resources
Informational Hearing/NEPA Scoping Meeting	March 3, 1998	open to public comment on all issues (per NEPA)
Public Workshop	March 25, 1998	air quality, visual resources, alternative transmission line routes, transmission line impacts to agricultural operations, hazardous materials handling, data requests and data responses
Public Workshop	March 31, 1998	water resources, impacts to nearby wells, drainage, water supply options, water disposal options, biological resources and data requests
Public Workshop	June 3, 1998	revised transmission route, air quality, project site drainage, water supply and other related subjects
Committee Status Conference	July 13, 1998	status of the proceeding, including any potential delays, Sutter County's environmental review process, and other parties' comments
Public Workshop	July 14, 1998	Preliminary Staff Assessment, including land use, visual resources, socioeconomics, traffic and transportation, worker safety, cultural resources, paleontological resources, hazardous materials handling, transmission system engineering, noise, transmission line safety and nuisance, efficiency, reliability and facility design
Public Workshop	Aug. 4, 1998	water resources, biological resources, public health, waste management, and alternatives
Public Workshop	Aug. 6, 1998	hazardous materials, worker safety, traffic and transportation, land use, air quality and facility closure
Public Workshop	Aug. 12, 1998	water quality, drainage, water temperature modeling, land use and alternatives
Prehearing Conference	Aug. 19, 1998	procedures, issues and witnesses and schedules for document production and evidentiary hearings
Public Workshop	Sept. 15, 1998	air quality issues associated with the Feather River Air Quality Management District's Preliminary Determination of Compliance
Evidentiary Hearing	Nov. 2, 1998	biological resources, water resources, noise, transmission line engineering, traffic and transportation, hazardous materials, alternatives, enter stipulations
Public Workshop	Nov. 4, 1998	visual and transmission line route
Evidentiary Hearing	Nov. 10, 1998	visual resources, land use, socioeconomics

Type of Meeting	Meeting Date	Topic(s) Covered
Evidentiary Hearing/NEPA Hearing	Nov. 16 1998	air quality, public health, and open to public comment on all issues (per NEPA)
Committee Conference	Feb. 11, 1999	*Presiding Members Proposed Decision*
Evidentiary Hearing	March 10, 1999	air quality, crop-dusting, comments on revised *Presiding Members Proposed Decision*
Commission Business meeting	March 14, 1999	adopted revised *PMPD* (awaiting General Plan Amendment and rezoning actions by Sutter County[2].

1.5 CONSULTATION AND COORDINATION WITH AGENCIES

Western is required by the Endangered Species Act (ESA), to determine the impacts of the SPP on threatened and endangered species. Western also takes into consideration the California Endangered Species Act (CESA; California Code Regulations [CCR] Sec. 670.5) provides protection for threatened and endangered plants and animals and their critical habitat and establishes the requirement that these species be considered when a Federal action is proposed. ESA requires consultation with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS).

In addition to the statutorily required consultations, Western submitted copies of the *Draft EIS* to other Federal and state agencies (Appendix C). The Department of the Interior replied indicating it did not have any comments (Appendix L). The EPA's Office of Federal Activities was provided copies; EPA Region IX provided comments on the *Draft EIS*. Response to the comments is in Chapter 5. The State Clearinghouse was notified of the availability of the *Draft EIS*, but comments were received from only the California Fish and Game and the State Historic Preservation Office (Sec. 1.6). Additionally, representatives of the Sutter National Wildlife Refuge provided input into the process, and testified at several hearings. The refuge is located approximately 4 miles to the west of the proposed action. There are potential biological resource impacts to the refuge associated with the powerplant and construction of the gas pipeline. On February 17, 1999, FWS granted permission (with conditions) for project work within the existing Pacific Gas and Electric

[2] The Sutter County Board of Supervisors met on March 30, 1999, and approved these land use changes. Subsequently, the Commission will likely take its final vote regarding certification of the project at April 14, 1999, regularly scheduled business meeting.

Company (PG&E) 15-foot easement corridor in the Sutter refuge. Their letter to the Commission is included in Appendix S.

Western is also required by the National Historic Preservation Act (NHPA) and the American Indian Religious Freedom Act (16 U.S.C. 1996) to determine impacts of the SPP to important or significant cultural resources. Section 106 of NHPA requires Western to take into account the potential effects of its undertakings on historic properties. The NHPA requires consultation with the State Historic Preservation Office (SHPO). The results of these consultations are provided here.

1.5.1 BIOLOGICAL RESOURCES

Western, as the lead Federal agency, determined that the proposed action may affect endangered or threatened species and initiated formal consultation with the FWS and the NMFS. On March 9, 1998, in accordance with 50 CFR 402, Western requested a list of endangered, threatened or proposed species, which might be present in the project area. A Biological Assessment was submitted to the FWS Sacramento Field Office on April 1, 1998 and the NMFS Regional Administrator on June 9, 1998. Both resource management agencies requested additional information on the project's water requirements.

On June 8, 1998, Western was notified that the FWS had received the request for formal consultation pursuant to the ESA and indicated that barring new information on water quality effects, no additional information would be needed to issue a biological opinion. The FWS was aware that the water quality modeling had not been completed. Based on the information available at that time, the FWS anticipated that the modeling results would not change its analysis of effects of the proposed action to listed species. On July 14, 1998, the FWS received reports on the results of the water quality modeling. Review of the reports revealed the unexpected result that effluent discharge could affect listed species in a manner or to an extent not previously considered.

On October 7, 1998, Western subsequently notified both FWS and NMFS offices of changes in the cooling design, which would result in "zero effluent discharge," thus minimizing impacts to protected aquatic species. At that time Western notified NMFS of our determination that the SPP would not likely adversely affect listed or proposed NMFS species.

NMFS concurred with Western's determination of not likely to adversely affect marine species on March 7, 1999 (Appendix P). On April 2, 1999, the FWS issued its biological opinion stating that the project would not likely adversely affect species in the project area.

1.5.2 CULTURAL RESOURCES

As the lead Federal agency, Western bears the responsibility for compliance with Sec. 106 of the NHPA and the American Indian Religious Freedom Act. On February 8, 1999, Western submitted the "Cultural Resources Inventory of the Sutter Power Project, Sutter County, California" to the California SHPO with the determination that the proposed undertaking would affect no historic properties.

On March 2, 1999, the SHPO concurred with Western's determination and indicated they "do not object to [Western's] determination."

The Native American Heritage Commission (NAHC) was also contacted in July 1997. Pursuant to the request, the NAHC provided a list of Native American representatives who may have an interest in heritage lands or other resources that could potentially be affected by the proposed project (Appendix P). The NAHC also conducted a search of its Sacred Lands File for known areas of Native American occupation and traditional cultural properties. NAHC determined that there were no findings or areas of concern to tribes in the area of the SPP.

In March 1998, letters were sent to each of the 16 tribal contacts identified by the NAHC. The letters described the proposed project, the agencies involved, and provided an interest response form to help identify potential concerns with the proposed project. There was no response to this pre-*Draft EIS* mailing. After release of the *Draft EIS*, subsequent attempts were made by Western to personally call each tribal contact. Those that were contacted indicated that they were unaware of any heritage lands near the SPP. Those contacted wanted to remain on the mailing list for the *Final EIS*. Based on those responses, 16 tribal contacts were kept on the mailing list for the *Final EIS*.

1.6 PREFERRED ALTERNATIVE

NEPA (40 CFR 1502.14(e)) requires Western to identify a preferred alternative in the *Draft EIS* if possible, or in the *Final EIS* unless prevented from doing so by some other law. Western believes that the SPP would not have any significant impact on the human environment provided that Calpine follows the Conditions of Compliance imposed by the Commission and detailed in the *PMPD*. Western supports the proposed action, with the dry-cooling alternative and the transmission line alternative along O'Banion Road, as the preferred alternative (Figures 1-1 and 1-2).

The preferred alternative is not to be confused with the discussion in Western's *Draft EIS* of the environmentally preferred alternative on pp. 16-17, which was mandated by the regulations of the Commission. Western will identify and discuss the "environmentally preferred alternative" at the time of the publication of the ROD (40 CFR 1505.2(b)).

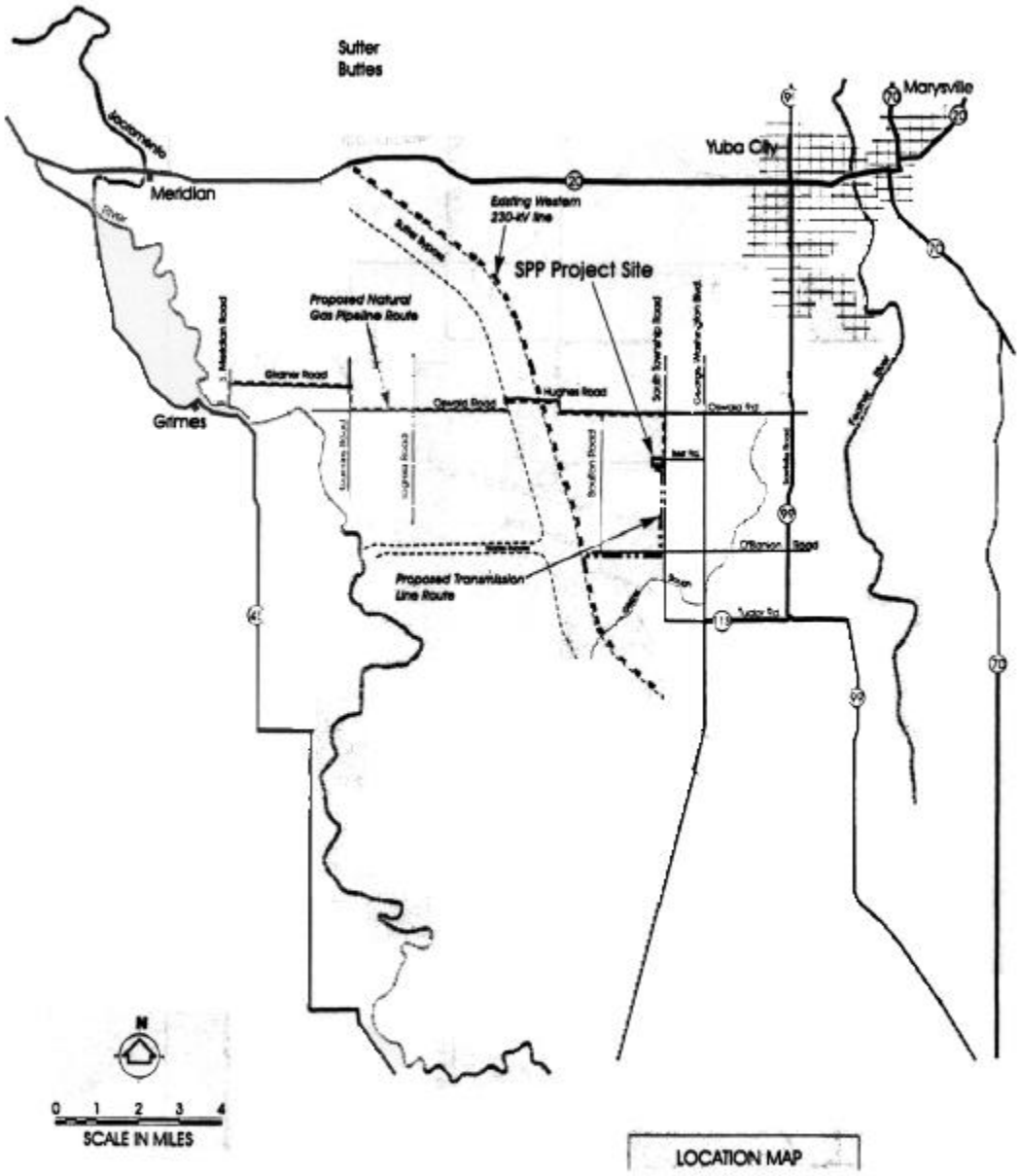


FIGURE 1-1

SUTTER POWER PLANT PROJECT

PREFERRED ALTERNATIVE LOCAL SETTING

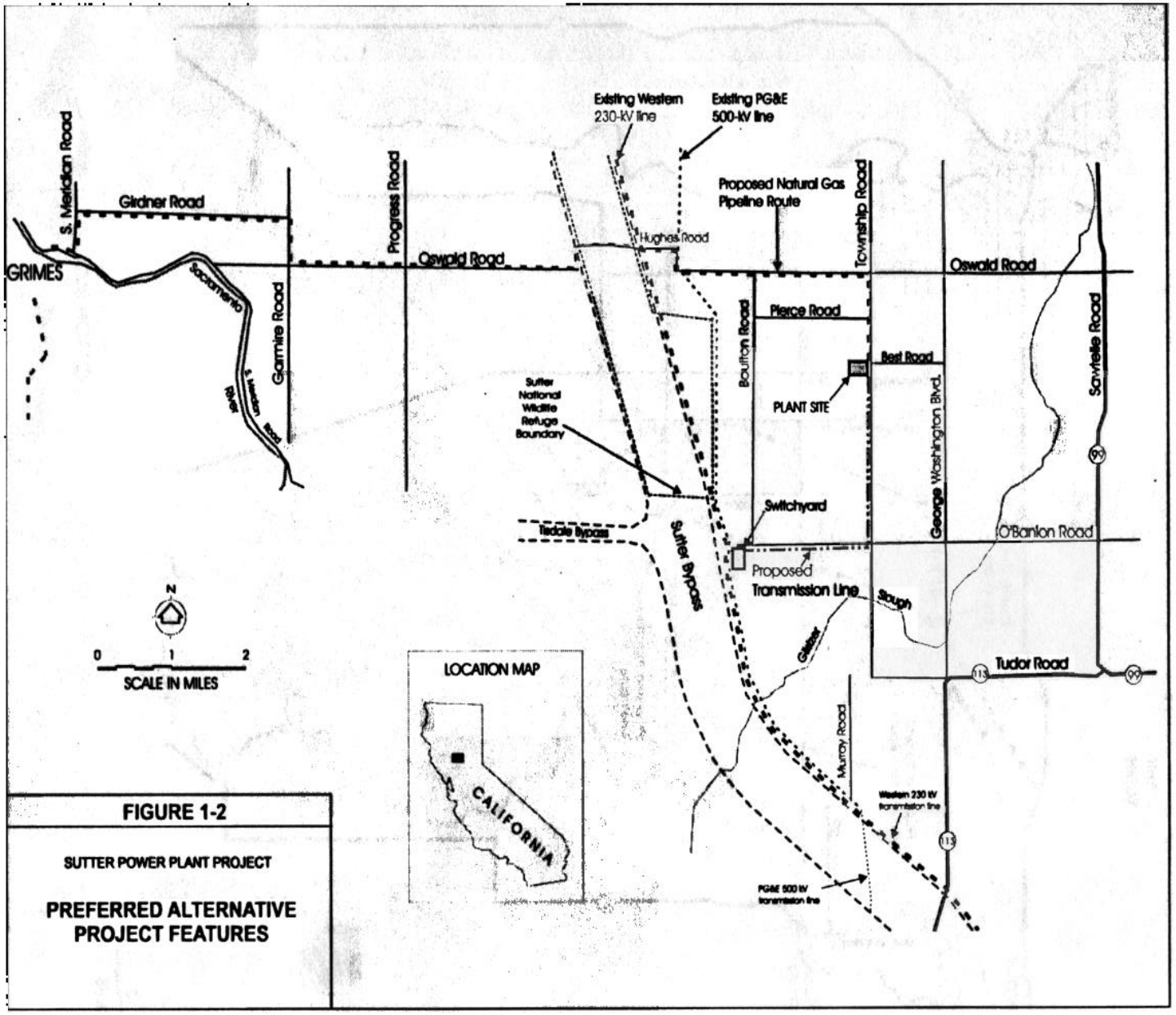


FIGURE 1-2

SUTTER POWER PLANT PROJECT

PREFERRED ALTERNATIVE PROJECT FEATURES

1.7 FLOODPLAIN/WETLANDS STATEMENT OF FINDINGS

Western is required (10 CFR 1022.14) to provide a statement of findings concerning the impacts to floodplains and/or wetlands. The statement of findings is provided in response to the requirements of Executive Order 11988 — Floodplain Management (May 24, 1977) and Executive Order 11990 —Protection of Wetlands (May 24, 1977). Western is required to take into account the impacts of any activity on floodplains/wetlands during the normal planning process activities, such as NEPA. It is the policy of Western and the U.S. Department of Energy to ". . . avoid to the extent possible long- and short-term adverse impacts associated with the destruction of wetlands and the occupancy and modification of floodplains and wetlands. . ."

The *Draft EIS* discussed the likely impacts of the proposed project on floodplains and wetlands on pp. 469-470 and on pp. 430-436, respectively. Alternatives to the proposed project were discussed in the *Draft EIS* on pp. 15-74; the impacts on these resources are detailed in the alternatives matrix in Sec. 4.2 in this document. The following summarizes these discussions.

The project area would be located in the floodplain of the Sacramento River. The Federal Emergency Management Agency 100-year floodplain maps designate this area as Flood Zone X, which is a 100-year floodplain protected by levees. The alternative matrix in Sec. 4.2 shows that only one of the other alternative locations appear to be superior to the project location in terms of impacts to wetlands. The O'Banion Road site was suggested by members of the public and by the Commission staff as a way to avoid the visual impacts of the project location. This alternative could also avoid impacts to wetlands at the project location.

The alternative was carried through the analysis because of the public interest and because the Commission received incorrect information about the availability of the land. In the hearings on the *Draft EIS*, however, it was determined that the majority of the owners of the O'Banion Road property would refuse to sell the property under any circumstances (e.g., see written comments from Wilma Creps LaPerle dated November 9, 1998 in Chapter 5). Since Calpine had no reasonable expectation of ever acquiring the property, the alternative became infeasible. In addition, the Sutter County Planning Commission would be unlikely to convert agricultural land to other uses, specifically agricultural land in the project area (Appendix E). Finally, the Commission noted that this alternative had the potential to adversely impact the Sutter National Wildlife Refuge (*PMPD*, pp. 254-255).

In Calpine's application for a Sec. 404 permit pursuant to the Clean Water Act (CWA), Calpine would mitigate the impacts of less than 6 acres of wetlands and 25 acres of habitat by purchasing 38.488 acres in the Wildlands, Incorporated mitigation bank in Placer County. This mitigation was developed in consultation with and to the satisfaction of the U.S. Army Corps of Engineers and the FWS.

In accordance with 10 CFR 1022, Western believes that there would be no practicable alternative to the proposed project that would avoid impacts to floodplains/wetlands. Western further believes that the impacts to the floodplain were adequately considered, and the impacts to the wetlands would be adequately mitigated. Western, along with the Commission, would monitor the activities of the project to ensure these measures were carried out to the fullest.

Western will accept comments on the floodplains/wetlands statement of findings for a period of 15 days following the Federal Register Notice of the *Final EIS*. Western will address any comments in the ROD.

Chapter 2

Summary of the Draft Environmental Impact Statement

Sierra Nevada Customer Service Region

CHAPTER 2
SUMMARY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

2.1 INTRODUCTION

The *Draft Environmental Impacts Statement (EIS)* presents Western Area Power Administration's (Western) and California Energy Commission's (Commission) independent assessment of Calpine Corporation's (Calpine) Application for Certification (FAC) for the Sutter Power Project (SPP). This document was prepared and published jointly as a *Draft Environmental Impact Statement* / *Final Staff Assessment (Draft EIS/FAS)*, hereafter referred to as *Draft EIS*.

This summary of the *Draft EIS* provides a brief overview of the following:

- Purpose of and Need for Agency Action (Sec. 2.2)
- Project Description (Sec. 2.3)
- Summary of Alternatives, Including the Proposed Action (Sec. 2.4)
- Summary of *Draft EIS* Environmental Consequences (Sec. 2.5)
- Summary of *Draft EIS* Mitigation Measures (Sec. 2.6)

2.2 PURPOSE OF AND NEED FOR AGENCY ACTION

The purpose of and need for the proposed action is for Western to respond to Calpine's request for an interconnection with Western's transmission system. The project has the potential to improve area transmission reliability by increasing voltage support for the Sacramento region. The proposed project conforms to the requirements of the 1996 Electricity Report, the purpose of which is to ensure that California's electricity system is as economically efficient as possible and that the state's public policies are achieved. In addition, Western will address:

- the potential environmental impact associated with this proposed project;
- any adverse environmental impacts;
- the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and
- any irreversible and irretrievable commitment of resources.

2.3 PROJECT DESCRIPTION

Calpine proposes to construct and operate the SPP, a 500-megawatt (MW) natural gas-fueled, combined-cycle, electric generation facility. The proposed SPP site is located adjacent to Calpine's Greenleaf 1, a 49-MW natural gas-fueled cogeneration powerplant, approximately 7 miles southwest of Yuba City, on South Township Road near the intersection with Best Road. The land dedicated for the facility would consist of approximately 16 acres of Calpine's existing 77-acre parcel (Sutter County Assessor's Parcel Number 21-230-25).

Calpine's stated objective for developing the SPP would be to sell electric power to a mix of retail and wholesale customers in the newly deregulated electricity market.

The SPP would include construction and operation of the following facilities:

- The proposed 500-MW combined-cycle facility would use two 170-MW gas turbine/generators exhausting into two heat-recovery steam generators (HRSG). Steam generated in the two HRSGs would power a 160-MW steam turbine/generator.
- A new 5.7-mile, 230-kilovolt (kV) overhead electric transmission line is proposed to be built and routed south along South Township Road to O'Banion Road, west on O'Banion Road to a new switching station, which would interconnect to Western's 230-kV electric transmission system.
- A new 14.9-mile natural gas pipeline is proposed for construction to provide fuel for the SPP. The 16-inch gas pipeline would connect to Pacific Gas and Electric Company's (PG&E) Line 302, an interstate natural gas supply line located to the west of the SPP site in Sutter County.
- The Sacramento River drip station would be expanded by about 5,000 square feet to accommodate a new dehydrator. Across the Sacramento River in Colusa County, approximately 8,000 feet of 4-inch line would be added along with a new dehydrator that would be installed at the Poundstone drip station on Line 302.

Construction is expected to begin in early 1999 and be completed late in 2000. Full-scale commercial operation is expected by the end of 2000 or early 2001. There would be a peak work force of approximately 256 craft laborers, supervisory, support and construction management personnel on-site during construction with an average work force over the entire construction period estimated to be about 150 personnel. The total construction payroll would be approximately $20 million. Calpine would employee 20 full-time plant operators and technicians once the plant is complete. The capital cost of the SPP would be about $250 to $285 million.

2.4 SUMMARY OF POWERPLANT SITING ALTERNATIVES, INCLUDING THE PROPOSED ACTION

The National Environmental Policy Act (NEPA) and its implementing regulations (40 Code of Federal Regulations [CFR] Sec. 1502.14 (a)[1]) requires Western, as lead Federal agency, to consider a range of alternatives that could feasibly achieve the basic objectives of the proposed SPP. The Commission is also required to consider alternatives under Title 20, CCR Sec. 1765 of the Commission's siting regulations, and California Environmental Quality Act (CEQA Title 14, CCR Sec. 15126 (a)).

2.4.1 ANALYSIS OF ALTERNATIVE POWERPLANT SITES

The purpose of the alternatives analysis was to provide a reasonable range of feasible alternative sites that could substantially reduce or avoid any potentially significant adverse impacts of the proposed project. The Commission is required by CEQA to declare an environmentally preferred alternative. Western, under the NEPA, must wait until all information from the public and interested parties is received and analyzed prior to selecting the alternative. Western's "environmentally preferred alternative" will be identified in the Record of Decision (ROD).

Eleven potential alternative sites were identified from a prior local siting case, Sacramento Ethanol and Power Cogeneration Project (SEPCO) and from discussions with Sutter County staff, the public and the Commission[2]. The "no project" (NEPA "no action") was also analyzed. The number of alternatives was reduced in the first step of the analysis by a comparison of all 11 sites to specific screening criteria. The second step addressed Calpine's feasibility to reasonably acquire, control or otherwise have access to the remaining sites. The third step was a comparison of the remaining sites to the proposed SPP (including related linear facilities).

2.4.1.1 "No Project" Alternative Analysis

This alternative assumes that the project would not be constructed. In the analysis, it was compared to the proposed project and determined to be superior, equivalent or inferior to it. In NEPA, the "no action" alternative is typically used as a benchmark

[1] The *Draft EIS* misstated this as Sec. 1502.12 (a).

[2] Technological alternatives that were reviewed but rejected were oil, coal, nuclear, solar, hydroelectric, ocean energy, biomass, fuel cells, municipal solid waste and geothermal (AFC Sec. 5, pp. 11-17). These were rejected because the alternatives were either incapable of reducing or avoiding potential impacts, or infeasible due to cost, location limitations or regulatory reasons. This analysis did not discuss issues related to energy conservation and efficiency since these issues had been addressed in other [Commission] documents and were not relevant to the SPP.

of existing conditions by which the public and the decision makers can compare the environmental effects of the proposed action and the alternatives.

In the AFC, Calpine presented three arguments that state the "no-project" alternative was not feasible. First, the alternative did not meet Calpine's business plans and the purpose of a merchant plant. Second, the SPP would displace production from older, less efficient, higher air emission utility-owned plants. Third, the SPP would add stability to the Sacramento area transmission network.

The *Draft EIS* analysis noted that, based on work done in previous analysis by the Commission, the SPP would likely displace fewer economic and dirtier facilities. The location and quantification of such benefits is unknown. Calpine's air quality improvement argument would be insufficient because it ignores other potential environmental impacts. The SPP would delay the impacts created by additional transmission lines needed for stability in the Sacramento area, but the area would need additional support within six years.

From an environmental standpoint, not constructing and operating the proposed SPP would avoid the one environmental impact created by the project that does not seem to be mitigable, the visual impact. Therefore, the "no project" alternative would seem to be slightly superior to the (unmitigated) proposed project in terms of environmental effects.

2.4.1.2 Alternative Powerplant Sites Considered but Eliminated from Further Study

The following alternatives were analyzed and eliminated from further study because they failed to meet specific screening criteria. These criteria include:

- be within 20 miles (routing distance) of a natural gas supply (roughly equivalent to the proposed project's natural gas supply line routing distance);
- be within 5 miles (routing distance) of Western's Keswick-Elverta/Olinda Elverta double-circuit 230-kV transmission line (roughly equivalent to the proposed project's transmission line routing distance);
- have a transmission line route that avoids medium-to-high-density residential areas (density greater than five dwelling units per acre);
- either be zoned for powerplant use; or if not, then the site should have a reasonable possibility of being rezoned (e.g., not currently be under cultivation).

Maxwell (Colusa County), SEPCO site S7 (Sutter County), Williams (Colusa County), and Catlett (Sutter County)

The Maxwell, SEPCO S7, Williams and Catlett sites were selected as alternative sites because of their location within the Sutter County region and their proximity to

natural gas supplies and Western's Keswick-Elverta/Olinda-Elverta double-circuit 230-kV transmission line. Each site is located close to rail and agricultural-related industrial-type facilities (e.g., grain elevators) and has potential for industrial development. However, the Maxwell, SEPCO S7, Williams and Catlett sites are zoned for agricultural uses and are under cultivation. Therefore, these sites were removed from further consideration.

Everglade Road (Sutter County)

The Everglade Road site, which was suggested by a member of the general public during a public workshop, is located about 6 miles south of the proposed SPP site. It is adjacent to the Sutter Bypass and Western's transmission line. However, the land is actively farmed, which caused it to be removed from further consideration.

Pearson (Yuba County)

The Pearson site is located in Yuba County in an industrial area near the Marysville Airport and about 20 miles from Westerns transmission line. The transmission line routing would require crossing the Feather River and would pass immediately adjacent to medium-to-high-density residential areas. The Pearson site was removed from further consideration because it did not meet the third criteria, avoidance of medium-to-high-density residential areas.

Yuba City (Sutter County)

The Yuba City site, an industrial site, is located in the incorporated city of Yuba City near a water reclamation plant. The distance to Western's transmission line was approximately 15 miles. As with the Pearson site, transmission lines would be immediately adjacent to medium-to-high-density residential areas. Interconnection with Western's Cottonwood-Elverta-Roseville 230-kV line, about 10 miles to the east of both sites, was considered infeasible due a lack of capacity. In addition, a 60-foot height restriction at the Yuba City industrial area would prohibit the two 185-feet-high stacks required for the SPP. The Yuba City site was removed from further consideration because it did not meet the third criteria, avoidance of medium- to-high-density residential areas. Height restrictions in the area would also preclude further analysis.

2.4.1.3 Alternative Powerplant Sites Studied in Detail

The alternatives to the project proposal that were studied in detail include the "no-project" (Sec. 2.4.1.1) and four project alternatives.

SEPCO SAC 1 (Sacramento County)

The SEPCO SAC1 (Sacramento County) site is approximately 12 miles north of the city of Sacramento, and about 1 mile east of Highway 99/70 between Elverta Road

and Elkhorn Boulevard. The site is one of four parcels that comprised the entire 1992 SEPCO site. The parcel is zoned Heavy Industrial with a Flood combining zone applied to about half of the site (M-2F). Water would be supplied from the Sacramento River and discharged via canals to the Natomas East Main Drain, where it would flow back into the Sacramento River. PG&E would supply natural gas via a route from the Davis area. A short transmission line would be routed from the site north about 4,000 feet to Western's existing Elverta Substation. A separate switching station would not be required.

The SAC1 site was determined to be better than the proposed SPP site because it was zoned for powerplant usage, would have better and closer fire protection services, would avoid conflicts with aerial applicators, would have less impact on water resources, and would be much closer to Elverta Substation. Closer proximity to Elverta Substation would be beneficial from the standpoint of reliability, i.e., a short transmission line would reduce the likelihood that physical damage may occur.

Factors that made SAC1 worse in comparison were primarily due to its close proximity to a much greater number of residential areas (less than 1/2 mile). These areas created concerns that hazardous materials incident consequences, impacts on traffic and [biological] resources impacts would be worse than at the SPP site due to the routing of the natural gas supply line.

SEPCO S1

The SEPCO S1 (Sutter County) site is approximately 28 miles south of Yuba City, and about 2 miles east of Highway 99/70 on the south side of Sankey Road. The site is zoned General Agriculture, but is within the South Sutter County Industrial/Commercial Area that has an Industrial/Commercial General Plan designation. Water would be supplied by on-site wells and discharged via canals, as with the SAC1 site. Natural gas would be supplied as with the SAC1, but would require an extension of about 4 miles from the SAC1 site to S1. Neither a transmission line nor a separate switching station would be needed.

The disadvantages of this site included the close proximity of sensitive receptors relative to hazardous materials incidents and noise, fire protection concerns, potential land use conflicts, and impacts on visual and biological resources. Western's 230-kV Keswick-Elverta line is adjacent to the site and the requirement for a transmission line would be eliminated.

Sutter Buttes

The Sutter Buttes (Sutter County) site is approximately 6 miles west of Yuba City on the north side of Highway 20 and about 1 mile south of the unincorporated area of Sutter. This site is within the Sutter Buttes Industrial Area and is zoned Industrial (M-2). Water would be supplied by on-site wells and discharged to the Sutter Bypass

via Wadsworth Canal. Natural gas would be supplied from the same PG&E line at Grimes, the same as the proposed SPP site. However, the (approximately) 20-mile routing would be much different and would require three bores; the first under the Sacramento River, the second under the Sutter Bypass, and the third under state Highway 20. A transmission line, approximately 5 miles long, would be needed to interconnect with Western's Keswick-Elverta line at the Sutter Bypass at the end of Wadsworth Canal. A separate switching station would be needed.

The Sutter Buttes site was found to be the same as the proposed SPP for environmental impacts. Factors that made this site better were the faster fire service response time and its existing zoning for industrial use. Factors deemed worse were the proximity to the unincorporated community of Sutter (for hazardous materials impacts), impacts on the views of the Sutter Buttes range, and water resources impacts due to expected limitations on groundwater availability in the immediate area.

O'Banion Road[3]

The O'Banion Road site (Sutter County) is approximately 10 miles south-southwest of Yuba City, about 4 roadway-miles from the proposed SPP site and is located on the south side of O'Banion Road at the Sutter Bypass. Water would be supplied by on-site wells and discharged a short distance (about 500 feet or less) into the Sutter Bypass via drainage canals. Natural gas would be supplied as proposed for the SPP site, but the route would turn south along Boulton Road to the O'Banion Road site instead of going to the SPP site. Neither a transmission line nor a separate switching station would be needed as the plant would be adjacent to Western's line.

The O'Banion Road site appeared to be the better site among the alternatives. Due to fewer close residences, potential hazardous materials incidents would be reduced. Visual impacts due to the powerplant's buildings, stacks and steam plumes would be reduced by the physical location of the site away from residences and roads. Visual impacts posed by a transmission line would be avoided altogether. The FWS expressed concern that views from the Sutter National Wildlife Refuge would be impacted. The absence of a transmission line would also avoid impacts on agricultural land uses, would be better from a transmission system engineering aspect and would avoid impacts to migrating waterfowl.

This site would be the same for biological resources effects. Impacts on the Giant Garter Snake would either be reduced or avoided, and there are no wetlands associated with the O'Banion Road site. However, because effluent water temperatures would be higher, fish would be impacted.

[3] Inconsistency with both the General Plan and Zoning Code, and the active rice cultivation occurring on this site, would have precluded further analysis past the first screening level. However, due to the significant public interest in the site, it was retained and carried forward.

Although effects on local wells from pumping groundwater would be less, water quality would be worse due to effluent drainage into the main drain. Effluent temperature reduction and dilution would not be as great at the O'Banion Road site as at the proposed SPP site. In addition, detrimental effects upon the Gilsizer drain and Gilsizer Slough during flood events would be increased. Therefore, the overall effects on water resources would be worse than at the SPP site.

Although the O'Banion Road site is identified as environmentally preferable among the studied alternatives, there was not sufficient basis to conclude that the O'Banion Road site was environmentally preferable to the SPP site.

2.5 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The following topics were identified to have the potential for significant effects to the environment.

2.5.1 ALTERNATIVES ANALYSIS

The environmentally preferred siting alternative was determined by comparing each site with the proposed site by assigning numerical values of (1) to "Better" than the proposed SPP, (0) to those rated the "Same" and (-1) to ratings of "Worse." The numerical values for each technical area were added together and the one with the highest number became the leading candidate for the preferred environmental alternatives. Alternatives Table 2.1[4] shows this comparison. The numerical aggregate values obtained were (1) for SAC1, (-4) for S1, (0) for Sutter Buttes, and (5) for the O'Banion Road site.

When comparison values were limited to the list of six potential significant adverse impacts identified with the proposed SPP (i.e., air quality, hazardous materials, land use, visual, biological and water resources), a slightly different result was obtained. The results, as shown in Alternatives Table 2.2, were O'Banion Road site with a value of (1), SAC1 with (-1), and both the S1 and Sutter Buttes at (-2). The O'Banion Road siting alternative was found to be the better of the alternative sites, both in terms of all technical areas and when compared to the six potential significant adverse impacts identified.

Of the alternatives studied, the O'Banion Road site appeared to be environmentally preferable, as indicated in Alternatives Analysis Table 2.1. However, Table 2.1 represents a very general evaluation. It indicates the environmental areas where each alternative is better, the same, or worse overall to the proposed SPP. The degree of superiority/inferiority, and its level of overall importance, is not evaluated. For

[4] Table 2.1 and 2.2 of this *Final EIS* are equivalent to Alternatives Table 2 (p. 30) and Alternatives Table 3 (p. 33) in the *Draft EIS*.

instance, Alternatives Table 2.1 does not indicate the relative importance of various impacts, such as visual impacts vs. biological impacts. The "weighting" of such impacts, while highly subjective, could be critical to determining which alternative were preferred, and how strong that preference might be.

Table 2.1 Draft EIS Alternative Analysis

Screening Level Two				
Technical Area	Site			
	SAC1	S1	S. B.	O'Banion
Air Quality	S (0)	S (0)	S (0)	S (0)
Public Health	S (0)	S (0)	S (0)	S (0)
Hazardous Materials	W (-1)	W (-1)	W (-1)	B (1)
Industrial Safety and Fire Protection	B (1)	W (-1)	B (1)	S (0)
Transmission Line Safety and Nuisance	B (1)	B (1)	W (-1)	B (1)
Land Use	B (1)	B (1)	B (1)	S (0)
Traffic and Transportation	S (0)	S (0)	S (0)	S (0)
Noise	S (0)	W (-1)	S (0)	S (0)
Visual Resources	W (-1)	W (-1)	W (-1)	B (1)
Cultural Resources	W (-1)	W (-1)	B (1)	B (1)
Socioeconomics	B (1)	S (0)	S (0)	S (0)
Waste Management	S (0)	S (0)	S (0)	S (0)
Biology	W (-1)	W (-1)	S (0)	S (0)
Water Resources	B (1)	S (0)	W (-1)	W (-1)
Soil Resources	S (0)	S (0)	S (0)	S (0)
Paleontological Resources	W (-1)	W (-1)	B (1)	B (1)
Facility Design and Geological Hazards	S (0)	S (0)	S (0)	S (0)
Reliability	S (0)	S (0)	S(0)	S (0)
Efficiency	S (0)	S (0)	S (0)	S (0)
Transmission System Engineering	B (1)	B (1)	S (0)	B (1)
Facility Closure	S (0)	S (0)	S (0)	S (0)
Aggregate	B (1)	W (-4)	S (0)	B (5)
S (0) = same as the proposed SPP; B (1) = better than; W (-1) = worse than.				

TABLE 2.2 ALTERNATIVES ANALYSIS: COMPARISON VALUES FOR THE LIST OF SIX POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS

Technical Area	Site			
	SAC1	S1	S.B.	O'Banion
Air Quality	S (0)	S (0)	S (0)	S (0)
Hazardous Materials	W (-1)	W (-1)	W (-1)	B (1)
Land Use	B (1)	B (1)	B (1)	S (0)
Visual Resources	W (-1)	W (-1)	W (-1)	B (1)
Biological Resources	W (-1)	W (-1)	S (0)	S (0)
Water Resources	B (1)	S (0)	W (-1)	W (-1)
Aggregate	W (-1)	W (-2)	W (-2)	B (1)
S (0) = same as the proposed SPP; B (1) = better than; W (-1) = worse than.				

With regard to the six impacts compared in Alternatives Table 2.2, the O'Banion Road site appears to be somewhat better than the SPP proposed site. Use of the O'Banion Road site would eliminate the significant visual impact caused by the use of the proposed site because it would require a minimal transmission line connection, and it was farther removed from residences and through roads. There were many uncertainties with regard to the feasibility and environmental impact of the O'Banion Road site, including water quality and supply, drainage/flooding, biological resource impacts, transmission interconnection and the ability of Calpine to acquire the site. However, it has not been determined that any unmitigable significant environmental impacts would result from use of the site.

Even if it should prove feasible as an alternative, a detailed environmental analysis could indicate that the O'Banion Road alternative had equal or greater overall environmental impacts as the proposed site. Therefore, although O'Banion Road site was identified as environmentally preferable among the studied alternatives, there was not sufficient basis to conclude that the O'Banion Road site was environmentally preferable to the SPP site.

2.5.2 NEED CONFORMANCE

The Commission must certify that proposed electric generating facilities conform to the Integrated Assessment of Need contained in the current Electricity Report (ER). ER 96 was adopted on November 5, 1997, and was used as the basis for evaluating the SPP.

The Commission finds that the Sutter Powerplant meets the need conformance criteria contained in ER 96. The certification of the SPP would not cause the number of megawatts permitted in this case, and any others previously approved by the Commission under ER 96, to exceed 6,737 MW. Therefore, the proposed powerplant is in conformance with the Integrated Assessment of Need.

2.5.3 AIR QUALITY

Impacts associated with the project on air resources would be from construction-related and operation-related activities. Construction activities would have an impact on the amount of particulate matter released in the air (PM_{10}) and on the amount of NO_2 released. The impacts associated with the linear features were thought to be of short duration and unavoidable. The project site excavation might have the greatest impact. Operational activities would have PM_{10} impacts, though the amount of overall pollutants entering an air system that is in non-attainment might cause a worsening of the air quality. The addition of the dry-cooling alternative removed much of the concern over the PM_{10} impacts. The necessary certification[5] and recommendations by the local air district were not available when the *Draft EIS* was released, and much of the recommendations on mitigation would be based on that report.

2.5.4 PUBLIC HEALTH

Public health issues were concerned with the release of potentially harmful substances from the construction and operation of the project. These substances could be criteria pollutants (those with established standards), and noncriteria pollutants (those with no set standards), including cancer and noncancer health effects. The *Draft EIS* could not reach a conclusion on the criteria pollutants because the final recommendations of the local air district were not available. However, the dry-cooling alternative would eliminate most of the air impacts associated with the operation of the plant. There were no impacts associated with the noncriteria pollutants, or with cancer and noncancer health effects.

2.5.5 WORKER SAFETY AND FIRE PROTECTION

To provide a safe working environment, Calpine would be required to operate under a Construction Safety and Health Plan and an Operation Safety and Health Plan. Calpine would also enter into an agreement with Sutter County to pay for needed

[5] Permits and certifications, such as those required for air emissions, hazardous waste management, effluent discharge, etc. are not required for NEPA purposes, rather the regulations that must be adhered to must be included in the *EIS*. The Commission, however, must be assured that the applicant can acquire such permits and certifications, and thus, is part of the certification process.

improvements in fire protection and emergency service capabilities. There would be no additional impacts to fire protection services created with the change to the dry-cooling alternative. The fire/service water storage tank at the SPP site would have 350,000 gallons of water dedicated to the fire protection system.

2.5.6 TRANSMISSION LINE SAFETY AND NUISANCE

The project proposal by Calpine was for a single circuit line with electrical fields found to be acceptable for a line of the proposed voltage and current-carrying capacity. The concern over crop-dusting-related impacts and the option for future operation as a double circuit line prompted Calpine to propose the present double circuit design. Since no health effects have been reliably associated with magnetic or electric field exposure, there would not be a public health basis for recommending one route over another for the line as proposed. The new design would lead to lower electromagnetic field (EMF) strengths than initially proposed; field strength exposure in this line would also be at acceptable levels.

2.5.7 HAZARDOUS MATERIAL MANAGEMENT

The analysis of proposed hazardous materials use in the SPP indicated that there would be minimal risk for potential significant impacts on the public. One concern was the storage of a large amount of anhydrous ammonia. While a catastrophic failure of the ammonia storage tank could result in serious exposures, the probability of such an occurrence would be too small to be considered plausible. The proposed dry-cooling alternative would not affect findings regarding the hazardous materials management analysis.

Calpine would submit a Business Plan and Resource Management Plan to the Environmental Protection Agency, the Sutter County Fire Department and the Commission. The hazardous materials storage and handling systems, as well as a risk assessment, would be reviewed for adequacy prior to delivery of any hazardous materials to the facility.

2.5.8 WASTE MANAGEMENT

A certain amount of wastes, both hazardous and nonhazardous, would be generated during the construction and operation of the SPP. Calpine would manage all wastes generated according to all applicable laws, ordinances, regulations and standards. The project would not result in any significant adverse impacts. A condition of certification is for Calpine to identify the specific mitigation measure that would be used to manage SPP-related wastewater.

2.5.9 LAND USE AND RECREATION

Land use impacts associated with the SPP would include conversion of agricultural land to nonagricultural uses, the potential for conflicts with existing and future land uses on adjacent parcels and the potential for further industrial development in a designated agricultural use area. These impacts would be due to both the plant and the placement of the proposed transmission line route. The construction of the SPP would not result in a significant loss of farmland and the transmission line would not be incompatible with current or future agricultural uses. However, the SPP would cause conversion of agricultural land to nonagricultural uses. To mitigate such impacts, the Sutter County comprehensive general plan includes policies and implementation measures to address agricultural land conversion and siting of industrial/commercial uses. The SPP would require an amendment to the Sutter County General Plan.

In addition, other local approvals and discretionary actions would be required, including:

- a use permit and a grading permit for 5 acres or more from Colusa County for the natural gas dehydrator and that portion of the natural gas pipeline within its jurisdiction;
- a use permit from Sutter County for the proposed utility transmission lines and switchyard switching station.

2.5.10 TRAFFIC AND TRANSPORTATION

Powerplant

During the construction phase, roadway traffic resulting from the daily movement of workers and materials would increase. While noticeable, this increase would not exceed the thresholds established by local and regional authorities, and the increase would be of short duration. During the operation of the SPP, the increased roadway traffic from the daily movement of workers and materials would be minimal. The transportation and handling of hazardous substances would be insignificant by compliance with Federal and state standards established to regulate the transportation of these materials.

Linear Facilities

Construction of the transmission lines would have minimal impacts on the area roadways. Routine construction safety measures should be sufficient to ensure no impacts. The construction requirements for the natural gas pipeline would include trenching within public road rights-of-way, which could impact both roadway function and level of service. However, these impacts would be short term and not

result in significant impacts. Calpine would agree to appropriate traffic control measures, and all development would take place in compliance with California Department of Transportation and Sutter County limitations for encroachment into public rights-of-way.

2.5.11 NOISE

The SPP would likely create some noise, or unwanted sound, during its construction and operation. The project would be built and operated in compliance with all applicable noise laws, ordinances, regulations and standards. The SPP would present no significant adverse noise impacts, individually or cumulatively, and represent an unobtrusive, nearly undetectable, addition to existing noise levels. The dry-cooling alternative would have a negligible impact and would be designed and built to produce noise levels no greater than those from the proposal in the AFC.

2.5.12 VISUAL RESOURCES

The SPP as proposed has the potential to cause significant adverse impacts on visual resources. Specifically, the transmission line would have a significant visual impact on the view of the Sutter Buttes, a prominent natural landmark north of the project area. The alternative transmission line routing, along O'Banion Road, would reduce to some degree the adverse impact, but a significant impact from the transmission line would remain. An additional alternative transmission line route, which would leave the plant and head directly west to the PG&E 500-kV transmission line, would avoid any significant adverse impact to visual resources.

In addition to the transmission line, the plant would cause a significant visual impact on the view of the Sutter Buttes itself. As seen from south of the proposed site, the plant would contribute substantially to significant cumulative visual impacts because it would add to the visual impacts of the existing Greenleaf 1 project.

Proposed mitigation measures would achieve compliance with applicable laws, ordinances, regulations and standards, and would reduce all other impacts to visual resources to less than significant levels. However, the proposed mitigation measures would not reduce the visual impacts of the powerplant to less than significant levels.

2.5.13 CULTURAL RESOURCES

The SPP site is located on the eastern side of the midsection of the Sacramento central valley, which has been inhabited by humans for more than 10,000 years. Five prehistoric sites have been recorded within 1 mile of the SPP site and its associated linear facilities, but none would be impacted by the project. Where surface disturbance and excavation were required, cultural resources could be encountered during SPP-related construction activities. Thus, the SPP has the potential to cause

an adverse impact to previously unknown unique or eligible resources. If such resources were encountered during construction, work would be halted until they were evaluated and any necessary mitigation implemented.

To address the potential for adverse effects to previously unknown resources, and to mitigate SPP-related impacts to an acceptable level, standard mitigation and conditions would apply. These actions would addressed detection of cultural resources during SPP construction, including what the SPP owner or its consultants must do if cultural resources were uncovered (i.e., assessment of significance, mitigation by avoidance or recordation). Monitoring and mitigation for the presence of significant cultural resources would reduce the potential for SPP impacts to previously unknown cultural resources. Under the National Historic Preservation Act (NHPA), Western would consult with the State Historic Preservation Officer, the Advisory Council on Historic Preservation and any land managers on the eligibility, effect and mitigation measures for any discovery.

2.5.14 SOCIOECONOMIC RESOURCES

Socioeconomic resource impacts include environmental justice issues and other project-induced population change issues such as housing, property values, utilities, local economy and schools. There would be the potential of the project to induce population and economic growth. An outreach program to train and hire local people for operation of the plant would be implemented to offset the impacts.

2.5.15 BIOLOGICAL RESOURCES

Biological resources are concerned with impacts to state and Federally listed species, species of special concern, wetlands and other habitat loss. The construction at the plant site would impact wetlands and habitat for five bird species. In addition, the SPP would impact Giant Garter Snake upland habitat, and discharge from the plant would have a potential for impact on anadromous fish species in the adjacent waterways and avian species in the Sutter Bypass. The transmission line would potentially impact the avian species using the Sutter National Wildlife Refuge. The dry-cooling alternative would eliminate most of the impacts to the Sutter Bypass since the plant would not discharge water to the Bypass. Other mitigation measures, such as compensatory habitat for grasslands and wetlands, would reduce the impacts on biological resources to less than significant levels. Additional mitigation measures might be necessary once the consultations with appropriate agencies were completed.

Calpine has provided a final design. Calculations for compensatory habitat required is based on best estimates from the information provided to date and may need to be adjusted. From the information provided to date, a total of 19.2 acres would be permanently lost. Some of these acres support more than one sensitive resource; for example, the wetlands are Swainson's hawk foraging habitat during the dry months

and the uplands located within 200 feet of a drainage canal are also Swainson's hawk habitat. It might be possible to compensate for these habitat types simultaneously. If not, the total acres for each habitat type lost would need to be individually compensated.

2.5.16 SOIL AND WATER RESOURCES

The SPP would not cause significant impacts to soil resources through erosion and sedimentation. The wet-cooling alternative originally proposed would have a significant impact on groundwater quantity, and on the quality of the discharge water. The dry-cooling alternative would reduce the impact on groundwater quantity by 95 percent and eliminate the impact on groundwater and surface water quality. Under this alternative, the SPP would become a zero-discharge facility.

2.5.17 PALEONTOLOGICAL RESOURCES

The SPP site is located on the eastern side of the midsection of the Sacramento central valley where a sequence of Quaternary age sedimentary rock units are intermingled with, and are overlain by, layers of recent alluvial deposits. The underlying Pleistocene-age sediments in the remnant terraces of the Modesto Formation have been found to contain fossil materials. Monitoring and mitigation for the presence of significant fossil materials and implementation of full data and fossil recovery would be essential to reduce the potential for SPP impacts to paleontological resources to a less than significant level.

2.5.18 FACILITY DESIGN

The design and construction of the SPP would comply with all applicable laws, ordinances, regulations and standards, including those relating to engineering design and modifications, mechanical systems, control systems, chemical engineering and geotechnical issues. There would be no impacts associated with the facility design standards in full compliance.

2.5.19 POWERPLANT RELIABILITY

Calpine predicts an equivalent availability factor of 92 to 98 percent for the plant, which would slightly exceed the industry norm of 90 percent for this type of plant. While this might be optimistic, the plant would be built and operated in a manner consistent with industry norms for reliable operation.

2.5.20 POWERPLANT EFFICIENCY

Powerplant efficiency deals with whether the energy use by this facility would result in a significant adverse impact on the environment. While the SPP would consume substantial amounts of energy, it would do so in the most efficient manner practicable. Using the wet-cooling alternative would yield a minor improvement in efficiency. While wet-cooling is slightly more efficient, the benefits of the dry-cooling alternative, in terms of water supply and wastewater disposal, would outweigh any such advantage. In addition, the SPP could potentially displace power generated by other less efficient plants in the interconnect transmission system. The end result would be a potential beneficial impact on energy resources.

The SPP, if operated as proposed, would generate 500 MW of electric power at an annual average thermal efficiency of approximately 52 percent. Representing the most fuel-efficient powerplant configuration feasible for the intended service, the SPP would present no significant adverse impacts upon energy resources.

2.5.21 TRANSMISSION SYSTEM ENGINEERING

The powerplant switchyard substation, double circuit outlet line, termination point and switching station meet system-engineering requirements. The SPP would provide significant power to the Sacramento Valley area, would help mitigate local system voltage problems and would provide moderate power for load growth.

2.5.22 FACILITY CLOSURE

The Commission is required to assure that the closure of the SPP would have no significant impacts on public health and safety or the environment. Calpine would be required to ensure compliance with all applicable laws, ordinances, regulation and standards in effect when the closure occurs.

2.6 SUMMARY OF MITIGATION MEASURES AS DEFINED BY THE COMMISSION'S CONDITIONS OF CERTIFICATION

The *Draft EIS* provides mitigation measures for each technical area in the form of the Commission's Conditions of Certification[1]. A total of 108 conditions were defined. In the event that the SPP would be licensed, the Commission would appoint a Compliance Project Manager (CPM) who would review the project during its construction and operation, and verify that the conditions are met.

[1] Table 3.1 in Chapter 3, Section 3.2.17, provides a summary of the Conditions of Certification found in the *Draft EIS* and modifications made in the Presiding Members Proposed Decision. The final Conditions of Certification can be read in Appendix O.

Chapter 3

Summary of the Presiding Members Proposed Decision on Other Commission Decisions

Sierra Nevada Customer Service Region

CHAPTER 3

SUMMARY OF THE PRESIDING MEMBERS PROPOSED DECISION AND OTHER COMMISSION DECISIONS

3.1 INTRODUCTION

This chapter includes additional information that developed since release of the *Draft Environmental Impact Statement (Draft EIS)* including:

- Overview of the public hearing process (Sec. 3.2)
- A brief summary of the California Energy Commission's (Commission) decisions (Sec. 3.3)
- Summary of the Commission's *Presiding Members Proposed Decision* (*PMPD*) (Sec. 3.4)

3.2 OVERVIEW OF THE PUBLIC HEARING PROCESS

Public hearings were conducted during the *Draft EIS* comment period by the Commission and Western Area Power Administration (Western) on November 2, 10 and 16 and December 1, 1998. The November 16, 1998 meeting served as Western's NEPA hearing on the *Draft EIS*. Transcripts of these hearings can be viewed on the Commission's website or requested from the Commission or Western. The Commission process included testimony from the Commission's staff on the portion of the *Draft EIS* written by them. The commissioners and the applicant could then "cross-examine" the staff. Other witnesses, including those of the applicant, can also be called and cross-examined. The public was provided opportunities to interact in the discussion, provide input and voice concerns or support. This process provided the maximum mix of public interaction.

The Commission held an additional evidentiary hearing on March 10, 1999, to take evidence on the adequacy of the substitute emission reduction credits (ERCs), announced by Calpine in its filing of February 8, and at the Committee Conference of February 11. Although the specific details of the ERC negotiations have been deemed confidential, Calpine testified that the substitute ERCs provide adequate offsets.[1] Next, the Commission moved to allow additional crop-dusting testimony. The additional testimony was entered into the record. Wastewater handling was identified by Calpine: there would be no evaporation pond on site since an evaporator

[1] The Feather River Air Quality Management District Board voted to allow air credits to be used at different seasons of the year. They are scheduled to vote on the resolution for using Yolo-Solano offsets on April 5, 1999 (after the Sutter County Board of Supervisor's General Plan Amendment and rezone action on March 30, 1999).

will be used and the remaining solids would be hauled off to a landfill. The Commission opened up the March 10 meeting for comments on the Revised *PMPD* — there were none. Finally, general public comments were allowed.

3.3 SUMMARY OF THE COMMISSION'S DECISIONS

The *PMPD* was issued on January 20, 1999 and revised in March 1999. All references in this chapter are to the revised *PMPD*. The *PMPD* contains the recommendations of the Commission's designated Committee on whether the Commission should approve the application for the Sutter Power Project (SPP). The Committee found that, "with the implementation of all mitigation measures and the more than 165 Conditions of Certification (Appendix O), the SPP would not impose a significant adverse impact on the environment." The Committee therefore recommended approval of the Application for Certification for the project. However, the approval was based on two conditions: 1) the approval of Calpine's appeal to the Sutter County Board of Supervisors for a General Plan Amendment and rezone for the project site, and 2) permission from the Fish and Wildlife Service, Sacramento National Wildlife Refuge Complex to cross the Sutter National Wildlife Refuge with the project's natural gas fuel pipeline.[2]

The full Commission considered the adoption of the Revised *PMPD* for the SPP at its March 17, 1999, general business meeting (Appendix T). After accepting public comment on the SPP, the Commission voted 4-1, that with the inclusion of 165 Conditions of Certification, the project would satisfy California's environmental laws and regulations. However, even with this environmental assurance, the Commission withheld final certification of the powerplant until the project is in conformance with the Sutter County General Plan.[3] At a regularly scheduled business meeting on April 14, 1999, the Commission will likely take its final vote on the project. At that meeting, the Commission will review the rezone and General Plan Amendment actions of the Sutter County Board of Supervisors in relation to this project. The Commission vote will then focus only on whether or not to certify the project and approve the plant's construction and operation.

[2] Subsequently, on Feb. 17, 1999, the U.S. Department of the Interior, Fish and Wildlife Service, Sacramento National Wildlife Refuge Complex, granted permission (with conditions) for work within the easement corridor of the Sutter National Wildlife Refuge (Appendix S).

[3] The Sutter County Board of Supervisors met on March 30, 1999 and voted to approve the General Plan Amendment and rezone for the project site.

3.4 SUMMARY OF THE PRESIDING MEMBER'S PROPOSED DECISION

The following is a condensed summary of the primary points of the environmental assessment, the testimony from the hearings and the conclusions reached by the Commission from the *PMPD*. During the hearings, the Commission provided corrections to the Waste Management, Noise, Paleontological Resources, Transmission System Engineering and Air Quality (Appendices D, G and H). These corrections were taken into account in preparing the *PMPD*. The *PMPD* only addressed the proposed alternative site and its impacts.

3.4.1 AIR QUALITY

The Commission received evidence on the potential air quality impacts associated with the SPP, on whether it would conform to all applicable air quality laws, ordinances, regulations and standards (LORS) and on the adequacy of the proposed mitigation measures. Evidence was submitted by the applicant, the Commission staff, and by the Feather River Air Quality Management (FRAQMD).

The primary air concerns in the Sutter County area were with ozone and particulate (PM_{10}) emissions. Records show the current level of both ozone and PM_{10} exceed the California Ambient Air Quality Standards in Sutter County during the period when data was collected (for certain periods during the year). Construction and operation of the proposed project would generate air emissions of particulate matter less than 10 microns (PM_{10}) and its precursors nitrous oxide (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2) and PM_{10}. To partially control the PM_{10} emissions during operation, Calpine proposed to use an inlet air filtering system, and a dry-cooling tower (which has no PM_{10} emissions associated with its operation and is the best control technology available). Calpine proposed mitigation for PM_{10} emissions from operation and construction activities through the purchase of emission reduction credits (ERC) from the Feather River Air Quality Management District (FRAQMD) and the Sacramento Metropolitan Air Quality Management District ERC bank. Calpine also began negotiating with Sutter County to pave 5.6 miles of county roads as additional PM_{10} mitigation.

The Feather River Air Quality Management District (FRAQMD) representative testified that the district had worked with the Commission, the Air Resources Board and EPA for several months to craft a determination of compliance that would meet all of the district's requirements. The FRAQMD issued its Determination of Compliance on November 13, 1998 (Appendix F), and received very few comments.

The *PMPD* concluded that, assuming the implementation of the recommended Conditions of Certification, the SPP would meet all applicable air quality requirements and would not cause any significant air quality impacts.

3.4.2 PUBLIC HEALTH

The Commission received evidentiary analysis to determine if emissions from the SPP would have the potential to cause significant adverse public health impacts or to violate standards for public health protection. Commission staff testified that no standards would be violated by the construction or operation of the SPP and adequate offsets were available for the criteria pollutants that the plant would emit. The SPP would not have a significant public health impact for noncriteria pollutants.

Cumulative impacts on public health were examined by the Commission and the FRAQMD by conducting a review of all known, future projects within a 6-mile area of the SPP and found that there were none that meet the criteria for modeling. For noncriteria pollutants, the Commission testified that elevated concentrations of contaminants from stationary sources tended to be localized, and significant cumulative risks were likely to occur only when multiple facilities with substantial low-level toxic emissions were immediately adjacent to, or very close to, one another. No facilities would meet FRAQMD criteria for significant risk.

Since the upper-bound estimates for noncriteria emissions from the SPP were substantially lower than the significance levels for both acute and chronic health effects, and because nearby facilities would not pose significant public health risks, the Commission staff testimony concluded that cumulative health hazards from project-related noncriteria emissions would not be matters of concern.

3.4.3 LAND USE

The Commission's analysis of land use impacts for the SPP focused on two main issues: 1) the conformity of the project with local land use plan, ordinances and policies; and 2) the potential of the proposed project to have direct, indirect and cumulative land use conflicts with existing and planned uses. At present, the proposed site would not conform to local land use plans. Therefore, the proposed project included a proposal to Sutter County for a zoning change and a General Plan Amendment from agricultural to industrial. Agriculture currently is the primary land use in the SPP area.

On November 12, 1998, the staff of the Sutter County Community Services Department issued its report recommending that Calpine's application for a General Plan Amendment and rezone be approved with various conditions. On December 2, 1998, the Sutter County Planning Commission voted 4-3 to recommend denial of Calpine's application on the grounds that the project was inconsistent with the General Plan. On December 9, 1998, Calpine filed an appeal. Calpine cited that the county can amend its General Plan up to four times a year and the amendment and

rezone would change the property's land use designation to its existing use (current operation of the Greenleaf 1 unit).

The evidence of record demonstrates that the SPP would not have significant direct impacts on local land uses. The 77-acre parcel for the proposed project has not been in agricultural use since 1984. While the switching station might displace agriculture, the total loss would be no more than 2 acres. The project transmission line would unlikely cause a direct impact on agriculture or local farming. Direct impacts to affected crop-duster landing strips would be fully mitigated by relocating the strips.

The transmission lines would have some indirect impacts on agricultural operations, including crop-dusting and ground equipment use. These impacts would be minimized by using steel tubular rather than lattice-style towers and by locating the transmission line along existing roads, not in the fields. Additionally, the project would not have significant adverse effects on land uses for local wildlife habitat such as the Sutter National Wildlife Refuge.

3.4.4 SOCIOECONOMICS

The socioeconomic analysis evaluated the effects of project-related population changes on local schools, medical and protective services, public utilities and other public services, as well as on the fiscal and physical capability of local governmental agencies to meet the needs of project-related changes in population.

Calpine testified that the project's economic benefits to Sutter County would be greater than any potential or perceived negative impacts from the project. The approximately $300 million merchant plant would be a private investment and would not affect California ratepayers or local residents. Construction activities would include the local purchase of approximately $5 million in construction materials and would generate $6 million-$10 million in sales taxes. Additionally, the plant would have local employment benefits such as 20 permanent employees with an average salary of $50,000 and a maximum of 256 workers during the construction phase. Between $2 million and $4 million of the plant's operating budget would be spent locally and an estimated $3 million in property taxes would increase the local economy. Additional benefits would include developer impact fees to local schools ($27,000) and upgrades to the County's fire protection services.

The Sutter County Assessor provided additional information to clarify the amount of tax revenues the project would provide for local districts. The Assessor's calculation showed that of $2.7 million tax revenue, $881,000 would be additional revenue for the county. The remaining would go to the state. These taxes would go to the general fund, fire department, mosquito abatement, special road fund, cemetery districts, water agency and Maintenance Area No.7. No revenues would be directed toward education, as these are paid by through the state's revenue limit formula.

There was considerable concern from residents that the project would negatively impact property values due to transmission lines visible from their homes. The Commission researched literature on proximity impacts analysis and concluded that this type of analysis for this project would be difficult, if not impossible, due to data collection requirements. The impacts on property values of very large industrial facilities (nuclear powerplants, industrial waste incinerators and landfills) were also researched and an attempt to evaluate the impact of Greenleaf 1 plant on local property values was made. However, the Commission could not establish the existence of negative project impacts to property values.

There was discussion of the decreased land available for agriculture and impacts to crop-dusting activities. If the preferred transmission line route were used, no cropland would be impacted except for a short period during erection of the towers (for which the landowner would be compensated) and would have minimal impacts to crop-dusting. The Commission concluded that the SPP and its facilities, including the transmission line, would not have a significant quantifiable impact on the local agricultural economy. Assuming all land within a 125-foot-wide and 4-mile-long transmission line easement would be lost to agriculture, the gross loss represents only 0.015 percent of Sutter County's rice production for 1997.

The project would have a potential for cumulative sociological impacts due to changes in Sutter County's General Plan, which could induce population and economic growth through further industrial development. However, no specific or feasible projects were identified.

The Commission concluded that the SPP would bring significant economic benefits to Sutter County, including jobs and revenue. The impacts to services and landowners would be compensated through increased revenues or easements and the transmission line would not bring significant changes to local crop-dusting. The Commission took the concerns of farmers in the vicinity seriously and imposed some additional Conditions for Certification as mitigation.

3.4.5 VISUAL RESOURCES

The impact of the project's transmission line on visual resources was the single matter that remained in substantial dispute. Commission staff and the Yuba-Sutter Farm Bureau argued that the SPP would impose significant visual impacts Calpine and Sutter County staff did not share this view. The project design would conform to all applicable laws, ordinances, regulations and standards pertaining to the protection of visual resources and incorporate all feasible measures to mitigate visual impacts.

The surrounding area is agricultural and rural residential in nature; the density of residences is low. The Sutter Buttes are prominent views, as are the trees of the Sutter Bypass. However, transmission lines from the Greenleaf 1 plant (steam turbine building, a50-foot-tall cooling tower and a 60-foot-tall stack) and Western's 230-kV

and Pacific Gas and Electric Company's (PG&E) 500-kV transmission lines are also in the area's landscape.

The SPP features would include a 145-foot-high stack, a 70-foot-high generator housing unit and a 109-foot-tall and 210-foot-wide dry-cooling unit. The double-circuit 230-kv transmission line would be carried on 105-foot-high tubular steel poles located approximately 750 feet apart. The switching station would be approximately 180 by 360 feet and include several 58-foot-high dead-end towers and a series of 20-foot-high circuit breakers and disconnect switches. The natural gas pipeline would have no significant visual impacts.

The plant and/or transmission lines would impact several homeowners' views of the Sutter Buttes. Several options were explored to mitigate these impacts, such as undergrounding the line and using an alternative route. However, both these were found to be infeasible.

The Commission concluded that the project had been designed to be as visually unobtrusive as possible and alternatives to reduce visual impacts had been analyzed and rejected as infeasible. The Commission's Presiding Members also had to decide whether the visual impacts were "significant" as viewed from a single key observation point. To make this decision, the Commission relied on case law and the language in CEQA, which states "a project will have a significant effect on the environment if it will… (b) have a substantial, demonstrable negative aesthetic effect." The Commission determined that to be "significant," the impact must include impacts to more than one observation point or just a few persons. The Commission then determined that, while the two houses on O'Banion Road would have a distant view of the powerplant and the transmission line, it would not constitute a significant impact. Further, a marked visual intrusion for northbound drivers on South Township Road from the transmission line did not constitute the basis for a finding that the project would impose a significant visual impact to the environment. Therefore, the SPP and its facilities, including the transmission line, would not present a significant adverse visual impact as defined under CEQA.

Mitigation measures for visual effects from the plant would include elimination of a vapor plume through dry-cooling, painting both the SPP and the Greenleaf 1 plants neutral gray, adding vegetation to screen the two plants and shielding night lights. For the transmission line, dulling of reflective metal surfaces, placement to avoid view obstruction at residences and use of nonspecular conductors would reduce impacts to the maximum extent possible.

3.4.6 BIOLOGICAL RESOURCES

The Commission's examination of biological resources was directed toward impacts to state and Federally listed species, species of special concern, wetlands, and other

areas of critical biological interest. The analysis evaluated the impact to biological resources and identified mitigation to reduce impacts to less than significant levels.

The surrounding area is primarily agricultural land, as historic wetlands were drained and diverted into the Sutter Bypass after its construction in the early 1900s. The area does have a few wetlands and grasslands, and the irrigation canals support similar habitat as the natural waterways and is important habitat for the Federally and state-listed giant garter snake. The Sutter National Wildlife Refuge and the Butte Sink support 20-25 percent of the Valley's wintering population of migratory waterfowl.

The proposed SPP site would consist of a 77-acre parcel containing 12.3 acres for the Greenleaf 1 Powerplant, 8.67 acres of seasonal wetlands, 52.8 acres of annual grasslands (former rice fields), 2.0 acres of drainage canals and 1.2 acres of blackberry bramble. With the exception of the powerplant, these provide habitat for various birds and wildlife, including the Swainson's Hawk, giant garter snake, American Bittern and great horned owl. The wetlands represent a small island of remaining natural wetlands in the area, including the five classifications: transitional vernal pools, borrow pits, mosquito abatement trenches, perennial mosquito abatement pond and seasonal depressions. Approximately 16.73 acres of grasslands would be lost due to the plant footprint and access road. Another 5.83 acres of seasonal wetlands would also be lost due to construction (portions would only be temporarily disturbed).

The switch to dry cooling would eliminate biological impacts associated with wastewater discharge and cooling tower drift and would reduce potential for avian collision with the stacks. Groundwater use would be reduced to an average of 140 gallons per minute and would result in zero effluent discharge. The dry-cooling tower would include air-cooled condensers that would not emit a steam plume. In contrast, conventional cooling towers would have significant thermal and chemical wastewater impacts to andromous and in inland fisheries, giant garter snakes and waterfowl in the area.

Approximately 5,500 feet of the 14.9-mile natural gas pipeline would run through the Sutter National Wildlife Refuge and any impacts would be temporary. Approximately 6.5 miles would parallel irrigation canals and the remaining pipeline would parallel paved and dirt road. Impacts of the pipeline would include removal of 0.2 acres of Swainson's hawk habitat, disturbances of habitat for the giant garter snakes during construction and a potential take during the nesting season for Swainson's hawk and winter hibernation for the giant garter snake.

The transmission line would be 4-miles long and consist of 32 poles, terminating in a switchyard switching station that would require 2.2 acres. The poles would require a permanent loss of 0.009 acres and a temporary loss of 0.01 acres of Swainson's hawk foraging and giant garter snake upland habitat. The line would increase avian

collisions. The proposed site for the switchyard switching station would consist of buildings and rice fields managed for waterfowl during the hunting season, which is Swainson's hawk foraging habitat. If the switchyard switching station were placed near irrigation canals, giant garter snake habitat would be impacted.

The Commission included in the *PMPD* mitigation requirements for the SPP, which will be included in the final Biological Resources Mitigation Implementation and Monitoring Plan submitted by Calpine[4]. The Commission required Calpine to compensate fully for permanently lost habitat: 5.83 acres of wetlands, 16.737 acres of grassland (Swainson's Hawk), 1.2 acres of agricultural land (Swainson's Hawk) and 14.721 acres for (giant garter snake). This was estimated to be twice the amount of land taken for the project. Additional mitigation included: revegetation of construction areas, presence of a biologist on site during construction to supervise compliance and give awareness training and installation of bird flight diverters on transmission lines.

The Commission concluded that the SPP would not result in any significant adverse impacts to biological resources, and would be consistent with the primary land use of the Sutter National Wildlife Refuge. However, the project has not received FWS approval for crossing of the Refuge with the natural gas pipeline.

3.4.7 NOISE

The Commission determined that the potential environmental impacts of noise from the site clearing, construction and operation of the SPP would be consistent with local noise level limits. The plant would need to meet a performance standard of no more than 45 db at the nearest residence, consistent with the ambient noise levels in the area. Calpine would take other measures to reduce noise impacts, such as a quiet method to clean out the system prior to beginning operation. Noise from construction would be temporary in nature and mitigated to the extent feasible.

3.4.8 TRAFFIC AND TRANSPORTATION

The Commission examined the extent to which the project might impact the transportation system within the vicinity of the plant. Construction activities would disrupt traffic flows and increase local traffic for its duration. Calpine agreed to pave any roads that were damaged due to project construction activities. During plant operation, all local roadways would remain at least at a level of service C. The

[4] A separate mitigation plan will be written by Western to incorporate these and other mitigation requirements including the Biological Opinion from the FWS (NEPA, Sec. 7). Conditions of Certification BIO-6 and BIO-5, respectively, include submittal of the Biological Opinion and Endangered Species Memorandum of Understanding with the California Department of Fish and Game (California Endangered Species Act, Sec. 2081). Specifics of biological opinion are covered in Section 1.5.1.

primary truck traffic in the vicinity would be from the Greenleaf 1 plant, due to the trucks bringing prunes and wood chips for the dryer facility. The SPP would not have this type of traffic.

The Commission concluded that the construction traffic would not produce a significant negative effect and would function within the traffic requirements of Sutter County. Additionally, the Commission has a complaint process local citizens could use if delivery trucks took unapproved roads.

3.4.9 SOIL AND WATER RESOURCES

Commission staff concluded that as a result of their analysis and the various mitigation measures, the project would not lead to any significant environmental impact concerning soil or water resources.

Erosion and Sedimentation

Construction activities for the SPP, such as earth moving, clearing and grubbing, grading and erection of transmission line poles, would leave the soil vulnerable to erosion. Calpine would use temporary construction measures to control the flow of stormwater runoff across these disturbed areas. Barriers would be used to prevent sediment from flowing into adjacent water bodies and sensitive habitats. Pipeline construction would require activity within channels constituting waters of the United States, and thus require a permit from the U.S. Army Corps of Engineers. After construction is complete, permanent erosion control would be installed and maintained for the life of the project.

Water Supply

The dry-cooling system agreed to by Calpine would reduce water consumption for the project by over 95 percent, from an average of slightly more than 3,000 gallons per minute (gpm) to 140 gpm. Average daily flows would be 60,000 gallons per day (gpd) and peak flows 318,000 gpd. The annual water demand of the project based upon average operating conditions, therefore, would be reduced from 4,856 acre-feet to 67 acre-feet, while annual demand based on peak operating conditions, would be reduced from 7,115 acre-feet to 356 acre-feet. Since the project would not be operating at peak levels a significant portion of the time, the estimated annual groundwater pumping will be approximately 225 acre-feet. The project would have no off-site impacts to groundwater.

Wastewater Discharge

The original cooling design would result in discharges of between 2 million and 2.8 million gallons of wastewater per day. The wastewater would contain a number of chemical constituents including metals and dissolved solids and would be

concentrated during the cooling cycle of the project. Water chemistry modeling showed that the discharge would approach or exceed the aquatic life standard for both copper and arsenic. The Commission was concerned whether the discharge would meet water quality standards, and the effect on local biology due to the chemicals and elevated temperatures. The Sutter Extension Irrigation District stated that the culverts in the area would need to be expanded to meet the peak discharges and stormwater runoff.

Because of these concerns, Calpine revised its proposal to include a mitigation measure of zero effluent discharge. The use of dry-cooling technology removed the need to dispose of cooling tower blowdown, the major portion of the wastewater discharge stream. All wastewater flows, including boiler blowdown sanitary waste, oil/water separator, filter backwash, HRSG blowdown and evaporative cooler blowdown would be collected, treated and recycled.

The concentrated brine from the wastewater treatment would contain 5,000 mg/l to 120,000 mg/l of total dissolved solids. Three approaches were being considered for disposal of the brine. An evaporation pond would require to be lined and have leachate collection and monitoring systems, and operate under a permit[5]. Off-site disposal would require a tank with several days' capacity to hold the brine before being trucked off-site.

Drainage and Flooding

The SPP would be located in Zone X, as defined by the Federal Emergency Management Agency (FEMA), as an area protected from the 100-year flood by levees. Flooding at the site, due to levee failure, would be 6-8 feet of water. Stormwater runoff, generated by 10-year or greater storms, would need to be retained on-site until the discharge did not contribute to drainage problems in the area. Calpine would be required to evaluate the local drainage system and upgrade any deficiencies identified.

3.4.10 HAZARDOUS MATERIAL HANDLING

The construction and operation of the proposed plant raised public safety concerns, especially regarding the handling, transportation and disposal of hazardous materials. Concerns over fire and explosion hazards were also expressed. Large quantities of sodium hypochlorite, sodium hydroxide, sulfuric acid, anhydrous ammonia and hydrochloric acid would be used, as well as smaller quantities of other hazardous materials. The principal significant risk of off-site impacts in the event of a major accidental release would be from the anhydrous ammonia used to control nitrous

[5] A crystallizer works as an evaporator to distill off the water, which can be reused, leaving a precipitate that can be disposed of off-site in the appropriate landfill.

oxides in the powerplant's emission-control system. The principal risk of fire and/or explosion would be due to the natural gas used for fuel at the SPP.

The Conditions of Certification required measures to ensure the safe handling and storage of hazardous materials and that safe fire and/or explosion practices would be implemented. These included a double-walled tank with secondary containment for storage of anhydrous ammonia, an alarm system to warn of accidental releases and prepayment to Sutter County for firefighting and HAZMAT equipment and related support. In addition, the SPP would be required to prepare a safety management plan for the California Occupational and Health Administration. This would include an extensive analysis of any potential scenarios for the release of ammonia.

The Commission concluded that, with the implementation of the Conditions of Certification, the SPP would be constructed and operated in a manner that reduced the risks due to hazardous materials and fire and/or explosion risks from natural gas to an insignificant level.

3.4.11 WASTE MANAGEMENT

During construction and operation, the SPP would generate multiple waste streams of nonhazardous (i.e., paper, wood, office waste, trash, used parts, etc.) and hazardous wastes (i.e., used oil, cleaning solvents, paint, contaminated cleanup materials, etc.) The wastes would be managed as follows:

- Hazardous wastes would not be stored on-site for periods longer than 30 days.
- Hazardous wastes would be stored in segregated storage areas that were surrounded by berms to contain leaks and spill and sized to hold the contents of the single largest container.
- Hazardous wastes would be collected by a licensed hazardous waste hauler using a manifest and managed only at authorized facilities.
- Nonhazardous materials would be used instead of hazardous materials whenever possible and wastes would be recycled whenever possible.
- Waste lubricating oil would be recovered and recycled by a waste oil recycling contractor and spent SCR catalysts would be recycled by the supplier if possible.

These proposed measures, together with applicable laws, ordinances, regulations and standards would adequately ensure that no significant environmental impacts would result from the management and disposal of project-related wastes. Calpine would need to identify the specific mitigation measure that would be used to manage project-related wastewater.

3.4.12 WORKER SAFETY AND PROTECTION

Analysis in this area examined whether the proposed project adequately addressed worker safety during the plant's construction and operation phases. It also addressed fire protection and the ability of project and county fire department personnel to respond in case of an emergency at the project site.

The current rural fire and emergency protection in the area would not be adequate for a new industrial plant in the area. In response, Sutter County and Calpine are developing an agreement, that specifies the improvements in emergency services needed to support the project.

Workers at the plant would be exposed to safety hazards. A large powerplant would need to have well-defined polices and procedures, training, hazard recognition and control at the facility to minimize hazards and protect workers.

With a worker safety program in place, and upgraded emergency services in the county, the SPP would adequately meet the worker safety and protection requirements.

3.4.13 CULTURAL RESOURCES

Cultural resources are structural and cultural evidence of the history of human development. Of concern was disturbance of cultural materials during construction and operation of the SPP. Five prehistoric sites within 1 mile of the SPP were noted during a search of the archaeological literature and records. Surveys of all areas to be directly impacted by the project found no other prehistoric sites[6]. Because the powerplant site is located outside of the natural river levee zone (the historic meandering of the Sacramento River where cultural resource materials are more likely to be encountered), it is unlikely that cultural resource materials would be present. The Commission noted the possibility that portions of the gas pipelines might impact sites associated with the natural river levee zone. The monitoring of construction activities would remove any potential adverse impacts to any undiscovered sites.

3.4.14 PALEONTOLOGICAL RESOURCES

Paleontological resources include fossils, remains or trace evidence of prehistoric animals and plants preserved in soil or rock. The Commission reviewed the evidence that Calpine presented concerning the likelihood of undiscovered paleontological resources in the SPP area. The Commission determined that these resources might be present in buried remnant soil associations under the plant site and along some of the routes for the natural gas pipelines and the transmission line. Monitoring of

[6] The surveys did record one historic farmstead that was likely destroyed by the flooding in 1996.

construction activities in these areas would mitigate any potential significant impact to these resources. The Commission concluded that construction and operation of the SPP would not cause any significant impact to paleontological resources, provided that the Conditions of Certification were met.

3.4.15 ALTERNATIVES[7]

The Commission was required to examine the "feasibility of available site and facility alternatives to the Applicant's proposal that substantially lessen the significant adverse impacts of the proposal on the environment." The Commission staff analysis found that the project would create a significant visual impact, however, other witnesses disagreed. After carefully reviewing the evidence, the Commission determined that the project would not impose significant environmental impacts, visual or otherwise.

No Project Alternative

The "no project" alternative would not meet the project's objectives, and would result in less fuel consumption in California since the SPP would displace older, less efficient, more polluting utility-owned plants. This alternative would also exacerbate longstanding problems in the Sacramento region, e.g., maintaining acceptable voltage levels in the electric system and reliability of electric service. The project would postpone for approximately 6 years the need for expensive new transmission lines in the Sacramento Valley, which would be at public expense and cross many more miles than the transmission line required for the SPP. Additionally, there would be significant tax benefits to Sutter County should the SPP be built.

Site Alternatives

The Commission evaluated the four alternatives presented by Calpine and seven sites proposed by Commission staff and the public. These 11 alternative sites were reduced to four: SAC 1, Sutter Buttes, Sacramento Ethanol and Power Cogeneration Project (SEPCO) S1 and O'Banion Road. The O'Banion Road site proved to have fewer visual resource impacts. However, the Commission found three fatal flaws to this site. First, the site was not likely to be taken out of active agricultural use and be rezoned. Second, 66 percent of the owners were unwilling to sell. Third, the proximity to the Sutter National Wildlife Refuge might be incompatible. Thus, the O'Banion Road site couldn't be judged preferable to the proposed site. The Commission concluded that no alternative site was superior to the SPP site. The Commission also explored several transmission line routes in an effort to mitigate the

[7] The alternatives matrix in Section 4.2 provides additional information on the site alternatives analysis.

visual impacts of the proposed route, but determined the proposed route had fewer impacts.

The Commission determined that the SPP conflict with the Sutter County General Plan was by definition a "significant effect" under CEQA. However, if the local plan revisions were adopted, the project would not result in any significant environmental impacts after all mitigation measures are implemented.

3.4.16 ENGINEERING ASSESSMENT

Facility Design

The proposed project is in the preliminary design stage, and engineering analysis has been limited to assessing whether the facility's design had been described in sufficient detail to provide reasonable assurance that it would be constructed in conformity with all applicable standards, ordinances and laws. The Commission determined that there were sufficient project controls in place to conclude that the project would be designed, constructed and operated in conformity with applicable law relating to the project's civil, electrical, mechanical and structural aspects.

Powerplant Reliability

The Commission was required to make findings as to the manner in which the project was to be designed, sited and operated to ensure safe and reliable operation. The Commission determined that SPP would not degrade the system reliability of the utility system to which it would be connected. In making this determination, the Commission evaluated the expected plant availability, equipment redundancy, fuel availability, water availability and project quality control measures.

Powerplant Efficiency

The Commission evaluated the efficiency of the SPP to determine if the consumption of energy would create a significant adverse impact on the environment, as compared to other state-of-the-art projects. The Commission found that the project would not waste significant quantities of energy compared to alternatives that consume less energy.

The SPP would burn natural gas at a maximum rate of between 30 trillion and 35 trillion BTU per year. The dry-cooling towers would reduce plant efficiency by 1.5 percent most of the year, but during weather above 100 F, would rise to 5 percent. However, this reduction in efficiency would be minor compared to the reduction in environmental impacts this technology brings.

Transmission System Engineering

To ensure the powerplant's reliable operation, the Commission is required to analyze the adequacy of transmission capacity to the intended service area. The SPP would have nominal electrical output of 500 megawatt (MW). The transmission system would consist of a 230-kV switchyard substation, a 4-mile double circuit line and a 230-kV switching station. The 230-kV transmission line would exit the switchyard substation to the east, turn south along the west side of South Township Road for approximately 1.7 miles to O'Banion Road. It will proceed west along the south side of O'Banion Road for 2.3 miles to terminate at a new switching station south of O'Banion Road, near Western's 230-kV transmission line.

The Sacramento region has had a longstanding problem maintaining acceptable voltage levels and supporting load growth. In an effort to address the problem, several professional transmission-planning groups examined necessary criteria and planned possible solutions. New generation in the area would be more effective in solving these problems than transmitting electricity into the region.

Modeling was conducted by Western to determine if adding the SPP to the existing system would cause problems such as thermal overloads or voltages that were too high or low. This was done to ensure the system remained stable and that sufficient reactive power was available. The SPP Interconnection Feasibility Study (Western, 1997) conducted by Western determined that without SPP generation, by 2003 and with all facilities in service, the system would be expected to have 22 substations with undervoltage levels and 11 circuits or transformers loaded above 100 percent of their rating. However, the SPP would not be a long-term mitigation for voltage security concerns; instead, it would delay additional system upgrades by 6 years.

The Commission found that each of the alternative transmission line routes and substation alternatives considered meet the requisite legal and planning standards, and ultimately, the Township-O'Banion Road transmission line route posed the fewest environmental impacts among the feasible alternatives. Mitigation required for the transmission line included relocation of impacted crop-dusting runways, the elimination of transmission line corona noise through design features and eliminating radio and television interference through design and construction techniques.

Another mitigation measure explored was undergrounding all or part of the transmission line. While undergrounding would eliminate the visual impacts of the lines, the cost would more than double for installation and repairs could put the line out of use for a period of between 7 and 30 days. Additionally, Western would not participate in such a line.[8] Therefore, this option proved to be infeasible.

[8] Western does not have the resources or experience to operate and maintain a high-voltage underground transmission line. In addition, there are safety and reliability concerns, which could preclude Western from operating and maintaining such a line.

Transmission Line Safety and Nuisance

Transmission lines must be constructed and operated in a manner that protects environmental quality, ensures public health and safety and complies with applicable law. Two small local airports, Sutter County Airport and Yuba County Airport are within 8 miles of the project. No flight paths would cross over the proposed line. The lines would present an obstruction hazard to aircraft involved in crop-dusting operations in the immediate vicinity. However, this obstruction would be eliminated if the transmission lines did not cross agricultural land on a diagonal. Calpine agreed to relocate a crop-duster runway near O'Banion Road.

The transmission lines would be designed to minimize radio interference, audible noise, fire hazards and nuisance and hazardous shocks. It has not been established that transmission line electric and magnetic fields pose a significant health hazard to exposed humans. The field strengths from the proposed SPP transmission line would be far below thresholds set by other states.

3.4.17 COMPLIANCE

Facility Closure

The Commission was required to evaluate and place Conditions of Certification for the safe and responsible closure of the SPP. There was no evidence that Calpine did not, or would not, have the financial resources necessary to carry out any reasonably anticipated closure measures at the time the facility ceased operation. Transfer of ownership would be approved by the Commission, which imposes the same closure requirements on the new owner. A closure plan would be presented to the Commission 12 months prior to facility closure. The planned life of the SPP would be 30 years.

Compliance Monitoring Plan and General Compliance Conditions

The Commission has set specific Conditions of Certification (Table 3.1) for each technical area that contain measures required to mitigate all potential adverse impacts to an insignificant level. The Conditions of Certification are included in Appendix O of this *Final EIS*.

General Conditions

The Commission would assign a staff member to the title of Compliance Project Manager, who would be responsible for ensuring that the design, construction, operation and closure of the project facilities were in compliance with the terms and conditions of the Commission's Decision and the Conditions of Certification. The Manager would also be responsible for handling disputes, complaints and

amendments. Calpine would be required to ensure that compliance was met, reported and records kept of all aspects of the project.

The Commission could amend, delegate, investigate, verify or terminate the Conditions of Certification at any time. They also could enforce the conditions by imposing a civil penalty. The Commission has a formal process which could be followed to resolve disputes. Calpine would need to petition the Commission for changes to these conditions.

TABLE 3.1 CONDITIONS OF CERTIFICATION IN THE *PMPD*

Issue *PMPD* Technical Area	**Number of Conditions of Certification**		**Page Numbers**	
	DEIS	*PMPD*	DEIS	*PMPD*
Need Conformance	0	0	N/A	N/A
Air Quality	N/A[1]	43	N/A	48-70
Public Health	1	1	125-126	75
Land Use and Recreation	4	7	208-210	90-92
Socioeconomic Resources	2	2	420-421	104-105
Visual Resources	7	7	282-288	129-139
Biological Resources	13	13	450-460	153-167
Noise	7	7	235-239	173-178
Traffic and Transportation	7	7	223-224	184-186
Soil and Water Resources	7	7	482-484	192-196
Hazardous Material Management	3	3	166-167	199-200
Waste Management	3	3	180-181	205-206
Worker Safety and Fire Protection	3	3	144-145	210-212
Cultural Resources	13	14	387-396	217-230
Paleontological Resources	2	13	504-506	234-247
Alternatives Analysis	0	0	N/A	N/A
Facility Design	24	24	518-535	262-287
Powerplant Reliability	0	0	N/A	N/A
Powerplant Efficiency	0	0	N/A	N/A
Transmission System Engineering	3	3	565-567	305-307
Transmission Line Safety	6	6	156-158	314-316

	Number of Conditions of Certification		Page Numbers	
Facility Closure	3	3	575-578	320-323
Compliance Monitoring	0	0	N/A	N/A
General Conditions	0	0	N/A	N/A
Total Conditions of Certification	108	166		

[1]There were no Conditions of Certification for Air Quality in the *Draft EIS* because the final recommendations from the local air district had not been finalized at the time the *Draft EIS* was released.

Chapter 4

Restatement of NEPA Analysis

Sierra Nevada Customer Service Region

CHAPTER 4

RESTATEMENT OF THE NEPA ANALYSIS

4.1 INTRODUCTION

This chapter includes a restatement of the National Environmental Policy Act (NEPA) analysis of the *Draft Environmental Impact Statement (EIS)* including:

- Presentation of the Alternatives Analysis (Sec. 4.2)
- NEPA topics contained in the *Draft EIS* (Sec. 4.3)

4.2 ALTERNATIVE ANALYSIS

The *Presiding Members Proposed Decision* (*PMPD*) primarily addressed the analysis, testimony and conclusions for the proposed alternative. However, during the hearings, supplemental testimony was received on the alternatives (Appendix I) to provide a clearer analysis of the pros and cons of the alternatives considered. This included estimation of the lengths of the linear facilities that would serve these alternative locations and a fuller discussion of the consequences that might occur if the "no project" were built. It also includes the consequences of load growth and voltage support problems in the Sacramento region and other transmission projects that might become more likely if Calpine's generation project were not built. The preferred alternative contains two plant designs, conventional and Calpine's proposed design, which incorporates dry cooling and other anti-pollution design elements.

The California Energy Commission's (Commission) staff examined a five-county region for alternatives based on prior analyses from the Commission's 1994 Sacramento Ethanol and Power Cogeneration powerplant siting case, Calpine's AFC, and information from Sutter County (including identification of industrial zones within the county) and recommendations from the public.

From these sources of information, Commission staff identified 11 potential alternative sites to the Sutter Power Project (SPP) site (Figure 4-1). These 11 sites were further reduced to four sites using four screening criteria: 1) proximity to natural gas supply, 2) proximity to transmission lines, 3) transmission line avoidance of medium-to-high-density housing, and 4) whether the site was appropriately zoned.

Table 4.1 presents a comparison of the environmental impacts of the four alternative sites and the preferred alternative. The preferred alternative contains two plant designs, conventional and Calpine's proposed design, which incorporates dry cooling and other anti-pollution design elements.

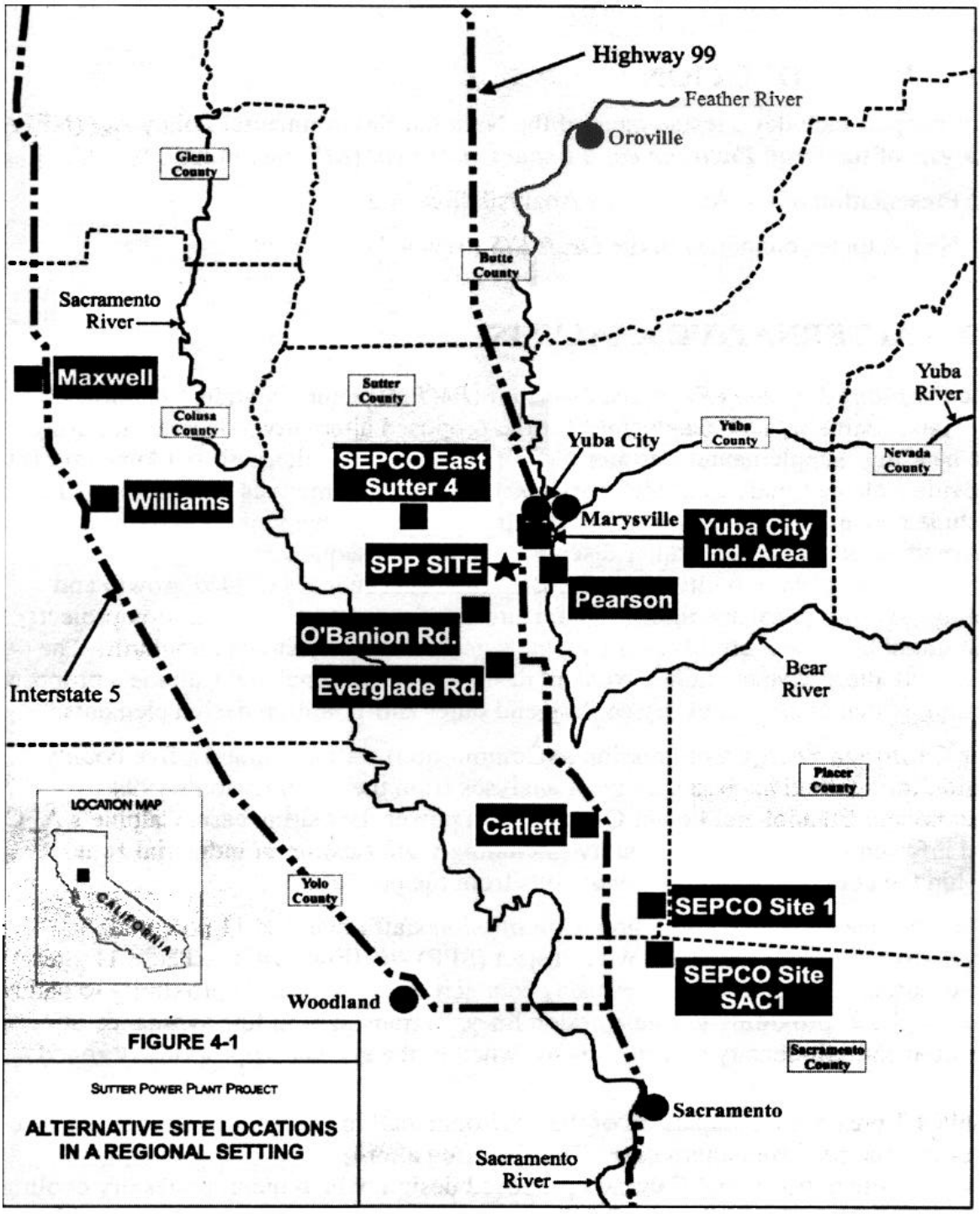


FIGURE 4-1

SUTTER POWER PLANT PROJECT

ALTERNATIVE SITE LOCATIONS IN A REGIONAL SETTING

4.3 NEPA REFERENCE

Western Area Power Administration (Western) is required to assure that the elements of NEPA have been met and clearly presented to the public and decision-makers. This was done in the *Draft EIS*, however, it was presented in a format required by the Commission, and not in a "normal" NEPA format. Table 4.2, NEPA Topical Index, is a cross-reference of the major components of NEPA in the *Draft EIS*.

TABLE 4.1 ALTERNATIVES COMPARISON MATRIX

	Proposed Action		No Action	O'Banion	SAC I	SEPCO S1	Sutter Buttes
	Conventional Plant Operations	***Plant With Proposed Environmental Considerations (dry cooling)***[1]					
Air Quality	-increased ozone and PM_{10} emissions during construction	-increased ozone and PM_{10} emissions during construction	-emissions from dirtier generation facilities would not be displaced by the cleaner SPP	-same impacts as proposed action with conventional cooling	-same impacts as proposed action with conventional cooling	-same impacts as proposed action with conventional cooling	-same impacts as proposed action with conventional cooling
	-significant increased ozone, PM_{10} during operations	-minor increase in PM_{10} and ozone emissions during operations					
	-significant ozone, PM_{10} emissions from cooling towers	-no PM_{10} emissions from dry-cooling tower					
		-NO_x controlled to 2.5 ppm					
	-use of standard techniques to lessen impacts of construction emissions of PM_{10}; remainder unavoidable	-use of standard techniques to lessen impacts of construction emissions of PM_{10}; remainder unavoidable					
	-subject to Prevention of Significant Deterioration review for NO_2, SO_2, CO	-subject to Prevention of Significant Deterioration review for NO_2, SO_2, CO					
Land Use	-77 acres	-77 acres	-No impact	-56 acres	-19 acres	-33 acres	-67 acres
	-zoned agricultural but uncultivated	-zoned agricultural but uncultivated		-zoned agricultural/ General Plan use agriculture; rezoning might not be possible; county has indicated it would not rezone; potentially inconsistent with uses of Sutter Wildlife Refuge; present use rice cultivation/duck club)	-zoned industrial	-zoned agricultural/ General Plan designation of Industrial/Commercial (current use grazing)	-zoned M-2/General Plan designation of Industrial/Commercial, prohibited height restriction (proposed for Sutter Buttes Industrial Area) might be limiting factor
	-owned by Calpine	-owned by Calpine		-66 percent of owners unwilling to sell	-ownership not determined	-property not for sale	-site currently for sale
	-9 residences within 1 mile	-9 residences within 1 mile		-1 residence within 1 mile	-200 residences within 1 mile, expected residential growth	-40 residences within 1 mile, expected residential growth	-40 residences within 1 mile
	-4-mile transmission line, passes 4 residences, 2-acre switching station (currently rice cultivation used by duck club) at end of O'Banion Road	-4-mile transmission line, passes 4 residences, 2-acre switching station (currently rice cultivation used by duck club) at end of O'Banion Road		-no transmission line needed, no switching station required	-4,000-foot transmission line on established corridor, no switching station required	-1-mile transmission line (would pass 30 residences), no switching station required	-5-mile transmission line (would pass 10 residences through agricultural land), no switching station required
	-natural gas line 14 miles long	-natural gas line 14 miles long		-natural gas line 16 miles	-natural gas line 16 miles	-natural gas line 20 miles long	-natural gas line 28 miles long
		-groundwater is water source		-groundwater is water source	-Sacramento River is water source	-groundwater is water source	-groundwater is water source
					-significant public opposition for 148 MW previously proposed plant	-no public facilities (sewer, water, storm drainage) in area	
		-low earthquake hazard		-low earthquake hazard	-low earthquake hazard	-low earthquake hazard	-low earthquake hazard

[1] In addition to using a dry-cooling tower, Calpine has proposed additional parameters for operation to further reduce emissions (*Draft EIS*, pp. 6, 109) and reduce impacts to wetlands.

	Proposed Action		No Action	O'Banion	SAC I	SEPCO S1	Sutter Buttes
	Conventional Plant Operations	***Plant With Proposed Environmental Considerations (dry cooling)***[1]					
Health and Safety[2]	-fire protection and emergency services 5 miles, would require upgrade	-fire protection and emergency services 5 miles, would require upgrade	N/A	-fire protection and emergency services 9 miles, would require upgrade	-fire protection and emergency services 2 miles, adequate services	-fire protection and emergency services 20 miles, would require significant upgrade	-fire protection and emergency services 1 mile, would require upgrade, better response time
	-risk of exposure to hazardous materials would be limited (9 public receptors)	-risk of exposure to hazardous materials would be limited (9 public receptors		-risk of exposure to hazardous materials would be minimal (1 public receptor)	-risk of exposure to hazardous materials would be great (200 public receptors)	-risk of exposure to hazardous materials would be moderate to great (40 public receptors with expected growth)	-risk of exposure to hazardous materials would be moderate (40 public receptors)
	-transmission line safety concerns would require relocation of two airstrips	-transmission line safety concerns would require relocation of two airstrips[3]		-no transmission line required	-minimal transmission line safety concerns; located on existing corridor, shorter lines, no aviation impacts	-line safety concerns; located on existing corridor, shorter lines, no aviation impacts; transmission line would cross railroad tracks	-transmission line safety concerns; transmission lines are longer, crosses a major highway, would be closer to residences and would have significant impact on agricultural aerial applications
Transportation (Traffic and Transportation)	-no change for regional and local roadways	-no change for regional and local roadways	N/A	-same as proposed action	-same as proposed action	-same as proposed action	-same as proposed action, closer to major highway to help traffic flow
	-localized adverse congestion impacts during construction	-localized adverse congestion impacts during construction					
	-truck traffic would need to be limited to certain routes	-truck traffic would need to be limited to certain routes					
	-hazardous material transportation would be in compliance with state and federal laws	-hazardous material transportation would be in compliance with state and federal laws					
Noise	-closest receptor ¼ mile	-closest receptor ¼ mile	N/A	-closest receptor ½ mile	-closest receptor ½ mile	-noise impact significant due to adjacent residence, noise standards could not be met; costs to attenuate noise might be prohibitive	-closest receptor ½ mile
	-45db nighttime noise level standard attainable	-45db nighttime noise level standard attainable		-45db nighttime noise level standard attainable at similar costs as the proposed project	-45db nighttime noise level standard attainable at similar costs as the proposed project	-45db nighttime noise level standard might not be attainable	-45db nighttime noise level standard attainable at similar costs as the proposed project
Visual	-impact to views of Sutter Buttes for some residences	-impact to views of Sutter Buttes for some residences	N/A	-impact to views of Sutter Buttes less due to lack of transmission lines	-impact to views of Sierra and Coast range for more people	-impact to views of Sierra and Coast ranges for more people	-impact of views of Sierra and Coast ranges for more people
				-impact to views of Sutter Bypass			
Cultural and Paleontological Resources[4]	-surface disturbance: 5.7 miles of transmission line	-surface disturbance: 5.7 miles of transmission line	N/A	-surface disturbance: no transmission line	-surface disturbance: 4,000 feet of transmission line	-surface disturbance: no transmission line	-surface disturbance: 4 miles of transmission line

[2] Includes the Public Health, Industrial Safety and Fire Protection, Transmission Line Safety and Nuisance, Hazardous Materials Management, Waste Management sections of the *Draft EIS*.
[3] An alternative transmission line route was proposed by the Commission to reduce visual impacts to insignificant, but dismissed in the hearings due to impacts on the Sutter National Wildlife Refuge.

	Proposed Action		No Action	O'Banion	SAC I	SEPCO S1	Sutter Buttes
	Conventional Plant Operations	***Plant With Proposed Environmental Considerations (dry cooling)[1]***					
	-trench excavation: 13.5 miles of water and gas pipeline	-trench excavation: 13.5 miles of water and gas pipeline		-trench excavation: 15 miles of water and gas pipeline	-trench excavation: 24 miles of water and gas pipeline	-trench excavation: 20 miles of water and gas pipeline	-trench excavation: 12 miles of water and gas pipeline
Socioeconomics and Environmental Justice[5]	-Sutter County development impact fees required[6] (lower than Sacramento County)	-Sutter County development impact fees required[6] (lower than Sacramento County)	-to sustain reliability of the Sacramento Area electrical system, some action (generation) would be needed within 6 years	-Sutter County development impact fees required[6] (lower than Sacramento County)	-Sacramento County development fees required[6] (higher than Sutter County)	-Sutter County development impact fees required[6] (lower than Sacramento County	-Sutter County development impact fees required[6] (lower than Sacramento County)
			-would not meet Calpine's business plans	-potential loss of duck club	-no impacts/no mitigation per 1992 evaluation		
	-no potential minority nor low-income populations that would be affected, therefore, environmental justice would not be an issue	-no potential minority nor low-income populations that would be affected, therefore, environmental justice would not be an issue	-does not meet requirements of electrical utility deregulation	-no potential minority nor low-income populations that would be affected, therefore, environmental justice would not be an issue	-no potential minority nor low-income populations that would be affected, therefore, environmental justice would not be an issue	-no potential minority nor low-income populations that would be affected, therefore, environmental justice would not be an issue	-no potential minority nor low-income populations that would be affected, therefore, environmental justice would not be an issue
Plant Engineering[7]	-reliable sources of natural gas and water	-reliable sources of natural gas and water		-reliable sources of natural gas and water	-reliable sources of natural gas and water	-reliable sources of natural gas and water	-reliable sources of natural gas and water
	-substation and transmission like would be required	-substation and transmission link would be required		-on-site substation; no transmission facility costs	-no substation would be required due to proximity to Western's Elverta substation, requiring shorter transmission line	-on-site substation; no transmission facility costs	-substation and transmission would be required
Biological Resources	-loss of 12 acres of Swainson's hawk forage habitat	-loss of 19 acres of Swainson's hawk forage habitat		-loss of up to 56 acres of rice crops used as habitat for seasonal waterfowl; potential disturbance of Swainson's hawk nesting and foraging habitat the proximity (1/2 mile) to Sutter Buttes National Wildlife Refuge would result in a larger population of waterfowl being impacted	-loss of 12 to 16 acres of forage habitat for Swainson's hawk and burrowing owl; adjacent to large nest trees that support heron, red-tailed hawk and barn owls.	-loss of up to 38 acres of forage and/or nesting habitat for Swainson's hawk and burrowing owl; large trees on east boudnary could provide nest sites for raptors	-loss of 12 to 16 acres of wheat foraging habitat for Swainson's hawk that are known to nest in the area.
	-loss of 4.9 acres of giant garter snake upland habitat	-loss of 4.9 acres of giant garter snake upland habitat		-loss of 12 to 16 acres of giant garter snake upland habitat from site footprint and indirect impacts to the Gilsizer Slough population	-potential impact to giant garter snake habitat near Natomas East Main	-potential impact to giant garter snake along gas pipeline	-potential for impacts to giant garter snakes along gas pipeline route
	-loss of duck club habitat	-loss of duck club habitat		-construction of gas pipeline route could result in direct harm to giant garter snakes	construction of gas pipeline route could result impact to 7 to 65 acres of Swainson's hawk and burrowing owl habitat, 5 rare plant species, wading bird rookery and habitat for the Valley elderberry longhorn beetle		-construction of 20 mile long gas pipeline route could result in significant impact to Swainson's hawk and burrowing owl habitat, nesting birds, giant garter snakes and rare plant species; large trees are also along the route and could be potential nest sites for Swainson's hawk and other raptors.

[4] The *Draft EIS* based the evaluation of potential impacts to these resources on the amount of ground surface disturbance anticipated for the construction of the plant, switchyard, transmission line, and gas pipelines. In each alternative, it was assumed that the amount of disturbance needed for the plant would be the same for each alternative.

[5] Includes the Socioeconomic, Reliability, Efficiency (natural hazards are reported under land use), Transmission System Engineering, and Facility Closure sections of the *Draft EIS*.

[6] Impact fees are a beneficial impact to local socioeconomics. They are used to pay for increased need for community services that arise as a result of development.

[7] Includes the Reliability, Efficiency (natural hazards are reported under land use), Transmission System Engineering, and Facility Closure sections of the *Draft EIS*.

	Proposed Action		No Action	O'Banion	SAC I	SEPCO S1	Sutter Buttes
	Conventional Plant Operations	***Plant With Proposed Environmental Considerations (dry cooling)[1]***					
	-potential for migratory bird collisions with electric transmission line and HRSG stacks; -original transmission line route, 5.2 miles south to Gilsizer Slough, potential for greater impacts to waterbirds and increased avian collisions	-potential for migratory bird collisions with electric transmission line and HRSG stacks		-potential for increased migratory bird collisions with HRSG stacks and more man-made objects in the air (bus work for connection with transmission line) near Sutter National Wildlife Refuge and duck clubs	-potentail for increased migratory bird collisions with HRSG stacks, including Swainson's hawk and burrowing owl		-potential for migratory bird collisions with electric transmission line and HRSG stacks
Wetlands	-loss of 3 to 4 acres and indirect impacts to 5 acres of seasonal wetlands on the site	-loss of 3.0 acres and temporary impacts to 2.83 acres (out of a total of 8.67 acres) of man-made seasonal wetlands	N/A	-loss of up to 56 acres of seasonally flooded man-made wetland habitat (rice fields)	-impacts to approximately 5 acres of seasonal wetlands on site; potential loss of open water wetland habitat	-impacts to 5.5 acres of seasonal wetlands and pond on site; potential impact on vernal pool fairy shrimp and sensitive plant habitat	-no wetlands on site
	-gas pipeline route through Sutter Bypass flood control levees and Sutter National Wildlife Refuge would increase potential for sedimentation and adverse water quality				-impacts to 9 to 21 acres of wetlands and fairy shrimp habitat along gas pipeline	-impacts to 9 to 21 acres of wetlands, vernal pool fairy shrimp and sensitive plant habitat along gas pipeline	-the gas pipeline would be 20 miles in length and would require bores under the Sacramento River, the Sutter Bypass and state Highway 20; the lines would follow irrigation canals that contain significant wetland plant species and habitat
					-4 acres of vernal pool wetlands would be impacted from construction of transmission line		
	-potential for wastewater discharge impacts on sensitive aquatic biolgical resources (salmon, steelhead, western pond turtle, giant garter snake, splittail, waterbirds) in irrigation canals, Sutter Bypass, and Sutter National Wildlife Refuge	-no impacts to aquatic biota from wastewater discharge; all potential impacts to special-status fish, western pond turtle, and giant garter snake from wastewater discharge would be eliminated		-potential for significant wastewater discharge and temperature impacts on sensitive aquatic biological resources (salmon, steelhead, western pond turtle, giant garter snake, waterbirds) in irrigation canals and Sutter Bypass	-discharge of wastewater to Natomas East Main Drainage canal, American River, and Sacramento River with potential impacts to aquatic biota, including special-status fish, giant garter snake, and western pond turtle and vernal pools in the area	-discharge of wastewater to Natomas Main Drainage canal, American River, and Sacramento River with potential impacts to aquatic biota	-potential for wastewater discharge impacts on sensitive aquatic biological resources (salmon, steelhead, pond turtle, giant garter snake, waterbirds) in irrigation canals, Wadsworth Canal, and Sutter Bypass
Soils and Water Resources	-water usage (groundwater) 3,000 gallons per minute (gpm) for cooling; 4.856 acre-feet/year	-water usage 140gpm; 67 acre-feet/year	N/A	-water usage same as conventional cooling plant	-water usage same as conventional cooling plant	-water usage same as conventional cooling plant	-water usage same as conventional cooling plant
	-direct discharge to irrigation canals that are tributaries to the Sutter Bypass (Butte Creek watershed) could contribute to significant water quality issue	-zero effluent discharge/no discharge of process fluids to drainage canals, evaporator brine would be high in dissolved solids that would be disposed off site		-direct discharge to Sutter Bypass might increase temperatures over 58°F due to wastewater discharge; could impact temperature sensitive fish (salmon and steelhead) during migration periods			
	-stormwater run-off from 10 year or greater even would be retained on site	-stormwater run-off from 10 year or greater even would be retained on site		-risk of flooding	-within flood zone, site must be raised 10 feet		

TABLE 4.2 NEPA TOPICAL INDEX

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
	Purpose and Need		
Purpose and Need	Calpine Corporation contacted Western and requested interconnection its proposed Sutter Power Project to Western's Keswick-Elverta/Olinda-Elverta double circuit 230-kV transmission line. The project would help to support and improve area transmission reliability by increasing voltage support for the Sacramento region. The purpose of this action would be to respond to Calpine's request for interconnection and to address the potential environmental consequences associated with this proposed project.	13	30-31
	Description of Alternatives and Proposed Action		
Proposed Action	Calpine Corporation proposes to construct and operate the SPP, a 500-MW natural gas-fueled, combined-cycle, electric generation facility so that it could sell electric power in the newly deregulated electricity market. The SPP would interconnect to Western's electric transmission system.	5	11-13
Reliability	Reliability would be addressed through four areas: equipment availability, plant maintainability, fuel/water availability and reliability in relation to natural hazards. Equipment availability would be ensured through various QA/QC programs. Maintenance would be addressed through adequate equipment redundancy measures and a typical industry maintenance program. Fuel and water supplies would be adequate. Seismic shaking and flooding concerns have been addressed.	537-543	268-288
Engineering	The design and construction of the powerplant could comply with applicable LORS if the Conditions of Certification and a CBO review process were implemented. In terms of transmission line engineering, the substation, double-circuit outlet line, termination point and Sutter Bypass switching station have been deemed acceptable.	517, 565	258-285, 292-305
Closure	Unexpected (temporary) and planned (permanent) closure scenarios are discussed. The temporary closure plan consists of security coverage and a safety contingency plan submitted to the California Energy Commission (CEC). Permanent closure plans would be developed at time of closure. All plans would be carried out according to laws, orders, regulations and standards (LORS) applicable at that time.	574-575	315-321

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
	Description of Alternatives and Proposed Action (cont.)		
Alternatives	The alternatives discussed are the "no project" alternative and various siting alternatives. The selection of four alternatives was based on a set of screening criteria. These four alternatives were then analyzed with respect to feasibility for site control by Calpine; the results were inconclusive. Finally, the remaining sites were compared to the proposed project site based on various technical disciplines. Although the O'Banion Road site was selected as the environmentally preferred alternative, there was an insufficient basis to conclude that that site was environmentally preferable to the SPP site.	15-74	245-257
Alternatives Considered but Dismissed	Only 4 of 11 potential sites were analyzed. The selection of the four alternatives was based on distance to the natural gas supply and Western's transmission lines, the avoidance of residential areas and zoning restrictions.	22-28	249-253
	Affected Environment		
Air Quality	The project would be located in the Sacramento Valley Air Basin and would fall under the jurisdiction of the Sacramento Air Quality Maintenance Area (SAQMA). Ozone and PM_{10} would be the air pollutants of greatest concern in the project area.	81, 87-91	32-70
Land Use	The SPP parcel is located in an agricultural area designated as Farmland of Statewide Importance. It is currently designated AG-80 in the Sutter County General Plan and zoned AG (General Agriculture) in the Sutter County Zoning Ordinance. The parcel for the proposed project now contains Greenleaf 1, a 49.5-MW cogeneration plant.	188-189	76-92
Health and Safety	**Public Health**—Addresses issues of public health associated with air pollution. Worse case assumptions were presented and significance criteria were discussed. Nearest sensitive receptors would be approximately 2,000 feet to the northeast. Federal and state attainment status varies with location within county and specific pollutant considered. **Worker Safety**—The nearest fire fighting and response service providers would be equipped and staffed for rural emergency response only (Central Gathier and Oswald). Assistance would be available from the Sutter and city of Live Oaks Fire Departments. The Sutter and Oswald facilities could respond to HAZMAT incidents.	111-116, 118-119 137	71-77 206-210

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
Transportation	State Routes 20, 99, and 113 provide regional access to the site. All local roadways are operating at least at a level of service C. For regional highways, only State Route 99, between the Garden Highway and Lincoln Road, is experiencing a less than Level of Service C	218	177-185
Noise	Sensitive noise receptors included a number of rural residences. No schools, hospitals, churches, libraries or other sensitive receptors would be located within a mile of the proposed site. Based on results of a survey, current background noise is 41 to 45 dBA.	229-230	167-176
Affected Environment (cont.)			
Visual	Visual quality in the project area ranged from low-to-moderate for views of agricultural areas that included the existing Greenleaf 1 powerplant in the foreground with no view of the Sutter Buttes, to high for views of agricultural areas dominated by the Sutter Buttes with no view of the existing powerplant. Also, several electrical distribution lines on wood poles and steel lattice transmission lines were found in the area.	252	106-139
Cultural and Paleontologic Resources	**Cultural**—The SPP consists of three distinct geomorphic zones: the natural levee zone, the Sutter overflow basin and the low terrace zone. The natural levee zone had the greatest potential to contain evidence of prehistoric occupation. Archaeological surveys located one historic archaeological site, a recent farmstead.	367	211-228
	Paleontology—The Sacramento Valley is filled with marine and nonmarine sediment that range in age from the Jurassic period to recent periods (10,000 years). Quaternary alluvium primarily underlies the project site. The older sediments are known to have produced fossil materials in recent times. More specifically, two fossil localities were indicated by a record search.	489-493	229-244
Socioeconomic	The regional area was defined as the Yuba Metropolitan Statistical Area, which is composed of Sutter and Yuba counties. Yuba County's recent population growth has been less than, and Sutter County's has been greater than, California's average annual growth rate. Unemployment in the MSA in 1996 was 15.0 percent. Housing availability varies across Yuba and Sutter counties. Law enforcement and fire protection are present. Sutter County is served by 12 school districts. The nearest hospital is Yuba City. Utilities are provided by Pacific Gas and Electric Company (PG&E).	403-409	93-105
Environmental Justice	CEC deemed 1990 U.S. Census Data was the most reliable source for environmental justice screening. A minority/low-income population exists if the minority/low-income population percentage of the affected area is 50 percent or greater of the affected area's general population. A demographic profile for Yuba City showed that there were no such populations.	401-403	Not discussed

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
Biological Resources	**Vegetation—**Many of the irrigation canals support vegetation similar to that found along natural waterways. Some 52.8 acres of the 77-acre site are annual grassland, 1.2 acres consist of blackberry bramble and 8.67 acres consist of seasonal wetlands. The plant site is surrounded by agricultural land, predominantly rice fields.	428-435	140-166
	Wildlife—Threatened or endangered wildlife in the region include the Aleutian Canada goose, bald eagle, Swainson's hawk, American peregrine falcon, greater sandhill crane, giant garter snake and the winter-run chinook salmon.	428-435	140-166
Geologic Hazard	The SPP is located in the Great Valley Geomorphic Province of California. For the most part, Sutter County is a sedimentary basin with marine and nonmarine sediments. The site overlies natural gas fields and has flat topography. In addition, no known or potentially active faults cross the site. The site is located in CBC Zone 3.	367, 468, 515	Not discussed
Affected Environment (cont.)			
Soils and Water Resources	**Soils**—The SPP site is characterized by alluvial plain soils. For the most part, Sutter County is a sedimentary basin with marine and nonmarine sediments. Clay and clay loams are the predominant surface texture. Water erosion hazards are slight to moderate. Wind erosion hazard is slight. Natural drainage at the site is to the southwest.	428, 468-470	186-194
	Water Resources—The major surface water features in the region are the Sacramento, Yuba, Bear and Feather rivers. Both surface and groundwater are used to meet the agricultural and domestic water needs within the county. The project area is designated Flood Zone X. The upper most aquifer is encountered at a depth of 100-200 feet.	467-470	186-194
Environmental Consequences			
Air Quality	***Impacts:*** The air pollution impacts from the project added to the ambient background levels of pollutants would be much lower than the most stringent standards for NO_2, CO and SO_2. As for PM_{10}, project emissions would violate both the 24-hour and annual PM_{10} standards.	101-104	32-46
	Mitigation: Construction mitigation measures would include: covered or treated excavated/disturbed soils, covered hauling trucks, limited construction area, tire rinsing, speed limits, discontinued construction when windy and equipment maintenance. Operations mitigation would consist of emission reduction offsets or ERCs, the use of natural gas and air pollution control equipment.	105-108	48-70

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
Land Use	***Impacts:*** The project site would be inconsistent with the General Plan and zoning. It would require a General Plan Amendment from AG-80 to Industrial and a rezone from AG to M-2 PD. The transmission line route would remove small amounts of agricultural lands and could present a safety hazard to aerial applicators.	194-203	76-88
	Mitigation: On-site and off-site mitigation would be necessary for compliance with the General Plan, and was discussed in the various technical sections. In terms of the transmission line route, a new route was adopted to lessen impacts.	205-208	90-92
Health and Safety	***Impacts:*** No evidence of site contamination; therefore, no impacts associated with earth moving. Impacts from criteria pollutants were discussed in Air Quality. Noncriteria or toxic pollutants would be emitted from the combustion turbine generators, duct burners, and natural gas dehydrators. Acute and chronic inhalation noncancer hazards would be insignificant. Cancer risks would also be well below significant levels.	120-123	71-74
	Additional demand would be placed on fire protection resources, which would cause them to be inadequate. Workers at industrial facilities may be exposed to chemical spills, hazardous waste, fires, confined space ingress/egress problems and dangers from moving equipment.	137-138	206-208
	Mitigation: See Air Quality for mitigation measures associated with public health.	125	75
	Calpine and Sutter County have an agreement for emergency services improvements. On-site fire protection would be present at SPP site. A Construction Safety and Health Program, Operation Safety and Health Program and a Safety and Health Program (including an Injury and Illness Prevention Programs (IIPPs) and Emergency Action Plan) would be prepared. In addition, measures associated with lighting, smoking, lock-out/tag-out, confined space entry and hot work will be implemented.	138-143	208
Environmental Consequences (cont.)			
Transportation	***Impacts:*** Increased traffic due to construction or operation worker commute would not produce a decline in the level of service past the threshold level. Truck traffic due to product deliveries could create a noticeable impact on local roadways.	218-221	177-182
	Mitigation: Potential impacts due to hazardous substance transportation would be mitigated by complying with all federal/state standards. Specific, predesignated, routes would be used for product deliveries. Typical signs/warnings would be used for linear facility construction. All roadways would be repaired to original condition.	219-221	183-185

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
Noise	***Impacts:*** Project would likely not present significant adverse impacts, individually or cumulatively. The project would present an unobtrusive, nearly undetectable addition to the existing noise levels.	230-234	167-171
	Mitigation: Resident notification prior to grading and steam blow activities; resolution of project complaints; development of noise control program; 25-hour community noise survey upon reaching 80 percent output and occupation noise survey would be used to mitigate noise impact.	230-239	172-176
Visual	***Impacts:*** Out of the seven Key Observation Points, five would have significant visual impacts and two have less than significant impacts, before mitigation. The project also would have the potential to increase the amount of visible light. The cooling tower plume would have significant visual impacts. On the contrary, the *PMPD* concluded that visual impacts would *not* be significant.	264, 268, 270	106-128
	Mitigation: Facilities would be painted in with shades that blend with the surrounding landscape, all fencing and plant equipment would be nonreflective. Other mitigation step would include: limited and shielded lighting areas, directional lighting, compliance with all Federal Aviations Administration guidelines, shorter stacks, a Visual Screening Mitigation Plantings Plan, revegetating construction areas, directional drilling, facility fencing, transmission pole siting away from residence fronts and lighting sensors.	272-275	129-139
Cultural and Paleontological	***Impacts:*** Since there were five prehistoric sites recorded within 1 mile of the project site and linear facility routes, there is a possibility that buried cultural resource materials could be encountered during construction. However, only the natural gas pipeline route could cross the natural levee zone, which would offer the greatest potential for impact. Excavation and drilling for plant and linear facility construction would have the potential to impact paleontological resources.	377-379 495-498	211-214 229-231
	Mitigation: Mitigation would involve the selection of qualified professional cultural resources specialist; implementation of Secretary of the Interior, SHPO, CEC, and county guidelines and implementation of a six-point cultural resource monitoring program. Full-time monitoring by a qualified paleontological resource specialist, a five-point paleontological resource monitoring program, contingency measures, and plans for specimen preparation, curation and reporting, would all be implemented.	381-385 498-504	214-228, 232-244

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
Socioeconomic	***Impacts:*** There would be an average and peak construction workforce of approximately 150 and 200, respectively, and 20 workers needed for operations. Housing availability in the project area would be sufficient. Current public services couldn't meet project demands. Even though school district enrollments are at or near capacity, there would be no foreseen impacts to schools. Construction would have the potential to affect area utilities. SPP should generate $2.5 to $2.85 million in local property taxes. Sales tax due to construction would be approximately $6 million-10 million. Impacts to property values are difficult to ascertain.	409-418	93-103
	Mitigation: Project will attempt to recruit employees from the local area. Impact fees and taxes will be used to compensate the local fire department.	419	104-105
Environmental Justice	***Impacts:*** The minority and low-income populations of the affected area would not be greater than 50 percent of the general population, therefore, there appears there would be no environmental justice issues in the SPP area.	401-403	Not discussed
	Mitigation: No mitigation necessary.	402-403	Not discussed
Environmental Consequences (cont.)			
Wildlife	***Impacts:*** Habitat for several special status species would be eliminated, including various bird habitat and 2.7 acres of giant garter snake upland habitat. Plant stacks and transmission line poles would increase the risk of avian collisions. Swainson's hawk nesting sites could be disturbed. Possible direct take of garter snake during T-line construction.	435-442	140-152
	Mitigation: Mitigation would include: dry-cooling, avoid trenching near sensitive habitat, provide replacement habitat, preconstruction surveys, worker awareness training, hire qualified biologist, habitat creation, avoid nesting sites, implement monitoring programs, T-line route placement and spacing, install bird flight diverters, construction timing, pipeline boring and payment for lost habitat.	443-445	153-166
Vegetation	***Impacts:*** 16.73 acres of grasslands that serve as Swainson's hawk habitat would be removed. Loss of two mature walnut and native valley oak trees would occur.	435-441	143
	Mitigation: Dry cooling would eliminate potential impacts to vegetation from cooling tower drift. Native oaks would be included in the Landscape Plan.	446-447	153-166
Floodplains and Wetlands	***Impacts:*** Approximately 5.83 acres of jurisdictional wetlands would be filled.	472, 435-436	143
	Mitigation: Project would be designed to avoid wetlands. Other mitigation would include: obtaining a 404 permit and 401 fill permit; replacing of wetlands lost due to construction; providing wetland protection; marking wetland boundaries; proper placement of gas pipelines; avoiding vehicle access to SNWR wetlands, using construction cloth and replacing disking with mowing.	446	148-150
Geologic Hazard	***Impacts:*** Erosion impacts were considered in Soils and Water Resources. The project area would not be subject to significant seismic activity, thus no impacts were discussed. The potential for liquefaction, hydroconsolidation and subsidence would also be negligible.	471-479, 515-516	186-187

NEPA Topic	Summary	DEIS/FSA Page No.	*PMPD* Page No.
	Mitigation: See Soils and Water Resources for Mitigation measures associated with erosion. Quality assurance / quality control procedures would be followed throughout construction.	516	191-194
Soils and Water Resources	***Impacts:*** Construction, dewatering and operation activities leave area vulnerable to erosion. Negligible impact to groundwater levels would occur. No wastewater impacts would occur, except for evaporator brine.	471-479	186-190
	Mitigation: The following mitigative steps would take place: implement an Erosion Control and Revegetation Plan; implement a stormwater pollution prevention plan; used fill to raise site; use sediment barriers to help prevent runoff; use secondary containment berms around chemical storage facilities; implement a groundwater monitoring plan; use a dry-cooling design instead of original wet-cooling tower system; maintain zero effluent discharge facility including wastewater recycling; construct a retention pond and identify and implement any improvements to drainage system.	480-481	191-194
Cumulative Impacts	A discussion of cumulative impacts is presented in each of the issue areas in the *Draft EIS*. Cumulative impacts are described for air quality, public health, worker safety and fire protection, hazardous materials, waste management, land use, traffic and transportation, noise, visual resources, cultural resources, socioeconomics, biological resources, soil and water, and paleontological resources. With the original wet-cooling alternative, there was the potential for cumulative impacts on biological resources associated with water quality issues. However, the dry-cooling alternative removes the impacts associated with wet-cooling and eliminates any cumulative impacts associated with the project.	104, 123-124, 143, 165, 178, 205, 221, 234, 271, 379-380, 418-419, 441-442, 479, 498	Not discussed
Environmental Consequences (cont.)			
Short-Term vs. Long-Term and Irreversible or Irretrievable Commitment of Resources	The Draft EIS discusses the permanent loss of productive land in the section on Land Use. There would be no loss of prime agricultural land because the land at the plant site was converted from agricultural use in 1986. The potential loss of agricultural land from the electrical transmission line is seen as negligible. This would not affect long-term productivity for this impacted area. A discussion on the efficient use of resources can also be found in the *Draft EIS* under Powerplant Efficiency. A plant of this size would consume a large amount of energy (natural gas) but it would not have an impact on the source or supply of that energy source. This project would not cause a depletion of the natural gas supply nor would it cause the development of new sources of gas. The use of these resources in the short-term should have no impact on long-term productivity. None of the project alternatives would result in more or less consumption of any natural resources, other than the "no project alternative." The use of 100 percent dry-cooling results in a significant saving of ground water, though the water use in the original project alternative is neither irreversible nor irretrievable. There would be no other irreversible/irretrievable commitment of resources.	195-199, 545-551	Not discussed

Miscellaneous			
List of Preparers		599-600, 601+	Not discussed
Distribution		Not discussed (see Appendix C)	Not discussed

Chapter 5

Public Comment on the Draft EIS

Sierra Nevada Customer Service Region

CHAPTER 5
PUBLIC COMMENT ON THE DRAFT EIS

5.1 INTRODUCTION

This section includes Western Area Power Administration's (Western) responses to comments received on the *Draft Environmental Impact Statement (Draft EIS).* The comments are presented in the following three categories:

- Comments made at public hearings (Sec. 5.2).
- Written comments from governmental agencies (Sec. 5.3).
- Written comments from interested citizens and private organizations (Sec. 5.4).

5.2 SUMMARY OF COMMENTS MADE AT PUBLIC HEARINGS

Public comments on the *Draft EIS* were made at public hearings conducted by the California Energy Commission (Commission) and Western on November 2, 10, and 16 and December 1, 1998. The November 16, 1998, meeting served as Western's National Environmental Policy Act (NEPA) hearing. All comments received during the hearings have been considered. Public comments were received from the following people at the hearings:

Amarel, Bob, Jr.
Amarel, Cooky
Berg
Booth, Larry
Boyce, Lewis
Broadwell, Ann; CURE
Bronson, Ron; Mgr. for Air Gas of Yuba City
Burke, Jerome
Carpenter, George; Sutter Community Services
Creps, Irene
Christiansen, Walt
Cole, Loren; Duck Club & Farming
Danna, Steve
Donaldson, Donald; resident
Foster, Brad; Yuba-Sutter Farm Bureau
Foster, Rosie
Gonzalez, Bert
Henson, Mary
Henson, Leonard
Jaeger, Bill
Jansen, Andy
Kitchens, Jim; Pres. Yuba/Sutter Chamber of
LaPerle, George
LaPerle, Wilma Creps
Layman, Henry
Massey, David
Mitchum, Nadine
Russell, Paul; Sutter Extension Water District
Schroeder, Kevin
Shannon, Mike
Stevenson, Ray
Tomai, Ed
Turner, Alex
Turner; Hollis, Duck Club Owner
Valkowsky
Williams, Larry; Sutter National Wildlife
Woods, Mary
Young, Russell; Yuba-Sutter Farm Bureau

A complete record of public testimony (comment) is contained in the transcripts of the evidentiary hearings. These transcripts are available on the Commission's website **(http://www.energy.ca.gov/sitingcases/sutterpower)** or can be requested from Western or the Commission. These transcripts are not duplicated in this section. Western has grouped the verbal comments according to the issues addressed in the sections of the *Draft EIS*. In summary, Table 5.1 lists these issues, the number of comments received per issue, and as a percentage of the total number of comments, i.e., relative concern.

TABLE 5.1 ISSUES AND RELATIVE DEGREE OF CONCERN

Issue #	Issue Areas	Comments[1]	% of Total
1	Alternatives Analysis	45	13.6%
2	Need Conformance	5	1.5
3	Air Quality	37	11.2
4	Public Health	4	1.2
5	Worker Safety and Fire Protection	5	1.5
6	Transmission Line Safety (Inc. EMF)	24	7.3
7	Hazardous Material Management	2	0.0
8	Waste Management	0	0.0
9	Land Use and Recreation	33	10.0
10	Traffic and Transportation	5	1.5
11	Noise	8	2.4
12	Visual Resources	39	11.8
13	Cultural Resources	0	0.0
14	Socioeconomic Resources	60	18.1
15	Biological Resources	8	2.4
16	Soil and Water Resources	30	9.1
17	Paleontological Resources	0	0.0
18	Facility Design	3	0.9
19	Powerplant Reliability	0	0.0
20	Powerplant Efficiency	0	0.0
21	Transmission System Engineering	13	3.9
22	Facility Closure	7	2.1
23	Compliance Monitoring	3	0.9
	Total Verbal Comments by Members of the Public	331	100.0%

[1] Represents the number of verbal comments received at seven public hearings. It does not include written comments.

5.2.1 ALTERNATIVES ANALYSIS

5.2.1.1 Comments

About 14 percent of the comments were related to alternatives. Fifteen people generally voiced nonsupport for the Sutter Power Project, indicating the plant was not wanted, was not needed in their area and was not appropriate to the area; it was not placed where it belongs.

Seven people were concerned that the applicant's preferred alternative was the only alternative being given in-depth analysis and consideration.

Several people voiced concern with the screening criteria used in the alternatives analysis. One issue was the elimination of an alternative site due to its proximity to areas of medium-to-heavy population density. It was suggested this practice would tend to place all such plants only in rural areas. In addition, some commentors said areas that already had numerous transmission lines might not be as sensitive to visual impact caused by more such lines. Two people wanted to know if mitigation offered at the applicant's proposed site were used in the analysis of the alternative sites.

Numerous people asked clarifying questions, reiterated certain features of the various alternatives, questioned the completeness of analysis, expressed concern over the lack of a selected transmission line route and verified that the proposed plant would provide needed support to the electrical system in general.

Several people noted corrections or oversights in the *Draft EIS* such as incorrect transmission line and gas pipeline lengths, incomplete maps, mislabeling of dwelling vacancy, incorrect distances to nearest available fire protection services and incomplete references to flood plains.

5.2.1.2 Response

The alternatives analysis is in Appendix I, which provided corrections to the items such as transmission line lengths, distances, etc. Table 4.1 shows the comparison of the alternatives.

The description of the alternatives and criteria used in its analysis was discussed on p. 16 of the *Draft EIS*. In addition to the Sutter Power Project (SPP) alternative, the no action alternative and 11 other alternative sites were examined. The *Draft EIS* noted that not all alternatives received the same level of analysis; some sites were outside a reasonable range of alternatives, as described beginning on p. 17 of the *Draft EIS*. All sites were subjected to a set of four screening criteria, which were used to eliminate seven alternatives from consideration (*Draft EIS* pp. 22 and 28). It was then determined if Calpine could reasonably acquire the four remaining sites. The O'Banion Road site was eliminated in this step, but later retained based on public interest. Next, the four alternatives were compared against the proposed site. Only

those alternatives that were judged as equal to or better than the proposed site were retained for further analysis (*Draft EIS* pp. 30 and 33). All alternatives, including the project alternative, were analyzed with no consideration of any mitigation proposed to reduce or avoid environmental impacts. The comparison of these alternatives was shown in Table 4.1 of Chapter 4. None of the screening criteria used to eliminate sites were based on proximity to medium-to-heavy population density. However, population density contributes to impacts for several of the technical areas analyzed, including air, socioeconomics, public health, hazardous material management, waste management, land use, public health, traffic and transportation, noise, visual and biological resources. For example, the impact on public health in the event of an accident would be greater for heavily populated areas than more rural areas, as more people would be affected.

In addition, see responses to Purpose and Need, Sec. 5.2.2 and Land Use and Recreation, Sec. 5.2.9 for comments on support to the electrical system and General Plan Amendment.

5.2.2 NEED CONFORMANCE

5.2.2.1 Comment

Approximately two percent of the comments pertained to a questioned need for the proposed plant. One individual wondered if the state really needed the electricity, and if so, could it be generated by other plants and/or other companies in other locations and then transmitted through the existing major transmission lines. One person asked what would happen if, after construction, the plant were not needed. A second individual said that the hydroelectric generating units at Shasta and Oroville are being reconstructed and questioned the need for extra plants. A concern about more power lines and more powerplants was expressed.

5.2.2.2 Response

Western's statement of purpose of and need for the SSP was presented on p. 13 of the *Draft EIS* and the Commission's need conformance discussion was presented on pp. 75 and 76.

In response to a public comment during the evidentiary hearings, Mr. Moore, a California Energy Commission Commissioner, stated that "this document (*Draft EIS* / *Final Staff Assessment* (*FSA*) reflects a changing responsibility for us that's more in line of does it meet and satisfy environmental constraints. Can we keep it from doing damage as opposed to — we're not in a position to ask will it strictly fit in with the system. We don't have authority to basically control that anymore." Mr. Moore's response reflected the new deregulated energy market in which "merchant" plants are not necessarily responding to growth in the need for electricity but are responding to a growing market for electricity. As a "merchant" plant, the SPP will succeed or fail

based upon its ability to sell electricity more cheaply than other sources. In addition, studies performed by professional transmission planning groups, such as the Sacramento Area Transmission Planning Group, indicate that the SPP would provide much needed voltage stability in the Sacramento area (*Draft EIS*, p. 21). The California Independent System Operator, in a letter to Western (Appendix Q), agreed with that analysis and stated that "Resources near the load centers will go a long way in eliminating the risk for a system-wide collapse and defer the need for new transmission lines." The Commission states (*PMPD* p. 296) that "the SPP provides significant power to the Sacramento Valley area, would help mitigate local system voltage problems and provides moderate power for load growth." If the SPP were not built, other reinforcement options would be necessary to avoid system reliability problems. However, no other options were identified and advanced to address the reliability of the Sacramento Valley electrical system.

Additionally, while improvements to the hydroelectric generating units at Shasta (Federal), Oroville (state) and other dams contribute to the electrical system, they do not in and by themselves solve the reliability issues of the Sacramento Valley.

5.2.3 AIR QUALITY

5.2.3.1 Comment

Approximately 11 percent of the comments related to the potential impacts to air quality from the proposed SPP.

Emissions

Almost half of the verbal comments on air quality addressed the various types of emissions from the SPP. The Greenleaf 1 Plant was cited as being "dirty" and several commentors maintained that even with the low emission level, the SPP would still make too much air pollution. Emissions of PM_{10} were addressed for two main reasons. It was noted that even though the acreage of rice fields being burned each year had decreased, there had not been an improvement in air quality. Also, a few people questioned how the PM_{10} calculations for dust from Boulton Road were performed; one individual questioned if the calculation method benefited Calpine. One individual wondered if his son's cancer was attributable to the Greenleaf 1 Plant. Another commentor stated that the SPP would double all existing emissions in the County and that "what goes up comes down somewhere."

Emission Reduction Credits (ERCs)

Approximately one fourth of the air quality comments pertained to Emission Reduction Credits (ERCs). Several people wondered if Calpine would be using up all or most of the available ERCs in the region. These commentors were concerned that there wouldn't be adequate ERCs for other uses, such as burning rice stubble or for

some future industries that could benefit the county. Also, one individual questioned if ERCs would need to be purchased every year that the SPP were to operate. Another commentor asked how the SPP's ERCs compared with those used on a ranch. One person asked how the pollution credits were issued and another asked how credits from out of county affected the number of burn days in county.

Existing Air Quality Standards and Air Quality

One individual questioned when was the last change in air quality standards. It was noted that the county did not achieve air quality standards now and several people questioned why more pollution was being allowed. One person said that most of the pollution came from Sacramento or the Bay Area and that the inversion layer made the pollution more apparent. Lastly, one individual stated that the SPP should not contribute to the deterioration of air quality in the region.

Farming Practices

A few comments were made about the effect of the SPP on burning rice stubble and the number of available burn days. The effect of heavy pollution on crops was also noted. One individual wondered if the SPP would have any effect on his ability to farm on inversion days.

Compliance

Two people questioned what would happen to the SPP if, after construction and initial operation, it could not make its permit requirements.

5.2.3.2 Response

These issues were covered in the *Draft EIS*, the Air Quality Supplement to the *Draft EIS*, dated November 17, 1998, and its associated Errata, dated November 30, 1998 (Supplement and its Errata), as shown in Table 5.2. The *Draft EIS* was modified to incorporate the requirements in the Feather River Air Quality Management District (FRAQMD) Final Determination of Compliance (FDOC) dated November 13, 1998. These three documents are Appendices F, G and H.

TABLE 5.2 AIR QUALITY

	Draft EIS	Supplemental Testimony 11/17/98	Errata 11/30/98
Laws, Ordinances, Regulations and Standards (LORS)	pp. 78-81	pp. 2-5	pp. 2, 5
Existing Ambient Air Quality and Attainment Status	pp. 87-92	pp. 11-15	N/A
Estimated Project Emissions	pp. 93-101	pp. 17-24	p. 22
Operation Mitigation Measures	pp. 106-108	pp. 29-31	p. 30
Offset Requirements	p. 108	pp. 31-33	N/A
Conditions of Certification	N/A	pp. 33-49	pp. 42-48

The SPP would need to be constructed and operated within the requirements of the LORS for air quality, which specify the limits of emissions. The Commission has set specific Conditions of Certification, which define criteria to meet the LORS, emission limitations, construction and operation mitigation measures, as well as the ERC requirements.

The issue of establishing a baseline PM_{10} measurement during rice harvest was raised during the hearing by one of the interveners. The Commission responded by adding a new Conditions of Certification (*PMPD* pp. 45-46; AQ-44, Appendix O) that directs Calpine to re-measure traffic on the roads during a nonharvest period. Review of the new measurements would determine if there should be a change in the PM_{10} mitigation requirements.

The FRAQMD provided testimony on the ERC's available to the county for future development after SPP (*PMPD* p. 44). The testimony indicated that there would be sufficient credits available to the county for another project of this size. The FRAQMD also stated that credits issued to the SPP would have no effect on whether rice burning were allowed since the SPP would not have the type of emissions used to declare no burn days.

In response to the question concerning the overall air quality, there was discussion in the hearing that while the air quality might not have improved [over a 5- or 10-year period], it might not have worsened either. Through the use of the ERC's, new developments in the area would be cleaner. However, this would be offset by the area's growth, with increasing population bringing in more vehicles and more air pollution. Thus, the area would remain in a nonattainment status. Concerning what would happen if the SPP could not make its permit requirements, the Commission determined that the plant could not start up without meeting its Conditions of Certification. If after start up the plant did not meet its requirements, Calpine would have to resubmit information to the Commission for review, and the Commission would ultimately decide whether the plant could continue to operate.

5.2.4 PUBLIC HEALTH

5.2.4.1 Comment

Approximately one percent of the comments concerned public health. One individual questioned if the people living in the town of Sutter would have a higher health risk because they are downstream of the prevailing wind. Another individual questioned whether the existing Greenleaf 1 Plant had caused his son's Hodgkin's disease and was worried that the proposed Sutter plant would cause cancer in his children and/or grandchildren. One person questioned the SPP's opponents because he considered that the SPP's air emissions would cause less public health risk than the methylbromide used in farming practices.

5.2.4.2 Response

The Public Health section was located on pp. 111-134 of the *Draft EIS*. The Noncancer Hazard and Cancer Risk for the Project Specific Impacts are discussed on pp. 122 and 123 of the *Draft EIS*. For Cumulative Impacts, discussions about the Noncancer Health Effects and Cancer are on p. 124. In its Conclusions and Recommendations, the *Draft EIS* found "operation and construction of the SPP is not expected to result in atmospheric emissions of noncriteria pollutants sufficient to cause adverse public health consequences." This means that the local residents, including the community of Sutter would not be subjected to health-threatening atmospheric emissions. One person pointed out that the residents might be facing more health effects from the use of pesticides and herbicides in use in modern farming practices. While Western is sympathetic to the family whose child has contracted Hodgkin's disease, this person's question was answered at the hearing on December 1, 1998. There is simply no way to assign a causal agent that might have been generated at the existing plant that could explain this one instance of disease. And the emissions of criteria pollutants for SPP would be at such a small level that there would be no reason to believe that the SPP would be contributing to any additional incidence of disease.

5.2.5 WORKER SAFETY AND FIRE PROTECTION

5.2.5.1 Comments

About two percent of the total verbal comments concerned worker safety and fire protection. In response to a recent near miss involving hitting an underground gas pipeline, two people asked about the local gas distribution company's safety practices especially regarding construction; did the practices exist, who was responsible for any problems and who had control of the gas company. Two people asked who had financially responsibility for fire, hazardous material spill and pollution cleanup and related expenses. Lastly, one person voiced concern about static electricity buildup during vehicle fueling operations

5.2.5.2 Response

The Worker Health and Safety section was located on pp. 135-146 of the *Draft EIS*. LORS related to worker safety and fire protection (*Draft EIS* pp. 135-136) include both standards for construction activities as well as for normal operations and maintenance activities.

According to the Conditions for Certification (*Draft EIS* pp. 144-145, Appendix O):

- The SPP owner shall submit to the Compliance Program Manager at least 30 days prior to the start of construction, a Construction Injury and Illness Prevention program, a Construction Fire Protection and Prevention Plan, a Personal Protective Equipment Program and a letter from the Sutter County Fire

Department stating they have reviewed and accept the Construction Fire Protection and Prevention Plan and the Personal Protective Equipment Program. (Safety-1)

- The SPP owner shall submit to the Compliance Program Manager at least 30 days prior to the start of construction, a copy of the Project Operation Safety and Health Program that must include (1) the Operation Injury and Illness Prevention Program, (2) the Emergency Action Plan, (3) the Operation Fire Protection Plan and (4) the Personal Protective Equipment Program as well as a letter from the Sutter County Fire Department stating they have reviewed and accept the Project Operation Safety and Health Program. (Safety-2)
- Lastly, the SPP owner shall design and install all exterior lighting to meet the requirements contained in the Visual Resources Conditions of Certification and in accordance with the American National Standards Practice for Industrial Lighting, ANSI/IES-RP-7. (Safety-3)

The SPP owner would also be required to sign an agreement with Sutter County to pay for needed improvements in fire protection and emergency services capabilities.

The SPP owner would be responsible for all facilities owned by Calpine. Any utilities brought into the site would be owned and maintained by the utility (such as Pacifica Gas and Electric Company (PG&E) for the gas lines). The utility owners would be subject to similar worker safety stipulations as part of their normal business.

5.2.6 TRANSMISSION LINE SAFETY

5.2.6.1 Comment

About seven percent of the total verbal comments concerned transmission line safety. Of these comments, most were related to the safety of agricultural flight operations in the vicinity of the proposed transmission line route. Others were related to electromagnetic fields associated with the transmission line itself.

One person, a semi-retired "crop-duster," testified on behalf of Calpine that the proposed transmission line would not significantly increase the risks of an accident during aerial application operations when compared to the present situation. However, he did indicate that the proposed suggestion of angling the transmission line at the corner of O'Banion Road and South Township Drive to reduce the visual impacts at this location would result in an increased hazard for those pilots using biplanes. He further stated there were few places where aerial application could not be done and that costs for aerial application services were very variable. He could not say that it would be more expensive to fly east to west rather than north to south.

Two people voiced concern with the above testimony. They believed the witness had little recent experience and cited his example related to chemicals that were no longer

in use. They asserted that his flight examples related to use of older and slower aircraft. One of these people indicated that the flight patterns proposed in the previous testimony, as being acceptably safe flight alternatives, would probably cause extensive crop damage in adjacent fields. The other person noted the current use of fast planes would not allow a pilot to get as close to the line as testified and consequently there would either be increased risk of pilot accident and or less field coverage.

In response to comments about flying under the transmission line conductors, one person said there would likely be to little room between the conductors and the orchard trees in the adjacent fields. Another person commented that it was illegal to fly under the conductors.

Two people noted concern with heavy equipment or agricultural equipment working near or under the lines. Some of this equipment is very tall and the transmission line should be built to ensure proper clearances would be maintained from the conductors. One person was concerned with financial responsibility should vandals somehow run his agency's equipment into the transmission line conductors or poles.

Two commentors noted incidents of receiving electrical shock from touching equipment working under a transmission line.

Three people expressed concerns over electromagnetic fields. One indicated he did not know if it would be safe for him any longer since he had a pacemaker and a defibrillator. The second indicated concern about receiving conflicting information concerning the dangers of such fields. The last indicated the transmission line owner representative was very careful in his remarks about there being no proven health effects due to such fields.

5.2.6.2 Response

These issues were covered in the *Draft EIS* on pp. 147-158. In relation to aerial spraying, the *Draft EIS* states (p. 148):

> "…an FAA [Federal Aviation Administration] "Notice of Proposed Construction or [Alteration]" will not be required for the proposed line according to the noted regulatory criteria relative to height, distance from the nearest runways, and slope of the imaginary line from the end of the nearest runway to the top of line related structures. While the line will not pose a significant hazard to general aviation in the area, it would, by its very presence in an agricultural area, pose (as do similar lines in the area) some inevitable obstruction hazard to aircraft involved in crop-dusting operations in the immediate vicinity. All the Safety Officers in the area crop-dusting companies that were contacted by [Commission] staff, expressed their concern about such possible hazard. They noted that such a hazard could limit the effectiveness of their operations to a potentially significant degree."

In addition, on the same page, the *Draft EIS* notes:

> "There are no specific, collision-related regulations on the safety of crop-dusting operations in the area around overhead power lines. According to the pilots contacted by [Commission] staff, each pilot is responsible for the level of care necessary to avoid collision with power lines during crop-dusting-related flights. Addition of the proposed line to the area network of power lines would increase the level of care involved. One of Calpine's reasons for choosing the present route for the line is to avoid significant impacts on two nearby air strips presently used for area crop-dusting operations (Calpine 1998b [Supplemental filing to Change Electric Transmission Line Route. May 11, 1998])."

As noted in the Condition for Certification, (TLS&N-1, *Draft EIS* p. 156; Appendix O):

> "The SPP owner shall construct the proposed transmission line according to the requirements of [General Order] GO-95 and Title 8, Section 2700 *et seq.* of the California Code of Regulations."

The line must also be designed to meet applicable design requirements such as the National Electrical Safety Code (NESC), American National Standards Institute (ANSI), Institute of Electrical and Electronic Engineers (IEEE), American Society for Testing and Materials (ASTM), American Society of Civil Engineers (ASCE) or the National Electric Code (NEC). Western would inform farmers of the clearance and restrictions associated with working around the conductors. In the case of operations such as canals, Western would determine equipment height limitations, such as for dredging operations, and design the line to provide the necessary conductor clearances.

As noted in the Condition for Certification (TLS&N-6, *Draft EIS* pp. 157-158; Appendix O), Western would provide full protection for stray electric shocks by grounding all fences, gates, etc. Western would also provide a notice prior to the operation of the line and provide information should the farmer wish to add new buildings, fences, gates, etc., and a recommendation on refueling in the vicinity of transmission lines.

In regards to electromagnetic fields, "no exposure-related limits have been established by regulatory agencies with regard to human exposure to electric and magnetic fields from power lines or other common sources. The perceivable effects of power line fields have been noted, and will always be important in the design and operation of modern power lines. The increased concern about power line fields in recent years has not been about these perceivable effects but about the potential for significant health effects in humans exposed around power lines and other sources" (*Draft EIS* p. 152). The available evidence has not established a link between electric and magnetic fields and significant health hazards.

5.2.7 HAZARDOUS MATERIAL MANAGEMENT

5.2.7.1 Comment

Approximately one percent of the comments related to concerns about hazardous material management. One commentor asked who prepared the Risk Management Plan and if there would be training for local residents in case of a leak and the potential for a cloud of anhydrous ammonia. This commentor was concerned because the area was not urban and a farmer on a tractor could be at risk.

5.2.7.2 Response

Hazardous material management was discussed in the *Draft EIS* on pp. 159-172. The LORS related to hazardous material management were noted on pp. 157-158 of the *Draft EIS*. The project-specific impacts and the cumulative impacts were discussed on pp. 159-162 of the *Draft EIS*. A general discussion of the proposed mitigation measures was included on p. 162 of the *Draft EIS*. Specific Conditions of Certification, which defined specific criteria, can be found on pp. 163-164 of the *Draft EIS*, and in Appendix O.

Calpine would prepare a Risk Management Plan and Process Safety Management Plan to the Sutter County Fire Department and the Commission for review and approval. The plans would also be submitted to the EPA and the California Occupational Safety and Health Administration. Calpine would not be required to train local residents to react during a spill or release. However, they would be required to store, operate and dispose of hazardous materials in accordance with their plans. For anhydrous ammonia, the material would be held in a 12,000-gallon double walled tank, with secondary containment. Calpine would upgrade the County's fire and emergency management departments and provide proper equipment, personnel and training. However, the risk of a leak from the anhydrous ammonia would be less than one in one million.

5.2.8 WASTE MANAGEMENT

5.2.8.1 Comment

No comment received.

5.2.8.2 Response

No response needed.

5.2.9 LAND USE AND RECREATION

5.2.9.1 Comment

Approximately 10 percent of all comments were related to land use and recreation. Some comments related to concerns about the inconsistency with the current land use designation of the 77-acre parcel. A request had been made for a amendment to Sutter County's General Plan. Citizens were concerned that the rezoning would result in a loss of agriculture land, which the Sutter County's General Plan had been written to protect.

Other comments were specific to the impacts to agricultural activities. Other comments were made regarding the limited ability to apply aerial application of agricultural products to farmland and the inability to perform agricultural activities with heavy equipment around the transmission poles.

The remaining comments concerned the recreational duck-hunting club located on the O'Banion Road site. Approximately 50 hunters come to this area for seasonal hunting from mid-October to mid-January. The clubhouse contains about 25 or more people three nights per week. Three individuals were concerned that the proposed SPP would destroy the duck club.

5.2.9.2 Response

Calpine submitted an application for a General Plan Amendment and rezone on December 26, 1997. In its application to Sutter County, Calpine included a site plan for all existing and proposed development for the entire 77-acre parcel. The *Draft EIS* discussed land use issues on pp. 183-214, and specifically discussed the conversion of agricultural land to industrial uses on pp. 195-196. The issues surrounding aerial spraying and agricultural practices were discussed in the response to comments on Transmission Line Safety (see Sec. 5.2.6.2 above).

Following the release of the *Draft EIS*, the Sutter County Community Services Department submitted comments and recommendations on the SPP to the Sutter County Planning Commission (Appendix E). The Community Services department recommended that the Planning Commission approve the General Plan Amendment and rezone with additional conditions. The Planning Commission voted down the amendment on December 2, 1998, on a 4-3 vote, on the grounds that the project is inconsistent with the General Plan (i.e., agricultural use). Calpine appealed this decision to the Sutter County Board of Supervisors on December 9, 1998. Calpine noted that the county is able to amend its General Plan up to four times a year. The amendment and rezone would simply conform the property's land-use designation to the existing use of the property (the Greenleaf 1 powerplant, located on the site has been in commercial operation for nine years). The Sutter County Board of

Supervisors met on March 30, 1999 and approved the General Plan Amendment and rezone of the SPP site.

The Sutter County Community Services Department comments and recommendations included an opinion that the 77-acre parcel owned by Calpine was zoned industrial, not agricultural, since the Greenleaf 1 plant was constructed in 1984. Since that time, that property has not been actively farmed. The planning staff recommended that the plan amendment be granted because there would be no loss of agricultural land.

The issues surrounding impacts to agricultural practices were discussed in the *Draft EIS* and in the hearings. It was concluded that the transmission lines would not significantly impact farming activities, ". . . though a small amount of farmland would be lost due to the transmission line" (Figure 5.1). Specifically the issue surrounding aerial applications was discussed in the *Draft EIS*, and in the evening hearing on November 11, 1998. Two aerial applicators testified, one indicated no impacts on operations, and one indicated major impacts. In the *PMPD*, the Commission concluded that aerial operations would not be significantly impacted.

Western was sensitive to the concerns of the owners of the duck club at the end of O'Banion Road. During the hearing on November 11, testimony was presented that suggested that the duck club could be avoided by placing the switchyard east of the PG&E 500-kV transmission line. While this option had not been specifically studied, it is within the area that was studied for all other project alternatives and was not seen as a new alternative. However, should the switchyard be placed in the location of the duck club, the owners would be compensated for the fair market value of the property, and it would not preclude the owners from establishing a duck club on any other part of their property.

5.2.10 TRAFFIC AND TRANSPORTATION

5.2.10.1 Comment

About two percent of the verbal comments were concerned with traffic and transportation. Two people noted a concern with keeping trucks to their designated route plan and suggested that these routes be mandatory and someone have the authority to enforce the plan, where the resident could assist in a watchdog position.

5.2.10.2 Response

Traffic and transportation issues were discussed in the *Draft EIS* on pp. 215-226. The Sutter County Public Works Department requires a transportation permit for oversized vehicles using a county road and an encroachment permit for any opening or excavation in any county highway (*Draft EIS* pp. 216-217). Additionally, the Sutter County General Plan, Policy Document Section 2 states that the county shall require all new development projects to analyze their contribution to increased traffic and implement improvements necessary to address the increase. In general, the most

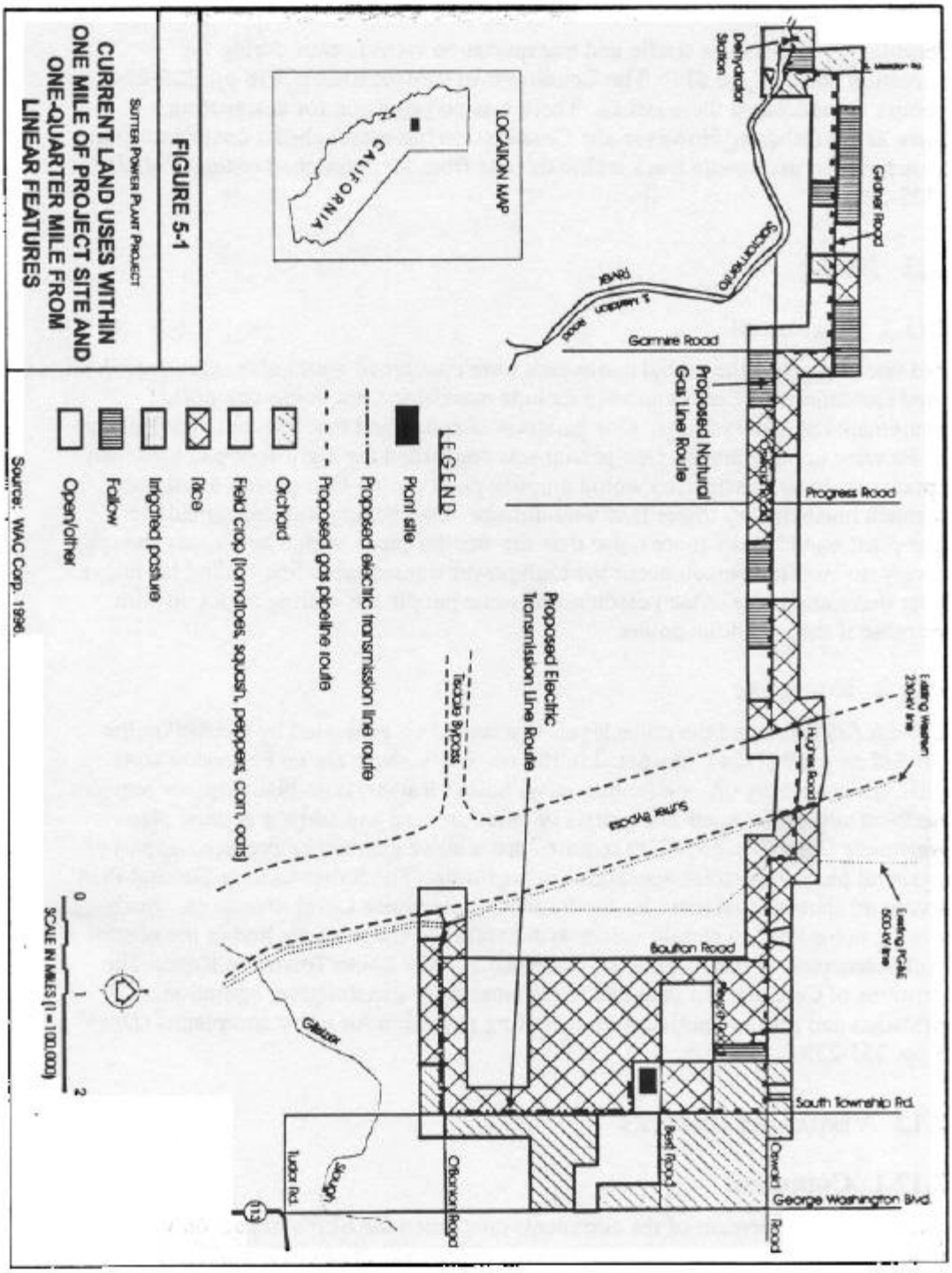


FIGURE 5-1

SUTTER POWER PLANT PROJECT

CURRENT LAND USES WITHIN ONE MILE OF PROJECT SITE AND ONE-QUARTER MILE FROM LINEAR FEATURES

Source: WAC Corp. 1996.

noticeable SPP impacts on traffic and transportation would occur during the construction phase of the SPP. The Conditions of Certification (DEIS pp. 223-224; Appendix O) addressed these issues. There was no provision for designating a resident as a watchdog. However, the Commission has established a complaint forum that citizens can use should truck traffic deviate from their assigned routes (*PMPD* pp. 322-324).

5.2.11 NOISE

5.2.11.1 Comment

About two percent of the verbal comments were concerned with noise. One person wanted Conditions of Certification to include mandatory, not voluntary, noise measurements with dBa limits. One person was concerned that the cumulative effects of noise were not examined. One person was concerned the eight-foot pad on which the plant was to be constructed would amplify plant noise. One person questioned how much noise the dry tower fans would make. One person was concerned the bigger plant would make more noise than the smaller plant, which he already thought was very noisy. One person noted the high power transmission line behind his house did not make any noise. One person noted some people are willing to put up with plant noise if they need the power.

5.2.11.2 Response

The *Draft EIS* discussed the noise levels that would be generated by the SPP in the *Draft EIS* on pp. 227-244. As noted in the *Draft EIS*, there are no Federal or state regulations governing off-site (community) noise. Rather, state-planning law requires those local authorities such as counties or cities prepare and adopt a general plan. Government Code Sec. 65302(g) requires that a noise element be prepared as part of the general plan to establish acceptable noise limits. The Sutter County General Plan has such an element that includes the Sutter County Noise Level Standards, which limits the noise level to certain values as measured at the property line of the nearest sensitive receptor — in this case the residence at 4879 South Township Road. The Conditions of Certification included requirements for construction, operation, verification and resident notification including provision for noise complaints (*Draft EIS* pp. 235-239).

5.2.12 VISUAL RESOURCES

5.2.12.1 Comment

Approximately 12 percent of the comments concerned the SPP's impact on visual resources.

Views from Residences

Approximately one-fourth of the comments in this subject area were focused on concerns about views of the powerplant and transmission line from nearby residences. Questions were asked about the staff analysis of impacts; specifically, there were concerns that the photographs used in the analysis were taken at roadsides adjacent to orchards. Several commentors noted that some of the homes were two-story, were built on a pad and/or were not directly adjacent to orchards. These individuals expressed that the homes had better views and would, therefore, be more impacted than views from the roadside. Many speakers said that the views of the Sutter Buttes would be impacted. One commentor noted that the plant was not a desirable thing to look at, even if you're not looking at the Buttes. Another commentor questioned how a visual impact's worth was decided and how to reimburse those people who were impacted.

Vegetation and Screening

Approximately 20 percent of the comments in this subject area were related to the effectiveness of a vegetative screen of the plant. Most of the speakers were skeptical that the proposed trees would live due to high groundwater levels. One individual asked what measure the locals could take to get a screen in place if these trees did not survive. This same commentor noted if the trees did live, that they would take 20-30 years to grow to screening height and the economic life of the plant is also 30 years. Another commentor did not believe that the expected height of the grown trees would provide an effective screen. One individual suggested that any trees would pose another hazard to crop-dusting airplanes. One commentor asked about the percentage of view of the Sutter Buttes that would be lost at a specific location.

Transmission Line

One commentor noted that a tree adjacent to a pole was deciduous and also asked about the visual impact of a double-circuit line versus a single-circuit line. This same commentor noted that duck hunters used a field that was adjacent to the proposed transmission line for access, and wondered if the impact on the hunters was considered. Another commentor said that 4 miles of 105 feet of transmission lines would spread the visual impact of this project over a wider area. A third commentor noted that the steel poles in a nearby area were huge and very noticeable.

Outdoor Views by Farmers

Most of the commentors noted that farmers spend their time outside, not just in their homes; they questioned if this was considered in the analysis. One commentor noted that when pruning orchards, the farmer spends more than half of the time above the treeline.

Height of SPP and Lighting

Two speakers were concerned about how much higher the proposed SPP plant would be compared to the Greenleaf 1 Plant. One commentor thought the Greenleaf 1 Plant looked like a Christmas tree at night and was concerned that the proposed SPP plant would be even more lit up.

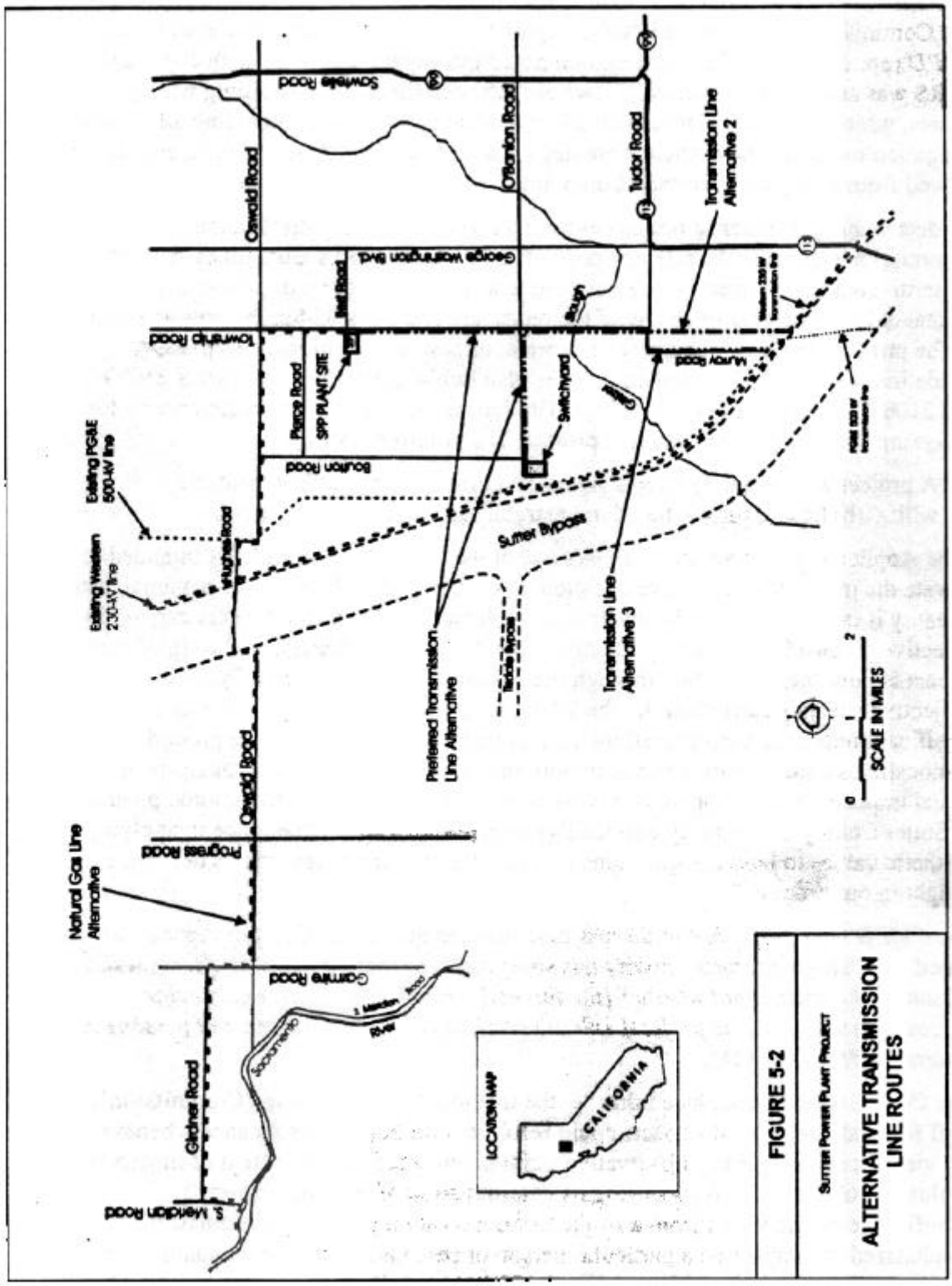
Miscellaneous

One commentor noted that several orchards had been removed in Sutter County since the visual analysis was performed, including an 88-acre orchard near the project area. This commentor noted that the Greenleaf plant was now visible from a specific location. This commentor also questioned if the Sutter Buttes were the logo of Sutter County. Another speaker asked where the steam plume would be discussed. A third speaker stated that the proposed SPP plant "is against the general plan because … the visual aspects of the county natural resources should be protected."

5.2.12.2 Response

The impacts on visual resources were addressed in the *Draft EIS* on pp. 245-361. Additionally, there was a considerable amount of information discussed during the hearings, and a brief on visual resource impacts was developed by the Commission (Appendix K) for presentation to the Commissioners on December 9, 1998. Four transmission lines routes were considered for the SPP (Figure 5-2). Two of these routes were discussed in the Visual Resources section of the *Draft EIS*, the proposed route and the route which proceeds directly south on South Township Road to the Sutter Bypass. The other two routes were also discussed in the hearings to determine the route with the least visual impacts. "The LORS related to visual resources were noted on pp. 245-246 of the *Draft EIS*. The project specific impacts and the cumulative impacts were discussed on pp. 260-270 of the *Draft EIS*. A general discussion of the proposed mitigation measures was included in pp. 272-278. Specific Conditions of Certification, which define specific criteria to meet LORS and to mitigate the impacts of the SPP during construction and operation, can be found on pp. 282-288 of the *Draft EIS*, and in Appendix O.

The *Draft EIS* stated that there were significant visual resource impacts at five of the seven key observation points established. These impacts were due to the transmission line, the plant and plumes from the plant blocking views of the Sutter Buttes and/or Sierra Nevada Range. During the hearings, much discussion centered on whether or not these impacts were significant. Calpine presented testimony at two hearings from their own expert witness. His conclusions, based generally on the methodology normally used in wildlands visual assessments, asserted that there were no significant visual impacts from the plant or from the transmission lines. The brief on visual resource impacts was essentially a rebuttal of this testimony by the Commission staff.


Natural Gas Line Alternative
Existing PG&E 500-kV line
Existing Western 230-kV line
Girdner Road
S. Hardison Road
Progress Road
Oswald Road
Cortina Road
Hughes Road
Pierce Road
SPP PLANT SITE
Bell Road
Boulton Road
Township Road
Sunrise Road
Oswald Road
Offenton Road
Tudor Road
George Washington Blvd.
McIntyre Road
Slough
Switchyard
Sutter Bypass
Preferred Transmission Line Alternative
Transmission Line Alternative 2
Transmission Line Alternative 3
Tarke Wyse
Western 230 kV transmission line
PG&E 500 kV transmission line
SCALE IN MILES
0
1
2
LOCATION MAP
CALIFORNIA
FIGURE 5-2
SUTTER POWER PLANT PROJECT
ALTERNATIVE TRANSMISSION LINE ROUTES

The Commission resolved the issue on significant impact to visual resources in the *PMPD* (pp. 106-128). The Commission noted that legal conformity with applicable LORS was not an issue. Rather, "…we are left with the issue of deciding whether the project, which is in compliance with all applicable law, and after including all feasible mitigation measures, nevertheless creates visual impacts which are 'significant' as viewed from a single key observation point.

"In determining whether or not an environmental impact is significant, the Commission examines the relevant portions of CEQA. CEQA Guidelines interpret the term 'significant effect on the environment' as 'a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including...objects of historical or aesthetic significance.' [CEQA Guidelines Sec.s 15002(g) and 15382; see also Public Resources code Sec.s 21083 and 21087.] Appendix G of the CEQA Guidelines sets forth the relevant criteria for analyzing the visual impacts of this project. The criterion states:

> A project will normally have a significant effect on the environment if it will:…(b) have a substantial, demonstrable negative aesthetic effect.

"The Applicant points out that CEQA's use of the term 'demonstrable' is intended to elevate the inherently subjective question of visual impacts from one of personal taste ('beauty is in the eye of the beholder') to an element that decision makers can use in objectively considering the impacts of a project….In the instant case, the significant impact is only 'demonstrable' through the extremely complex and ultimately subjective analysis carried out by the Commission staff. This conclusion of a significant impact is contravened by the Applicant's expert whose background demonstrates extensive experience in both the practical and academic analysis of visual impacts. Staff's conclusion is also contrary to that of the professional planners of Sutter County Community Service Department, who have experience in applying aesthetic values to land use questions in Sutter County and whose views deserve great weight in our process."

The *PMPD* then proceeded to discuss case law and quotes the Court of Appeal, which stated that "all government activity has some direct or indirect adverse effect on some persons. *The issue is not whether [the project] will adversely affect particular persons but whether [the project] will adversely affect the environment of persons in general"* (*PMPD* p. 124).

The Commissioners concluded that "…the methodology used by the Commission's staff for analyzing visual impacts could result in a finding of significance whenever the view from a single key observation point is impacted and the extent of impact is evaluated subjectively. By focusing its determination of an entire project's significance on the views from a single key observation point, the commission staff emphasized the impact on a particular person or persons rather than evaluating the environmental impacts on a broader scale. If the single key observation point selected was one which itself involved large numbers of the public, an argument could be

made that a substantial adverse impact at that point amounted to an entire project imposing a significant adverse impact. However, such is not the case before us." And, "…it is our determination that even a marked visual intrusion on this limited number of persons does not constitute the basis for a finding that the project will impose a significant visual impact on the environment."

Western, created in 1977, currently owns and/or maintains more than 17,000 miles of high voltage lines in 16 western states. As a result, Western has considerable experience with evaluating the impacts of transmission lines. Visual impacts are just one of the issues reviewed when planning system changes and additions. Western has avoided or mitigated visual impacts to less than significant in most cases. In this particular situation, Western is faced with competing expert opinions on the significance of the visual impacts of the transmission line. Nonetheless, after all the information is weighed, the visual impacts associated with the SPP would not rise to a level of significance, as defined by either NEPA or CEQA. Therefore, Western is in agreement with the Commissioners determination.

As mentioned by the Commission, the SPP would be required to conform to all the Conditions of Certification that minimize the visual impact to the greatest extent possible. For the powerplant (including the Greenleaf 1 Plant) these include shielding of night lighting, painting the plant a neutral gray, elimination of the vapor plume through dry cooling (SPP only), and adding perimeter berms planted with trees and shrubs. For the transmission line impacts, mitigation would include dulling the reflective metal surfaces of the transmission line poles, using nonspecular conductors and placing poles to avoid view obstructions.

5.2.13 CULTURAL RESOURCES

5.2.13.1 Comment

No comment received.

5.2.13.2 Response

No response needed.

5.2.14 SOCIOECONOMIC RESOURCES

5.2.14.1 Comment

Approximately 18 percent of the spoken comments referred to socioeconomic resources concerns. Approximately two-thirds of the comments within this subject

area related to impacts from the powerplant and approximately one-third related to impacts from the transmission line. A few commentors were concerned about impacts from the switching station.

Effects on Farming

Almost one-fourth of the comments in this subject area pertained to comments about the effects of the transmission line, the powerplant and/or the switching station on farming.

The majority of the comments on farming were focused on the transmission line. These concerns included the belief that the project would have a significant negative economic impact, a decrease in crop production and an increase in incident weed seeds. In addition, there was concern expressed that the land was already used for rice production. Three individuals made comments regarding crop-dusters. The concerns were that they would not be able to use specific pesticides if a 5-mph crosswind existed because it would impact adjacent orchards; they would have difficulty flying between the tops of orchards and under the transmission lines; and they would not be able to get to application height because of the transmission lines. Two individuals questioned if the SPP could cause them to lose their ability to farm. One individual stated that no more farmland should be taken out of production.

One comment was made that a farmer stores his equipment, during flooding in the bypass, in the location of the proposed switching station. Another commentor questioned if farmers could be put out of business if Calpine's coolers were to plug up due to the farmers' dust.

Employment

The majority of the people who commented on the SPP's effect on employment spoke in favor of the SPP, since it would provide construction, maintenance and operation jobs in a community that had high unemployment. One commentor suggested that an increase in jobs would help alleviate some social problems such as suicide and spousal abuse.

Two individuals questioned if there would truly be any increase in jobs. One commentor said that the union draws workers from five or six surrounding counties and the second commentor stated that if this plant were to put Greenleaf 1 out of business, there would be no net increase in jobs. Two people stated that the SPP's benefits to the county could still be realized even if the SPP were sited elsewhere in the county.

Effects on County and Community

Over half of the commentors suggested that the overall effects would be positive. The region is one of the poorest in the state, union members contribute to local health care system, union pensioners spend locally and the SPP would be a positive

opportunity for the community as a whole. Two commentors noted the tax contribution to the county including the schools.

Another commentor said that the fees paid by the SPP for the schools would be a one-time capital improvement and that there would be no net increase for the schools' operating budget because it is determined by the state. One individual stated that the SPP would impact the quality of life for those living adjacent to the plant. One commentor noted that the people opposing the plant were local, whereas the people supporting the plant were from elsewhere.

One person questioned if there would be an auditor to verify that the county got the amount that it was supposed to receive in terms of construction and maintenance costs.

Change in Property Values

Almost all of the commentors that addressed property values expressed concern property values would be diminished, either by the powerplant or by the transmission line. Two individuals stated they believed the powerplant would significantly reduce the value of their properties. One individual expressed concern that the analysis was inadequate. One commentor noted that even though their property was 1/4 to 1/2 mile from the transmission line, they would still be adversely impacted. Another commentor referred to a local banker who told them that farmland was significantly diminished if a transmission line were nearby.

One other commentor stated that PG&E recently built a transmission line behind their house and it had no effect on the property value.

Effects on Business Community

Two commentors said that the SPP would create additional commerce for the community and be a boost for the local economy. Three individuals expressed concern about what message would be sent to the business community as a result of the SPP. Two of these individuals suggested that the SPP should be sited according to the general plan, which would confirm that further development should occur according to the general plan and zoning requirements. The other individual suggested that other businesses would interpret the county as either open or closed for further development depending on the decision made on this specific project.

Supports Project

Five individuals commented that they supported the SPP; some of the specific commentors were from companies that anticipated work from the SPP. One individual worked for Calpine and commented that Calpine had tried to address the concerns of the surrounding community.

Duck Club

One commentor said that their duck club was adjacent to the proposed switching plant and that no one would come to use the club. Another individual expressed concerns about the impact of the SPP on the duck hunters.

Potential Expansion in the Future

One commentor was concerned there would be additional power lines in the future and another commentor was concerned that another powerplant could still be built on the site in the future.

5.2.14.2 Response

The Socioeconomic Resources section was located on pp. 401-424 of the *Draft EIS*. The LORS related to socioeconomic resources were noted on p. 401 of the *Draft EIS*. The project specific impacts and the cumulative impacts were discussed on pp. 409-419 of the *Draft EIS*. A general discussion of the proposed mitigation measures was included on pp. 419-420. Specific Conditions of Certification, which define specific criteria to meet LORS and to mitigate the impacts of the SPP during construction and operation, can be found on pp. 420-421 of the *Draft EIS*, and in Appendix O.

Farming impacts were also discussed at some length in the hearings. The Commission presented supplemental testimony on the impacts to the agricultural economy (Appendix I), especially in terms of the impact due to the transmission line. A worse case scenario was assumed, where the entire right-of-way (125 feet wide) would be lost from production, though clearly this would not be the actual loss. Through analysis, it was determined that the transmission line would reduce the county production of rice by .015 percent, at an estimated cost of $42,137 for lost crop product. Taken from the county as a whole, the Commission concluded this was not a significant impact. The total land taken out of production would be much less than that of the entire right-of-way. Most of the right-of-way would not be located in crop production areas. Farming practices could continue with few restrictions around individual transmission structures and the landowner would be compensated for any necessary easements.

Impacts to property values were also discussed in the *Draft EIS* and were addressed in the supplemental analysis done by the Commission staff. The *Draft EIS* indicated it would be nearly impossible to determine whether a transmission line could significantly impact property values; the supplemental analysis was not able to develop data to address the question. Western, with its extensive experience in the construction, operation and maintenance of transmission lines, had not found any evidence that transmission lines negatively impact property values. This was supported by a recent study conducted by the Bonneville Power Administration. An extensive study of home sales in the Seattle and Vancouver, Washington, areas and in Portland, Oregon, indicated that adjacent transmission lines had a minimal impact (JR

Cowger, Steven Bottemiller, and James Cahill, Transmission Line Impact on Residential Property Values: A Study of Three Pacific Northwest Metropolitan Areas, Right Of Way 1996).

In much the same way as other property owners, duck clubs owners expressed concern over lost revenues. Western appreciated the concern of those in the community who own the duck club. Based on the analysis in the *Draft EIS* and hearing testimony, there would be no significant impacts to the migratory fowl; and therefore, revenues for the duck club would not be impacted. Should the switchyard be located on the duck club property, the landowner would be compensated for any necessary land purchase.

In terms of additional transmission lines or future developments at the plant site, Western could not address the need for additional transmission lines in the SPP area since there were no plans for additional lines to be built. Future developments at the plant site appeared unlikely since Calpine had informally agreed with Sutter County to set aside all remaining portions of the 77-acre site not needed for the SPP. This land would not be available for expansion or other development. This was part of the recommendations made by the County Community Services Department staff to the Planning Commission on the SPP (see Appendix E). Specifically, under this recommendation, Calpine would grant to the County all development rights and an open area easement for the remaining land. This land would not be available for expansion or other development. [Refer also to Condition of Certification LAND USE-2 in Appendix O.]

5.2.15 BIOLOGICAL RESOURCES

5.2.15.1 Comment

Approximately two percent of the comments referred to biological resources. Most of the comments within this subject area related to concerns about bird mortalities caused by collision with or electrocution by the transmission line(s). Although ducks were the primary subject of concern, one individual stated that all groups of birds, including Federally listed or state-listed threatened species such as the peregrine falcon, the bald eagle, the Aleutian Canada goose, and the Swainson's hawk, would also be impacted. A secondary concern about the potential of the carcasses potentially serving as substrate for avian botulism bacteria was noted.

One commentor spoke about a study by the FWS and the California Department of Fish and Game on the giant garter snake. Lastly, one speaker was concerned about weeds from the plant invading adjacent farmland.

5.2.15.2 Response

The Biological Resources section was on pp. 425-464 of the *Draft EIS*. The LORS related to biological resources were noted on pp. 425-428 of the *Draft EIS*. The project specific impacts and the cumulative impacts were discussed on pp. 435-441 of the *Draft EIS*. A general discussion of the proposed measures to avoid or minimize impact to the giant garter snake, the Swainson's hawk and migratory birds during construction and operation was included in pp. 443-445. Specific Conditions of Certification, which define specific criteria to meet the pertinent LORS and to mitigate the impacts of the SPP during construction and operation, were on pp. 450-460 of the *Draft EIS*, and are in Appendix O.

In April of 1998, Western initiated formal consultation with the FWS under Section 7 of the Endangered Species Act (Chapter 1, Sec. 1.5). [Also refer to the Commission's Conditions of Certification BIO-6 (Appendix O).] In response to Conditions of Certification BIO-12, Calpine submitted a Final Draft of the Biological Resources Mitigation Implementation and Monitoring Plan, dated December 1998, to the Commission (Appendix J). The plan described how Calpine would implement the mitigation measures developed by Calpine and/or the Commission to reduce project impacts to less than significant levels.

In addition, Conditions of Certification BIO-10 (Appendix O) addressed measures to mitigate or avoid project impact to migratory birds. These included construction of transmission lines to avoid raptor collision, installation of bird flight diverters, screening any evaporation ponds, elimination of wastewater discharge and monitoring the stacks and transmission lines for avian collision and/or electrocutions.

5.2.16 SOIL AND WATER RESOURCES

5.2.16.1 Comment

Approximately nine percent of the comments pertained to the potential impacts to water resources from the proposed SPP. None of the comments related to soil resources impacts.

Groundwater

Almost half of the comments in this subject area related to the impact of the SPP on the groundwater. Many commentors expressed concern about drawdown of the aquifer, particularly during drought conditions. In addition, specific questions and comments arose about the recharge of the aquifer, priority between agriculture and industry for groundwater, the reliability of California Department of Water Resource's studies about the aquifer, the conflicting analyses of two hydrologists and the potential increase in salinity or the groundwater. One individual noted that the groundwater was more polluted by herbicides and insecticides than any potential pollution from the proposed SPP.

Flooding and Drainage

Two speakers suggested that the site would be 8 feet under water if a levee were to break; one person questioned how the site would be accessed. Two people questioned the current ownership of the proposed easements for the drainage water. Two other people expressed general concern with the drainage from the SPP.

Consequences

One individual questioned if there would be a governmental agency to represent landowners if pollution was caused by the SPP. Another individual asked about an alternate water supply if the brackish water were to cause problems to a water supply. A third commentor suggested that if the local wells were to go dry, there would be inadequate redress.

Ponds

One commentor asked if the concentrated brine retaining ponds would be clay-lined. Another individual wondered how the retention pond would keep brackish water in the pond when the entire area is under floodwater.

Discharge

One individual expressed concern with the quality of the water discharged from the site and stated that all runoff should meet state and Federal clean water regulations. A second individual concurred with those comments. Another individual expressed concern about leakage from the canal where the transmission line poles were located.

5.2.16.2 Response

Soils and water resources were covered on pp. 465-486 of the *Draft EIS*. The laws, ordinances, regulations and standards related to soil and water resources were noted on pp. 465-467 of the *Draft EIS* and included both standards for construction activities as well as for normal operations and maintenance activities. The project specific impacts and the cumulative impacts were discussed on pp. 471-479 of the *Draft EIS*. A general discussion of mitigation measures was presented on pp. 480-481. Specific Conditions of Certification were presented on pp. 482-484 of the *Draft EIS*, and in Appendix O.

The dry-cooling option discussed on p. 6 of the *Draft EIS*, would reduce the use of groundwater by 95 percent. This alternative would effectively eliminate concerns over groundwater and water discharges (*Draft EIS*, pp. 474-477); the plant would be a zero-effluent discharge facility. No discharge permit would be required for this plant.

On February 26, 1999, in a letter to the Commission (Appendix M), Calpine outlined the processes to be used for process water generated from the SPP. Make-up water for the steam cycle would be derived in a manner that would negate the need for the

acid and caustic storage and handling system on the site; demineralized water would be held in a tank with over 24 hours of storage. Wastewater would mostly be recycled. That not recycled would be treated and sent to the zero discharge system, which would include an evaporator, thus an evaporation pond would not be required. The effluent from the evaporator would be converted into a cake by a crystallizer. The cake would be sent to a hazardous or nonhazardous landfill to be determined by the hazard content.

The brine ponds were discussed in some detail on p. 477; it was assumed that these ponds would be lined with an impervious material that would prevent them from leaking. However, clay lining was not specifically mentioned. Testimony also indicated that Calpine could use a crystallizer — used to distill water from the brine — or they could haul the brine offsite (*PMPD* p. 189). Conditions of Certification Soil & Water-7 (Appendix O) requires that, should Calpine select to use an evaporation pond, Waste Discharge Requirements would need to be obtained from the Regional Water Quality Control Board.

Facility design takes into account the fact that the facility would be built in a floodplain. The project area would be protected from a 100-year flood by levees. The SPP site averages 36 feet above sea level, and the flood level resulting from a levee break was estimated by Calpine to be 6-8 feet, which coincided with the commentors' estimate. The plant design had the floor of the plant at 44 feet above sea level, with the floor of the plant at the highest water level. The Commission contended that this would be adequate protection from floods. The Commission did require specific on-site retention of stormwater during periods of high runoff to ensure that the project would not contribute to drainage problems in the area (Soil & Water-6; Appendix O).

5.2.17 PALEONTOLOGICAL RESOURCES

5.2.17.1 Comment

No comment received.

5.2.17.2 Response

No response needed.

5.2.18 FACILITY DESIGN

5.2.18.1 Comment

About one percent of the comments was concerned with the facility design in the area of security, especially in relation to vandalism.

One commentor asked why would an underground pipeline, (electrical line, not gas line) have to have so many manholes?

5.2.18.2 Response

Facility design was covered in the *Draft EIS* on pp. 509-536. The *Draft EIS* (p. 513) discussion on site lighting indicated the site lighting system would provide personnel with illumination for the performance of general yard tasks, safety and plant security.

The question regarding manholes arose during discussions of building the transmission line underground and the need to build an access point about every 1/4 mile. An underground transmission line required splicing of the shorter lengths of cable and/or pipe be done in a clean dry area, hence the requirement for the number of access points. Each splice point would take place within a concrete vault, 12 feet by 16 feet and buried 6 feet in the ground, with a manhole above ground for access. The manhole might have to be elevated above the ground surface to be above the water level in any field. The total length of cable or pipe that could be ordered on a reel determined the number of manholes. Currently, solid dielectric cable comes on 1600-feet reels and the pipe-type cable comes on 2000-feet reels. Therefore, there would be a need to construct a vault about every 1/4 mile.

5.2.19 POWERPLANT RELIABILITY

5.2.19.1 Comment

No comment received.

5.2.19.2 Response

No response needed.

5.2.20 POWERPLANT EFFICIENCY

5.2.20.1 Comment

No comment received.

5.2.20.2 Response

No response needed.

5.2.21 TRANSMISSION SYSTEM ENGINEERING

5.2.21.1 Comment

About four percent of the comments received involved transmission line engineering. One person wanted to know the diameter of the transmission line tower at its base. Others wanted to put the transmission line underground and discussed the various financial, technical and farming operation reasons to do it. They also proposed various routing alternatives and considerations for co-locating the electrical conductors and gas pipelines should the various easements and engineering allow this to happen.

5.2.21.2 Response

Transmission system engineering was discussed on pp. 553-570 of the *Draft EIS*. In terms of the diameter of the base of a typical transmission structure, the actual diameter of the structure is typically determined at the time of structure design. Often the footprint of the structure depends on several factors, such as the price and availability of steel at the time it is acquired. It was noted that the structure diameter at the base was never given in the pertinent sections of the *Draft EIS*, nor was it presented in the AFC by Calpine, probably for these reasons. However, to make estimates of impacts to land use, it was estimated by Calpine in its supplement to the AFC that the diameter would be approximately 3-3.5 feet (Calpine 1998 Supplement, p. S-28). This also appeared in the biological section of the supplement in order to estimate the amount of habitat loss by the transmission line. The figure appeared then in the *Draft EIS* section on biological resources (p. 434).

The interest in building the transmission line underground was noted; however, as noted above in Sec. 5.2.18.2, considerable information was presented to the public by Calpine, in consultation with Western, about the drawbacks of undergrounding a high voltage line (transcripts of the evening hearing, November 2, 1998). Mr. James L. Dykes conducted a study on undergrounding and concluded that the impacts and costs far outweighed the environmental benefits. These systems tend to be very expensive to install, expensive to maintain and expensive to repair. Western has no experience in maintaining underground transmission lines, and it would require considerable expense to train line crews for the new technology. [See Sec. 3.4.16, Transmission System Engineering for further discussion on undergrounding the transmission line.]

5.2.22 FACILITY CLOSURE

5.2.22.1 Comment

About two percent of the comments made at public hearings were related to plant closure issues. One person asked how could removal of a bankrupt SPP be guaranteed without a closure fund. One person noted a local example of a plant

where the site was abandoned and left with environmental hazards. The person asked the Commission to protect them from a recurrence of such an event.

5.2.22.2 Response

These issues were covered in the *Draft EIS*, pp. 571-578. As noted in the *Draft EIS*, there are Federal and state regulations governing the management of hazardous materials and solid waste as well as mandates related to removal of abandoned electrical facilities. These would apply in the event of a unplanned or planned closure of the SPP. The Conditions of Certification (pp. 575-578; Appendix O) included requirements regarding contingency plans in case of unplanned closure, which must include site security, removal of hazardous materials and wastes, drainage of chemicals from storage tanks and the safe shutdown of all equipment. The SPP owner would notify the Energy Commission Compliance Program Manager in the event of an unplanned closure and take all necessary steps to ensure there was no immediate danger to health, safety or the environment from materials on the site. In the event of a planned closure, the SPP owner would file a proposed closure plan with the Energy Commission. The Energy Commission could decide to hold workshops to allow the Sutter County Planning Department and interested agencies and parties to comment on the proposed closure plan.

In regard to the specific question concerning a closure fund, Calpine provided an explanation in the hearings on the morning of November 10, 1998. Essentially, facility closures funds are normally provided in cases where there will be a potentially dangerous situation should a facility close and the potential environmental hazards are not controlled. This should not be the case with a gas-fired generation plant. Calpine also mentioned the fact that closure funds were provided where there would be a “salvage liability;” in other words, the facility would be so contaminated that the remaining equipment would have no value and would be costly to clean up. This also would not be the case with a gas-fired plant. Calpine did not find a single instance of a gas-fired plant that had closed, even due to bankruptcy.

5.2.23 COMPLIANCE MONITORING

5.2.23.1 Comment

About one percent of the comments were related to compliance issues. Two people noted the design change to a dry-cooling tower but asked if this process did not operate correctly would the applicant revert to wet cooling and the pumping of groundwater. Another person expressed the need of local residents to assume a watchdog position, making sure the Conditions for Certification of the SPP were met. One person asked for detail on the Commission permitting process that would be used should a major amendment to the SPP be sought.

5.2.23.2 Response

The Commission (or other agencies to which it may have delegated authority for compliance verification) would have to agree to any changes in the design or operation of the plant. As evidence of meeting the verification requirements of each Conditions of Certification, the SPP owner would be required to provide monthly compliance reports during construction as well as an Annual Compliance Report to the Compliance Project Manager showing the status of all open Conditions of Certification. As noted in the *Draft EIS* (p. 587), any person or agency may file a complaint alleging noncompliance with the Conditions of Certification.

If there were any change to the design or any change that might take place during construction or operation, the SPP owner would have to come to the Commission and formally request to change the SPP. The Commission would then initiate its full process and proceedings, including a look at the change by all the technical areas from an environmental, systems, and engineering standpoint; review the analysis; and coordinate with local agencies regarding any of the impacts due to those changes. The Commission would then hold workshops and eventually hearings on the change. The change would finally go to the full Commission for a review and a decision.

5.3 WRITTEN COMMENTS FROM GOVERNMENTAL AGENCIES

The governmental agencies, noted in Table 5.3, submitted written comments on the *Draft EIS*. Scanned copies of these letters are enclosed. Additionally, the letter received from the Department of the Interior is included in Appendix J, and is not included in the scanned letters, as the agency had no comments on the *Draft EIS*, and the letter was received after close of public comment. Western's responses to the issues raised in these letters are shown on the right side of the scanned letters.

TABLE 5.3 COMMENTS FROM GOVERNMENTAL AGENCIES

Affiliation	Individual or Signatory	Date Received
California Department of Fish and Game – Region 2	David S. Zezulak, Environmental Specialist IV, Supervisor	22 Oct. 98
U.S. Environmental Protection Agency	Deanna M. Wieman, Deputy Director, Cross-Media Div.	11 Dec. 98
U.S. Department of the Interior, Office of Environmental Policy and Compliance	Patricia Sanderson-Port Regional Environmental Officer	6 Jan. 99

5.4 WRITTEN COMMENTS FROM INTERESTED CITIZENS AND PRIVATE ORGANIZATIONS

The interested citizens and private organizations, noted in Table 5.4, submitted written comments on the *Draft EIS*. Scanned copies of their letters are enclosed. Western's responses are shown on the right side of the scanned letters. Also, included are statements of the California Unions for Reliable Energy (CURE), an intervenor.

TABLE 5.4 COMMENTS FROM INTERESTED CITIZENS AND PRIVATE ORGANIZATIONS

Code	Individual or Signatory	Affiliation	Date Received
12	Marilyn Kenyon	Resident	18 Oct. 98
11	Lorne M. Cole	C&P Duck Company	23 Oct. 98
10	Nadinen Mitchum	Resident	24 Oct. 98
9	Charlie Onstott	Onstott Duster, Inc.	25 Oct. 98
8	Harry B. Hunt	Resident	25 Oct. 98
7	Charles E. Roberts	Roberts Consulting Engineering	26 Oct. 98
6	Patricia Luther	Resident	28 Oct. 98
5	Richard L. Thurn	Gray and Thurn, Inc.	29 Oct. 98
4	Wilma Creps LaPerle	Resident	9 Nov. 98
3	Richard L. Thurn	Gray and Thurn, Inc.	30 Nov. 98
13	George Van Ruiten, Pres.	Yuba/Sutter Farm Bureau	30 Nov. 98

Government Agency Comments

Sierra Nevada Customer Service Region

STATE OF CALIFORNIA THE RESOURCES
AGENCY

Memorandum

To : Mr. Paul Richins,
Project Manager
California Energy Commission
1516 Ninth Street, MS - 15
Sacramento, California 95814

Date : October 22, 1998

A. Comment noted.

From : Department of Fish and Game - Region 2

Subject : Consultation for Calpine Corporation's Sutter Power Plant (97-AFC-2)

The California Energy Commission (CEC) submitted a Staff Assessment of Calpine Corporation's Application for Certification of the Sutter Power Plant (97-AFC-2) and of the power plant siting. The proposed plant is a natural gas fired plant producing 500 megawatts of electricity and requires a four mile transmission line, a 14.9 mile gas pipeline, a 2.9 acre switching station and would be sited on 16 acres of grassland and wetland habitats.

The CEC participated fully in informal consultation with the Department of Fish and Game (DFG) to evaluate the potential of this project to jeopardize the continued existence of any endangered or threatened species, pursuant to Fish and Game Code § 2093 and 2094. The Staff Assessment notes that the following state listed species could be affected by the project: bald eagle, American peregrine falcon, winter-run chinook salmon, giant garter snake, Swainson's hawk, greater sandhill crane, and several Species of Special Concern.

During consultation CEC and DFG staff from headquarters and from Region 11 made site visits, attended workshops, and coordinated with the U.S. Fish and Wildlife Service. CEC staffs participation in this consultation process and inclusion of measures to reduce the impacts of this project to special status species have effectively reduced the potential impacts to these species and their habitats. Consequently, if the project is built as proposed and the Commission's Conditions of Certification are fully implemented, this project will not jeopardize the continued existence of the above state listed species. The Department further finds that the proposed project will not result in the taking of any endangered or threatened species, nor will it result in the destruction or adverse modification of habitat essential to the continued existence of those species incidental to the completion of the proposed project.

Thank you for working with our staff to minimize the impacts of this project to the state's wildlife resources. Please call (916) 358-2919 if the DFG may be of further assistance.

PROOF OF SERVICE (REVISED _____) 1
ORIGINAL MAILED FROM SACRAMENTO ON.

David S. Zezulak

David S. Zezulak, Ph.D.
Environmental Specialsit IV, Supervisor

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

DEC 11 1998

Loreen McMahon
Environmental Project Manager
Sierra Nevada Region
Western Area Power Administration
114 Parkshore Drive
Folsom, CA 95630

Dear Ms. McMahon:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Sutter Power Plan Project, Sutter County, California.** Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The DEIS evaluates the environmental effects of the proposed construction, and operation of a power plant, and related transmission lines, linking the proposed facility to the Western Area Power Administration's (Western) high voltage transmission system. The Proposed Action is a 500 megawatt natural gas fueled, combined cycle, electric generation facility; a new 5.7 mile 230-kilovolt (230-kV) generation tie-line; a transmission line switching station; and a 12-mile (16 inch) natural gas pipeline. Alternatives to the Proposed Action presented in the DEIS include the No Action alternative, and four additional power-plant site alternatives (selected from an initial set of eleven potential sites). Analysis of alternative transmission line routes or gas pipeline routes are not systematically presented; however, alternative routes for the proposed transmission line and gas pipeline are discussed in various media-specific sections of the DEIS. The transmission line and pipeline aspects of the project are also discussed in the alternatives analysis of the four additional potential power-plant sites.

A

Western has not identified a preferred alternative in the DEIS, thus requiring EPA to rate alternatives individually, according to our Policy and Procedures Manual for Review of Federal Actions Impacting the Environment (EPA Manual 1640). The No-Action alternative (alternative 1) is rated LO (Lack of Objections). The Proposed Action is rated EO-2 (Environmental Objections-Insufficient Information). The other power plant alternatives and various mentioned alternative transmission line/gas pipeline routes are not rated, because there is insufficient information presented in the DEIS to do so. However, based on the provided information we are in agreement with Western that the O'Banion Road alternative site could be environmentally preferable over the Proposed Action. The basis of the "EO" portion of our rating reflects the potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives. Furthermore, we question whether the Proposed Action, as described, would be consistent with requirements of the Clean Air Act and Clean Water Act. The

B

A. Comment noted.

B. EPA is correct that the *Draft EIS* (p.31) indicated that the O'Banion Road site may appear environmentally preferable, based upon an analysis of those critical issue areas identified in the draft. However, as stated on p. 17 of the *Draft EIS*, "It is premature to consider the environmentally preferred alternative presented at the end of this chapter [p.31] as Western's environmentally preferred alternative; Western will wait until all information from the public and interested parties is received and analyzed prior to announcing its selection. The alternative presented at the end of the chapter is the one that the Commission staff believes is the least damaging but, as stated above, it does not factor in any of the mitigation at the proposed site that may reduce impacts to less than significant." Western identifies the preferred alternative in this *Final EIS* (Chapter 1, Section 1.6); "Western believes that the SPP would not have any significant impact on the human environment provided that Calpine follows the Conditions of Compliance imposed by the Commission and detailed in the Presiding Members Proposed Decision (PMPD). Western supports the proposed action, with the dry-cooling alternative and the transmission line alternative along O'Banion Road, as the preferred alternative." Western has included in this *Final EIS* additional presentation of the Alternatives Analysis so that the alternatives can be compared more easily. Please see Section 4.2 for this discussion.

The Commission and Calpine have been working with the Air Division of EPA Region IX extensively during the certification process. Additionally, Calpine has submitted an application to the U.S. Army Corps of Engineers for a Clean Water Act permit. There are specific Conditions of Certification presented in the PMPD related to air quality (Appendix O) and water quality that assures compliance with the Clean Air Act and Clean Water Act (*Draft EIS* p. 482-484).

DEC 11 1998

"2" portion of our rating is based on the serious need for additional information and clarification in the EIS on alternatives analysis, construction related air impacts, impacts to wetlands and flood plains, and cumulative impacts. A detailed explanation of our rating system is attached. Presentation of additional information in the Final EIS (FEIS), and adoption our recommendations, as identified and explained in our attached detailed comments, could alleviate our objections.

EPA Region IX received the copy of the DEIS more than three weeks after beginning of the review period, and consequently in our December 1, 1998 letter we requested an extension of the review time to fully accomodate our statutory review obligations. Our request was denied. As noted in our letter, one important consideration when filing an EIS with EPA Headquarters is that the lead Federal agency should have completed the distribution of the EIS by the time the Notice of Availability appears in the Federal Register (in this case, October 30). In a follow-up phone conversation, you explained that our request for an extension was denied because the schedule for this analysis has been set both by the California energy Commission (CEC) and by the Western Area Power Administration (Western) and is intended to meet the legal requirements of the CEC for a 12 month process, thus necessitating completion of a Final EIS (FEIS) by the end of December, 1998. Based on your information, EPA is very concerned that the "short time line" NEPA process that Western has undertaken may not be consistent with NEPA to insure that the EIS "... shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decision already made." (40 CFR 1502.2(g)). We are also concerned that decision makers may not have all the necessary information available before decisions are made and actions taken (40 CFR 1500.1(b)).

We appreciate the opportunity to review this DEIS. EPA intends to work with you to resolve our objections, ensure incorporation of additional data into the DEIS, and clarify issues. We will contact you to set up a meeting to implement the resolution process to our objections. Two copies of the Final EIS should be sent to this office, attention David Farrel, at the letterhead address (mail code CMD-2) when it is officially filed with our Washington, D.C., office. For any questions, please contact Karl Kanbergs, of my staff, at 415-744-1483, or David Farrel (Federal Activities Office Chief) at (415)744-1584.

Sincerely,

Deanna M. Wieman, Deputy Director
Cross-Media Division

003194/98-301
Enclosure
cc: Paul Richins, California Energy Commission, Sacramento
Chief, Regulatory Branch, U.S. Army Corps of Engineers, Sacramento

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C

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E

C. Western notes that the process used to inform EPA's Region IX office of release of the *Draft EIS* did not meet the expectations of EPA nor Western. Our process has been revised to include direct distribution to your department. Additionally, Western will prepare a lessons learned document, which will address improvements to the joint process for future use. This document will include distribution of documents and requests for extension protocols.

D. Western regrets that EPA had such a short time to finalize comments before the close of the comment period, and has worked with your office to assure that comments by EPA have been addressed in this *Final EIS*. In our discussions on Jan. 12, 1999, your concern over the 45-day public comment period centered on whether the general public had had enough time to respond to the *Draft EIS*. As discussed, one of Western's purposes in the joint process was to provide the public with the maximum input. The Commission's process allows the decision makers (both the Commissioners and Western) greater opportunity for interaction with the public than is normally possible under NEPA. The hearings allow interested parties to interact with the decision makers and have their concerns addressed. On several occasions cross-examination and/or supplemental analysis were performed as a direct result of public input. Thus, the Commission's process enhances, rather than compromises the NEPA process. Neither the Commission nor Western received comments from citizens other than those who appeared at the hearings.

Western has considered all the information offered but has not arrived at any decision on this project, nor do we intend to make a decision prior to the release of our ROD. Western has not finalized any decision concerning the request from Calpine to interconnect with Western's system. The *Draft EIS* is not the decision document for Western's action; it is intended to be informational.

E. Comment Noted.

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SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

DEC 1 1 1998

Sutter Power Project, DEIS
EPA Comments --December, 1998

NEPA ALTERNATIVES ANALYSIS

The alternatives analysis presented in the Draft Environmental Impact statement is seriously insufficient. The alternatives analysis is the heart of the environmental impact statement and should "present the environmental impacts of the proposal and the alternatives, in comparative form (emphasis added), thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public" (40 CFR 1502.14). We do not consider that the level of alternatives analysis presented in the DEIS defines issues or provides a clear basis for choices. For example, while the environmental consequences for the proposed action receive great attention, they are not sufficiently contrasted against the No Action alternative, by media category. The no action alternative is described and summarized in less than three pages of text and does not appear to meet the NEPA intent of "rigorous" and "objective" evaluation (40 CFR 1502.14(a)) A more systematic analysis comparing and contrasting the environmental consequences of the NoAction alternative against the other selected alternatives should be presented in the FEIS. Additionally, baseline conditions presented through discussion of a No Action alternative serve to facilitate the analysis of cumulative impacts.

The DEIS analyzes four power plant alternatives in moderate detail, but again, not in a rigorous manner that would demonstrate "scientific integrity of the discussion and analysis" as required by NEPA (40 CFR 1502.24). For example, Western acknowledges that the O'Banion Road alternative site could have less adverse environmental impacts than the Proposed Action. However, Western goes on to say that "although staff has identified the O'Banion Road site as environmentally preferable among the studied alternatives, staff does not have sufficient basis to conclude that the O'Banion Road site is environmentally preferable to the SPP project site." (In the DEIS, Western identifies the Environmentally Preferable alternative, referring to NEPA requirements, as the No Action alternative.) We note that the O'Banion Road site would not impact wetlands and would not require construction of any significant length of transmission lines, and overall could be better or equivalent to the Sutter site (Proposed Action). Since Western has not determined the feasibility of this site, and it would currently appear to meet Western's Purpose and Need, we strongly recommend that a detailed alternatives analysis of the O'Banion Road site be included in the Final Environmental Impact Statement (FEIS), or additional information be provided in the FEIS indicating why further analysis of the site would be unreasonable in the context of feasibility or Purpose and Need.

A more rigorous alternatives analysis of various technical options available at the Sutter site is also recommended. EPA recognizes the benefits of the project proponent's (Calpine) proposal to use a 100 percent dry cooling technology, thus sharply reducing potential water consumption, PM_{10} impacts, and establishing a zero-discharge facility. We are left with the distinct impression that the option to use the dry cooling technology was added late in the EIS preparation process. (See page 449 of the DEIS-- "Recent changes in project design and lack of complete information

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F. Western does not agree that the alternatives analysis is "seriously insufficient." However, we do agree that the analysis was not presented in a comparative format. To clarify this requirement, Western included in this document, in Section 4.2, additional discussion of the alternatives, the process used and the alternatives in a comparative format.

G. The "no action" alternative in a NEPA analysis is normally used as the benchmark by which other alternatives, including the proposed project, is measured. For this project, the only significant environmental concern (socioeconomic) of the no-action alternative is the need for additional electricity in the Sacramento Valley within the next six years (see Section 4.2, Table 4.1). This means that a powerplant will need to be built somewhere to support the increased demand for electricity within the next few years. The Commission's process determines which is the best location to site a plant, and thus analyzes the alternative sites against the proposed site. This is done after it is determined the need for electricity (need conformance) has been established. In the case of SPP, the Commission has determined that all environmental impacts can be mitigated to less than significant.

H. Western disagrees that the analysis performed was not rigorous enough; it was presented in a format unfamiliar to EPA. Table 4.1, in Section 4.2, provides a format that can be used to compare the alternatives and includes information from the *Draft EIS* and the supplemental testimony. The O'Banion Road site was specifically determined to not be a reasonable alternative for the reasons given in the *Draft EIS* (p.33), the supplemental alternatives analysis (Appendix I) and discussed in the PMPD (p.245-257) and summarized in Section 3.4.15 of the *Final EIS*.

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regarding final project design...") The dry cooling option is called a mitigation measure (DEIS, pg. 477). EPA strongly recommends that in the FEIS, Western distinguish this option as a distinctive on-site alternative and then compare it against the same project, but with a more conventional water cooling system (e.g., "Proposed Action" vs. "Proposed Action with Dry Cooling"). The addition of this alternative and comparison of various media-categorized impacts (water, air, construction, etc.) would allow the public and decision makers to clearly view the various impacts generated between the two alternatives. For example, we note that the dry cooling facility could potentially impact more wetlands than the original design. (Please refer to our comments under "Water Issues"). A matrix-type table comparing impacts and proposed mitigation measures is a recommended format. This information should be presented in a way that compares impacts between the various alternatives.

I

AIR ISSUES

On page 102 of the DEIS (Table 14), Western notes that the estimated suspended particulate matter (PM_{10}) and NO2 impacts from the proposed project's construction activities would be "very high." The 24 hour averaging time PM_{10} concentration ("maximum impacts") is projected to be 699.3 μg/m3, well above the National Ambient Air Quality Standard (NAAQS) of 150 μg/m3. Western states that the "staff will further discuss these analyses and the modeling results in the FSA." (The FSA is the Final Staff Assessment by the California Energy Commission.) While this may meet CEC requirements, we did not find any further information in the DEIS to explain the modeling or the legal framework discussing how the high levels of PM_{10} would not violate the Clean Air Act regulations. Additional clarification and modeling information should be presented in the FEIS, along with clarification of construction-related permit requirements and consistency with air regulations. Including such information in the Environmental Impact Statement prepared by the lead-federal agency (Western) is clearly required by CEQ Regulations (40 CFR 1502.14, 1502.16 and 40 CFR 1502.2(d), 1502.25(b)).

J

The project will require a Prevention of Significant Deterioration (PSD) permit from the EPA. EPA region IX, Air Division, expects to continue working with Calpine, Western and other agencies to ensure that the proposed power plant fully complies with Clean Air Act requirements during the operational phase. Please note that PSD increments are highly protective of air quality in Class I areas such as wildernesses and national parks. The FEIS should identify any Class I PSD areas located within at least 100 kilometers of the proposed project site, and by conducting appropriate modeling, show potential impacts to such areas. Class I areas even further away could potentially be affected as well. Western should consult with the Bureau of Land Management, U.S. Forest Service and other federal agencies, as appropriate, for a determination of which areas could be adversely affected by the proposed action. Potential impacts to Class I PSD areas, including visibility impacts, should be discussed.

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I. The Alternatives Comparison Matrix (Table 4.1, Section 4.2) includes the Sutter site with conventional plant operations.

J. Western and the Commission released the *Draft EIS* before the FRAQMD finalized their Final Determination of Compliance on the impacts associated with project on Nov. 13, 1998 (Appendix F). A revision to the air quality section was prepared once the FDOC was submitted (Appendix G and H). Calpine has proposed to offset the impacts of the construction-related activities for PM10 through the use of emission reduction credits and other mitigation measures. This would result in the project complying with the National Ambient Air Quality Standards.

K. Western acknowledges and understands the stringent nature of the Prevention of Significant Deterioration (PSD) permit process. The Commission and Calpine have been working throughout the certification process with the Air Division of EPA Region IX toward complying with all permit requirements. Prior to the completion of the *Draft EIS*, a PSD permit was submitted to the EPA and the application has been deemed complete (*Draft EIS*, pg. 105). As the project proponent, that permit is the responsibility of Calpine.

Calpine identified in their AFC (pg. 8.1-41) that there were no Class I areas within 100 kilometers of the proposed project site. Western and the Commission did not include this information in the *Draft EIS* because there appeared to be no need. The AFC document is referenced throughout the *Draft EIS* and is available from Calpine, Western or the Commission upon request.

Additionally, the Commission included 33 Conditions of Certification for air quality in the PMPD (pp.48-62). These are included in Appendix O for your reference.

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The DEIS states that to fully mitigate the proposed facility's potential emission increases, Calpine will need to provide emission reduction credits. To the greatest extent possible, the FEIS should present the final recommendations regarding criteria air pollutant impacts, per discussions presented on page 125 of the DEIS, and based on the Final Determination of Compliance (DOC). K

WATER ISSUES

Western notes that the Proposed Action, assuming the dry cooling system, would require an individual Clean Water Act Section 404 permit issued by the U.S. Army Corps of Engineers (Corps). Calpine has requested authorization to fill 5.83 acres of wetlands. EPA strongly recommends avoidance of waters of the United States, and believes that the described project could offer flexibility in siting of facilities. However, in cases where an individual permit is required, EPA will review the project for compliance with Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the Clean Water Act. Pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the least environmentally damaging practicable alternative available to achieve the project purpose. If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the DEIS should discuss alternatives to avoid those discharges. The discussion of alternatives should be rigorously done to show compliance with the CWA 404 "Guidelines." L

If a discharge to Waters of the U.S. cannot be avoided, the DEIS should discuss how the impacts would be minimized and mitigated. This discussion should include (a) assessment of the area impacted by type, function and habitat, (b) acreage and habitat type and function of waters of the U.S. that would be created or restored; (b) water sources to maintain the mitigation area; (c) the revegetation plans including the numbers and age of each species to be planted; (d) maintenance and monitoring plans, including performance standards to determine mitigation success; (e) the size and location of mitigation zones; (f) the parties that would be ultimately responsible for the plan's success; and (g) contingency plans and financial assurance that would be enacted if the original plan fails. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation. This comports with CEQ Regulations which state that an EIS should, "to the fullest extent possible" be prepared concurrently and integrated with other environmental review laws (40 CFR 1500.4(k), 1502.25(a), 1506.4). L

The Sutter project alternative described as the Proposed Action would be located within a 100-year flood plain and, as noted above, would impact wetlands. In the FEIS, Western should describe how the proposed action is consistent with the intent of Executive Order No. 11988 and Western's (DOE) Flood plain/Wetlands environmental review requirement regulations at 10 CFR M

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L. Section 1.7 discusses Western's Floodplain/Wetland Statement of Finding. Specifics of how the impacts would be minimized and mitigated were included in the Draft EIS in the Biological Resources section, pp. 425-461. The final Conditions of Certification (Appendix O) specifically describe these measures.

M. The discussion of wetland impacts for the proposed action occurs under the biological resources section of the *Draft EIS*. The type, function and habitat can be found on pg. 430-433. The specific impacts to wetlands are discussed on pp. 435-436. Mitigation measures (Conditions of Compliance) are discussed on pg. 457-460, including specific mitigation for wetlands, and are also listed in this document as Appendix O. Two of these conditions stipulate that Calpine agreed to provide in-kind replacement of wetland habitat, mentioned above, and that Calpine would establish an account to provide for perpetual maintenance (p. 457). Calpine would also provide funds to Wildlands, Incorporated who would acquire and manage the replacement wetlands, at approximately $52,000 per acre (pg. 459).

As required by 10 CFR 1022.15, Western is required, should it determine that there is no practicable alternative to the disturbance of wetland, to publish its findings either in the *Final EIS* or in the Record of Decision. Western has included this information in Sections 1.7 of this *Final EIS*.

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1022. Part 1022.12 of these regulations specifically requires a description of the affected Flood plain/wetland, including potential direct, indirect and long and short-term effects from the Proposed Action— and an analysis of alternatives to the proposed action. In light of the alternatives analysis required by the CWA 404(b)(1) alternatives analysis guidelines, required NEPA alternatives analysis, and the requirements of your own regulations, we strongly encourage you to include this data, information and analysis in the FEIS.

CUMULATIVE IMPACTS

The DEIS insufficiently analyses cumulative impacts. The Council on Environmental Quality's (CEQ) regulations for implementing NEPA define cumulative effects as:

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other action (40 CFR § 1508.7).

For additional clarification and reference on Cumulative Impact analysis we refer you to the CEQ publication *Considering Cumulative Effects Under the National Environmental Policy Act* (CEQ, January 1997). The complete document may be down loaded from the following URL address: http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm. According to the CEQ, the principles of cumulative impacts analysis are: inclusion of past, present and future actions, inclusion of federal, nonfederal, and private actions, focus on each affected resource, ecosystem, and human community, and focus on truly meaningful effects.

Additional cumulative impact analysis of potential air impacts should be provided in the FEIS. On page 104 of the DEIS, Western states that "the major component of the protocol required Calpine to include in the modelling all known future projects within six miles of the SPP." "(Since) ...there are no planned facilities within the six miles that are eligible for modelling ...cumulative impact analysis was unnecessary." (See our comments under "Air Issues".) The NEPA implementing regulations require the analysis to also consider past and present actions, and the CEQ guidelines recommend varying the geographic scope of the analysis commensurate with the resource being analysed. For air impacts, the appropriate analysis would be to discuss the entire airshed (also see our comments under PSD, above), and to include other potential past, present, or potential future air-related impacts within the airshed. For instance, expected growth-related impacts as they apply to air quality within Sutter County and other nearby areas should be included in the FEIS. The FEIS should discuss any planned future home developments and/or other construction activities that may directly or indirectly bear on future air quality, when combined with the projected emissions from the Proposed Action.

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N. The *Draft EIS* discusses the cumulative impacts of the proposed project on the air quality. Used as background in the preparation of the *Draft EIS*, Western and the Commission consulted the AFC prepared by Calpine. In that document (pp. 8.1-1 through 18), the existing conditions of the regional airshed are described in some detail. This airshed may be defined as the Sacramento Valley Air Basin, which consists of an area bounded by the Coast Ranges on the west, the Sierra Nevada Range on the east, the Cascade Range to the north and the San Joaquin Air Basin to the south. This includes roughly 25,000 square miles of Northern California, encompassing agricultural lands, forests and urban areas. It would be nearly impossible to compare the impacts of the SPP to past, present and future air impacts in a region so diverse. Developments of all kinds have occurred, are being developed and are proposed for this region. Currently in place in this region are a variety of electrical generators, including hydropower, solar and geothermal plants that are low or nonpolluting. There are also more polluting plants in place that burn oil or gas, biomass municipal solid waste as fuel. One new plant is planned for this region, some 160 miles north of SPP. Two new plants are planned just outside the region to the south and west.

Air quality due to development in the airshed is also discussed at some length in the *Draft EIS*. The southern portion of Sutter County is included in the Sacramento Air Quality Maintenance Area due to projected development adjacent to the municipal area of Sacramento. Essentially the Sacramento area has the worst air quality in the region, primarily in the areas of ozone and particulate matter (PM10). This can be seen as the results of increased vehicle use over the years, and California has probably had the strongest program in the nation to combat these air issues. Some of the PM10 impacts are due to agricultural activities in the rest of the area. The SPP would emit ozone precursors that would be mitigated by energy reduction credits purchased by Calpine from both within the immediate air quality district and from the adjacent Sacramento district. This should lead to cleaner air and it would not cause a cumulatively negative effect.

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Similarly, we found the cumulative impact analysis of water-related resources to be insufficient. We recommend that the analysis presented in the FEIS should focus on a watershed or river basin (or parts thereof), and summarize the current impairment/adverse effects of water resources, water quality, and related ecosystems in the study area. In essence, additional analysis is needed in the FEIS to establish a baseline for the affected environment. In particular, the FEIS should emphasize the potential impacts to wetlands, and incremental cumulative wetland impacts.

O

GENERAL NEPA REQUIREMENTS

The DEIS does not follow the general recommended format for an EIS. The standard format should be followed, unless the agency determines that there is a compelling reason to do otherwise (40 CFR 1502.10). While the regulations allow a different format, in the FEIS, Western should explain why the standard format was not followed and must include an index, and a list of agencies, organizations and persons to whom copies of the statement were sent (requirements of 40 CFR 1502.10). Under environmental consequences, NEPA at 40 CFR 1502.16 requires discussion of "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resource which would be involved in the proposal should it be implemented." While Western acknowledges in its Purpose and Need Statement (pg. 13) that these discussions will be addressed in the DEIS, we could not find these sections in the document. These discussions should be included in the FEIS.

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Of particular relevance to energy projects are the requirements of 40 CFR 1502.16(e) and 1502.16(f), to respectively discuss energy requirements and conservation potential of various alternatives and mitigation measures, and natural or depletable resources requirements and conservation potential of various alternatives and mitigation measures. These topics should be presented and summarized in the FEIS. EPA recommends that to broaden and enhance the above discussion, Western reference and incorporate applicable material into the EIS (40 CFR 1502.21). The Sutter Power Project DEIS should be tiered to any previous Western resource or energy planning NEPA documents, and these earlier document(s) should be made available to the public and other agencies (40 CFR 1502.20).

R

As the DEIS states, Western is undergoing the process of consultation with Fish and Wildlife Service ("Section 7" Consultation) and the required consultation with the State Historic Preservation Officer ("Section 106" consultation). The results and conclusions of these consultations should be presented in the FEIS as recommended in the regulations at 40 CFR 1502.25(a).

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O. The regional water basin is described in the *Draft EIS* on pp. 465-470; cumulative impacts are discussed on p. 479. The wetlands are discussed on pp. 430-433 and cumulative impacts on pp. 441-442. The Sacramento Valley in general shows the effects of more than 100 years of efforts to tame floodwaters and reclaim farmland. While the area is technically floodplain, the area is classified as Zone X, which is protected from 100-year flood events by levees. The historic drainage patterns have been extensively altered by the construction of these levees and drains. The impact of the SPP site on stormwater drainage is discussed in Section 4.2.16.2. Since SPP would have no impact on surface water, it should have no cumulative impact on water resources.

Calpine has indicated the wetlands on the SPP site are man-made seasonal wetlands as the result of the construction of the existing Greenleaf I plant. This property was under rice cultivation for the 100 years prior to the plants construction in 1986. Some of the pools were borrow areas or mosquito abatement trenches excavated during construction. One area appears as a natural low area that remains from the rice cultivation. These depressions are developing wetlands as wetland indicator species are moving into these depressions. This entire area, prior to the water control activities initiated in the late 1800s, were low marshes and swampland. Of the 395,000 acres of farmable land in Sutter County today, only 17,000 acres were farmable in the late 1850s. The seasonal wetlands at the SPP most likely represent a recolonization by wetland species into an area allowed to rest. Calpine has proposed to replace the impacted wetlands at a ratio of 1:1, based upon consultation with the FWS and the U.S. Army Corps of Engineers (see Appendix J – Biological Resources Mitigation Implementation Plan). The project would not impact historical remnant wetlands, and the mitigation would ensure that there would be no long-term cumulative negative impact

P. Western agrees that the format of the *Draft EIS* did not follow the recommended format outlined at 40 CFR 1502.10 through 1502.18. See Section 1.3 for additional discussion of the joint Commission/Western process. [Comment responses continued on next page.]

Q. Much of the discussion on the efficient use of resources that would respond to the concerns of the EPA can be found in the section on Power Plant Efficiency (pp. 545-551). Also a short discussion on the permanent loss of productive land appears in the section on Land Use *Draft EIS* (see pg. 195-199). In summary, none of the project alternatives would result in less or more consumption of any natural resources. The use of 100 percent dry cooling would result in a significant saving of groundwater, though the water use would be neither irreversible nor irretrievable. The use of natural gas resources is discussed in some detail in the *Draft EIS* (pg. 546). This project would not cause a depletion of the natural gas supply nor would it cause the development of new sources of gas. Finally, there would be no loss of prime agricultural land because the land at the plant site was converted from agricultural use in 1986. The potential loss of agricultural land from the electrical transmission line is seen as negligible.

R. The *Draft EIS* indicates that the Energy Commission has considered energy conservation in a previous document (see footnote on pg. 16 of the *Draft EIS*). The Draft does not address the efforts Western has committed to in response to the 1992 Energy Policy Act in terms of energy conservation. Western has spent considerable efforts on energy conservation issues as addressed in Western's Energy Planning and Management Program Environmental Impact Statement (EPAMP; DOE EIS-182, June 1995). Western's EPAMP promotes the most efficient and economical use of electricity by our customers, and encourages our customers to use demand-side management and supply-side alternatives, including renewables, in their planning processes. The program requires customers to use various methods to ensure that resource planning incorporates energy efficiency and conservation. The results of the EPAMP EIS process also stresses that while the program will result in energy savings and efficiencies, there is a limit to what conservation efforts can achieve, and as growth in our population centers continues, there will be a continuing need for more electricity. However, the SPP couldn't address energy efficiency or conservation at the user end since it would be a merchant plant. The sole purpose of the SPP is to generate electricity in order to generate revenues. All of the risk and all of the benefits belong to Calpine. It was not intended to respond to the energy needs of any particular load but would respond to the needs of the market. Calpine intends that the SPP would replace older, dirtier and more expensive generation with its cheaper, cleaner and more efficient generation. While it could have an impact on the demand for electricity, the nature of that impact cannot be determined beforehand. The electrical industry is still responding to deregulation and the outcome is not known.

S. Section 1.5 discusses Western's consultations with other agencies.

T. Western believes that environmental justice concerns were adequately covered in the *Draft EIS* (pg. 401-403). In response to the specific questions, the policy of the Department of Energy (issued in 1995) reaffirms that NEPA is a proper vehicle for integrating environmental justice into the activities of the Department. Guidance is currently in development, but it generally will adhere to the Executive Order on Environmental Justice (12898), and the guidance provided by the CEQ and EPA.

Following the draft guidance, there are two areas of concern. The first is the public participation process. There has been considerable community outreach in the process of analyzing the impacts of the SPP, which is documented in the *Draft EIS* (pg. 2-3). This does not include the many hearings on the *Draft EIS* that were held in the community. However, no one has come forward to identify himself as a member of a concerned minority.

Western understands that a specific concern of the EPA was with the potential of a migrant farm labor force in the project area that would be disproportionately impacted. Western recognizes that even the best methods of community outreach may miss minority members who may not wish to come forward, either because of language barriers or other fears. Western also recognizes that there may be impacts to minority populations even if the minority population is well below the levels of the EPA Guidelines. For instance, the population figures for Yuba City (pg. 403 of the *Draft EIS*) show that Hispanics make up 18% of the local population. However, the Sutter County Agricultural Commissioners were consulted and it would appear that the county does not track information on the number and seasonality of a farm migrant labor force.

Agricultural products grown in the immediate project area are rice and orchard crops. Rice is mechanically sown, cultivated, fertilized and harvested, so no seasonal labor force is needed for this crop. It could be assumed some form of manual labor would be needed for harvesting orchard crops, but the harvest season is relatively short in duration and would not include a great number of laborers. In any Agricultural products grown in the immediate project area are rice and orchard crops. Rice is mechanically sown, cultivated, fertilized and harvested, so t no seasonal labor force is needed for this crop. It could be assumed some form of manual labor would be needed for harvesting orchard crops, but the harvest season is relatively short in duration and would not include a great number of laborers. In any event, it would be unlikely that any migrant population would

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ENVIRONMENTAL JUSTICE AND TRIBAL RELATIONS

On page 402 the DEIS states that "according to the guidelines, a minority population exists if the minority population percentage of the affected area is fifty percent of the affected area's general population." The "guidelines" referred to are EPA NEPA Compliance Guidelines. In the FEIS Western should use its own (DOE's) NEPA compliance guidelines and state how the project is consistent with its Environmental Justice (EJ) Policy. The EPA NEPA guidelines provide a numeric standard as one measure in screening for potential Environmental Justice issues. The same guidance goes on to say that "it is important that the...NEPA analyst consider both the circumstance of any group residing within the affected area, as well as the percentage of the affected community that is composed of minority peoples." We also strongly recommend that Western complete its outreach to potentially affected minority communities during the NEPA process. For the most applicable and up to date reference on conducting an Environmental Justice Analysis, we refer you to *Environmental Justice Guidance Under the National Environmental Policy Act* (CEQ, December 10, 1997), available for download at the following URL address: http://ceq.eh.doe.gov/nepa/regs/ej/ej.pdf. The DEIS indicates that the immediate surrounding area is zoned agricultural. We have some concerns that minority farm workers could be disproportionately impacted by construction and/or related impacts from the Proposed Action. The FEIS should include a thorough discussion of these issues.

T

Page 373 of the DEIS discusses Native American Contacts. The DEIS indicates that certain Native Americans were contacted by a consultant for Calpine. For the NEPA process, Western should have initiated its own Government to Government consultation process with potentially affected tribes, per President Clinton's memorandum for the heads of executive departments and agencies, April 29, 1994, on "Government-to-Government Relations with Native American Tribal Governments." This memorandum was written to ensure that the rights of sovereign tribal governments are fully respected, and includes the requirements that a federal agency shall operate within a government-to-government relationship with federally recognized tribal governments. The Memorandum goes on to state that "each executive department and agency shall assess the impact of Federal... projects... on tribal trust resources and assure that tribal governments' rights and concerns are considered during the development of... project(s)...activities." Western should incorporate this process into its NEPA analysis and summarize results in the FEIS.

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outnumber the local resident population for any significant period.event, it would be unlikely that any migrant population would outnumber the local resident population for any significant period.

The second area of concern is impact analysis. A review of the chapter on socioeconomics indicates that the only socioeconomic impacts associated with the project would be with fire and police protection. The mitigation planned for this impact could result in a beneficial impact to the local community by increasing the readiness and skill of the local fire department (see pg. 411). There would be negligible impacts to housing, employment, property values, schools, utilities and the local economy in general. As the EPA points out, the property where the plant would be located is zoned agricultural, but it is not now under active cultivation. The parcel was reclaimed from a rice field in 1986 when the Greenleaf 1 plant was built (see pg. 188), so there would be no loss of agricultural jobs by constructing the plant. Other potential impacts to environmental variables would be either not significant or have been mitigated to a less than significant level. It would appear that the proposed project would not have a significant impact on the human environment; and therefore, couldn't have a significant impact on any single population.

U. Prior to the release of the *Draft EIS*, Western relied upon a contractor to obtain information on contacts with Indian tribes that may have a concern for resources in this project area. This was discussed in Section 1.5.2. No responses were received from the direct mailing (project description, map and interest request form, Appendix R) sent to each of the 16 tribal contacts. If any group had contacted Western or the Commission concerning issues with the project, Western would have initiated talks with the group in a government-to-government relationship.

Western made several attempts to directly contact each of the tribes after the release of the *Draft EIS*. Western believes that it has acted in concert with the intent and letter of the Presidential Memorandum (Government-to-Government Relations with Native American Tribal Governments, dated April 29, 1994), as well as with Executive Order 13084. There are no tribal lands in the project area, there are no known "trust resources" within the project area and there are no tribal interests within the areas likely to be impacted by the project. Western took this information into account when considering the likely impacts to resources of concern to tribes. Each tribe will receive a *Final EIS* directly from Western.

Response to Public Comment

Sierra Nevada Customer Service Region

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October 18, 1998

Paul Richins
Project Manager, California Energy Commission
1516 Ninth Street
Sacramento, California 94814

Re: O'Banion Rd. #21-240-019, #21-240-020, #24-070-003
vs. Calpine

Dear Mr. Paul Richins:

I am part owner of a property on O'Banion Rd. (parcel #21-240-019, #21-240-020, #24-070-003).

A I was very distressed to hear that Calpine Corporation is planning to build a switching station next to our property. I am retired and depend on the income off this land for farming income.

B If the transmission lines of this station are not out underground, it will not be economically feasible to farm this land. We use aircraft to seed and fertilize this land. These lines will be a huge hazzard.

C Calpine will eliminate our income. As a results it will also decrease the value of this property. The farmers of this property will not be able to use this land to grow rice as it is not row-crop land.

D With the future income that Calpine will derive from this project they certainly could pay for underground transmission lines or find another route that will not adversley effect the adjacent propertys.

E This ranch has been in my family for two generations and I had hoped to pass this land on to the third generation.

The property is excellent farmland for growing rice and only rice, and not feasible for other crops.

F By allowing Calpine to build a switching station you will have eliminated another 500 ac. of prime land.

Is it fair that Calpine takes from us:

1. Our family income- now and in the future.

2. The right to farm our land and deny the third generation of farmers.

G 3. Decrease the value of this property.

4. Elimination of 500 ac. of prime land.

Please write.

A. Comment noted

B. Refer to Section 5.2.14 for a discussion related to socioeconomic resources. Refer to the section on transmission system engineering in the *Draft EIS* concerning the feasibility of undergrounding the transmission line. Also see the discussion in Section 5.2.21.

C. The impact of the SPP on local property values is discussed on pp. 414-418 of the *Draft EIS*. Additional information on property values is presented in Section 5.2.15.2.

D. See the discussion under B.

E. Comment noted.

F. Approximately 2 acres will be used in the proposed switching station.

G. Comment noted.

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I'm not against progress, but why do you have to destroy ones livelyhood to accomplish this progress. Is it because of big money talks louder ?

Sincerely,
Marilyn Kenyon

c.c. Mr. Larry Combs
c.c. Mr. Richard Hall

11

C&P Duck CO
Lorne M Cole
2031 Grove rd
Yuba City CA 95993

October 23, 1998

Paul Richins
California Energy Commission
1516 9th ST
Sacramento CA 95814

Dear Sir:

We are writing to you to express our extreme displeasure and concerns for the transmission Line for the CalPine Sutter Power Plant project. It will effect our ability to farm and hurt our farming income and it will have a devasting negative impact on our duck club busines. A

We own and farm rice on 313 acres on the west side of Boulton road. Our property is parcel number 21-240-006 and 21-230-022. We do all of our application of seed, fertilizer, chemicals for weed control and pests by air. We already have power poles on the west side of the field. The crop duster must fly north and south to service our fields If there are new power poles put on the north side of the field it would impact our ability to farm this property efficiently, if at all. To make the situation worse the map shows more power poles would be put along our west border. We already have power poles in the fields, along that border. Additional poles would literally make farming along that border impossible. We would have to abandon farming, approximately 1/4 of our fields. B

C&P Duck CO established this property as a duck club in 1987. We currently lease over 1,200 acres besides the 313 that we own. This all falls within the immediate proximity of the proposed power lines. There are over 4,000 acres of successful duck clubs in the area. The Sutter National Wildlife Refuge borders the west side of the proposed sites. This area has history of being managed to become a very productive waterfowl environment. C

PROOF OF SERVICE (REVISED) _____ FILED WITH ORIGINAL MAILED FROM SACRAMENTO ON 10/30/98

A. Refer to Section 5.2.14 for a discussion related to socioeconomic resources.

B. Refer to Section 5.2.6 for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities.

C. Comment noted.

11

Power lines crossing this area would directly impact waterfowl usage. The proposed route would cut across an established flyway. Waterfowl follow stable flight patterns. The birds will avoid the power poles thus changing flight routes. In cases of extreme weather conditions the birds are often forced into the wires and killed. These birds fly between Sutter National Refuge and Dingville on a daily basis. We have worked hard fo many years to make this property part of an appealing fly way for the birds. The power poles that Calpine wants to install would seriously impact waterfowl usage. D

C&P Duck CO was formed in 1985. All that we have become is due to our hard work establishing rice farms that are waterfowl friendly. We have carried the burden of many additional costs to enhance this area for waterfowl. The ground that we own is all ground that we have purchased and made great sacrifice for. We have worked very hard for 13 years to build this company. Nothing was handed to us. Our distress over the proposed power poles and its negative impact on the environment and our finical investment must be taken into consideration. E

Sincerely

Lorne M. Cole
President

D. Refer to Section 5.2.6 for a discussion related to transmission line safety. The Conditions of Certification in the *Draft EIS* (p.456) defines measures intended to mitigate or avoid impacts to migratory birds.

E. Comment noted.

ORIGINAL MAILED FROM SACRAMENTO ON 10/20/98

Attention Paul Bichen Oct 24, 1998

10

Paul,
This letter is a written way we can't allow Caplins to bring their line behind our rice field #21-230-009

A

1. First, they would be putting it on private owed land.

B

2. Second, we would be unable to fly our fertilizer, chemicals, seed & misc. items we fly north & south on this field. We would be unable to fly anything on. Flying is very important part of our operation, as it is the only way to apply the above materials. (fertilizer, chemicals, seed etc on)

C

3. Third; we have a duck club on the field & the ducks will not fly around lines. We

D

4 Fourth, it would make our rice land values go down.

E

Most of all this is the way we & our neighbors make our livings.

F

The noise is trouble from the plant now & can not see how a bigger plant would benefit our family or our neighbors. Tony Caplins

Most of the landowner there we should hire a lawyer in our behalf.

G

Also sending a letter from our Crop Duster Charlie Arnstrit.

We hope you & your staff will read our letters & take in consideration our future in this move. Thank you

[illegible] 530-674-

A. Comment noted.

B. Refer to Section 5.2.6 for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities.

C. Refer to Section 5.2.6 for a discussion related to transmission line safety. The Conditions of Certification in the *Draft EIS* (p. 456) defines measures intended to mitigate or avoid impacts to migratory birds and are discussed in Section 5.2.15.2.

D. The impact of the SPP on local property values is discussed in the *Draft EIS* (pp. 414-418). Additional information on property values is presented in Section 5.2.15.2.

E. Refer to Section 5.2.14 for a discussion related to farming impacts under socioeconomic resources.

F. Refer to Section 5.2.11 for a discussion related to noise.

G. Comment noted

9

Onstott Dusters, Inc

Sutter County Airport
P.O. Box 709
Yuba City, CA 95992
(530) 673-1313

October 25,1998

Mr. Paul Richens
State of California
California Energy Commission

Re: Sutter County Calpine Project

Dear Mr. Richens,

This letter is in regards to the proposed Calpine Project, specifically, the power lines proposed to run across farmlands. In particular, the power lines that will run at the south end of Harry Hunt's rice field. Mr. Hunt is a customer of our aerial application business in which we apply rice seed, pesticides, and fertilizers to his farm. A

We are strongly opposed to these power lines, as they will cause great dangers and difficulties in applying materials properly to Mr. Hunt's property. We work under restrictions, regulated by the State Food and Agriculture Department, in which we cannot disperse certain herbicides over ten feet above the ground. These power lines will not allow us to apply materials to the crops, thus creating great problems in raising the crops to a productive level. B

These power lines do not need to be run through this rich agricultural farmland. There are other alternatives that need to be taken on this project. C

Thank you for your consideration in this matter.

Sincerely,

Charlie Onstott
President and Owner
Onstott Dusters, Inc.

DATE OF NOTICE REVISED _____ FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON _____

A. Comment noted.

B. Refer to section 5.2.6 for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities.

C. Refer to Section 5.2.1 for a discussion related to alternatives.

8

Oct. 25 - 1998

PROOF OF SERVICE (REVISED _____ FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 10/30/98

Paul Rich

Dear Sir,

This is a letter about Calpines proposals, One problem we have is the possible routing transmission line west of proposed plant, along two sides of my rice field. That would be very unsafe for Crop Duster, and would also mean an area around the line would not get good application of seed, fertilizers, Herbacides and etc. The transmission line accross our fields would de-value farm land all around the line. I still thinke the whole thing should be built near By Pass, under Westerns line. The line would likely cause problems for duck + Goose Hunters also.

The California Energy Commission notice sent out 10-19-98 indicated for a General Plan Amendment for a Zoning change on 77 acres.

A. Refer to Section 5.2.6 for a discussion related to transmission line safety.

B. Refer to Section 5.2.3 for a discussion related to air quality.

C. Refer to Section 5.2.1 for discussion related to alternatives.

D. Refer to Section 5.2.15 for a discussion related to biological resources.

8 We have been told to expect a Industrial zone of 15 acres. Of
E Course we feel this is all farm country since it has been for 69 years that I have lived here. Just a foot in door
Calpine tells how clean this new
F plant is going to be = 2.5. Right now it is -0- and should remain so.
The Appeal Democrat has glowing stories about how great it is. I really don't know what 2.5 of 500 meg. generator is but I don't want it raining down poison in my back yard, my Sons back yard, or my Grandchildrens yards, which is located ½ mile north of Calpine. Prevailing wind comes right to us.
G My Son already has Hotch kins — Cancer that is - who is to say that might be caused from the Gravely Generator Plant - Calpine already

E. Refer to Section 5.2.9 for a discussion of the needed general plan amendment. Also refer to Section 5.2.14 for a discussion of the future development of the SPP site.

F. Refer to Section 5.2.3 for a discussion related to air quality.

G. Refer to the discussion on public health risks in Section 5.2.4.

8 has there. Of course the noise
H is and issue though not as serious
but we would sure like our
Country sounds back. "quite"

Sincerly,
The Hunt Family
Harry B Hunt
4596 Pierce Rd
Yuba City Ca 95993
530-673-1097

H. Refer to Section 5.2.11 for a discussion related to noise.

Roberts Consulting Engineering
336 Broadway Suite #7 • Chico, CA 95928 • (530) 894-8801
E-mail: cj@r-c-e.com & Website: http://www.r-c-e.com

7

October 26, 1998

Mr. Paul Richins
California Energy Commission
1516 9th Street
Sacramento, CA 95814

Dear Mr. Richins,

I am writing to express our concerns with the CalPine Sutter Power Plant project. The construction of the power plant and the associated power lines greatly impacts farming, wildlife and duck club operations in the area. A

INTRODUCTION

Our family currently farms 300 acres of rice and duck clubs on Bolton Road. The properties are known as the "King Ranch Trust", APN 21-230-006 & 21-230-008 and "The Rooster Club", APN 21-230-021. We have run duck clubs on the property since the late 1960's and have farmed the lands for many years before that. It has been in the family for a long time and we intend for this tradition to continue. B

We have several points of concern over this project that have not been answered.

- The placement of power lines over the South end of the Rooster Club will impact the application of chemicals and fertilizers by airplanes, the quality of duck hunting and wildlife that feed in the area. C
- Air pollution credits used for the project may impact any future consideration for burning rice stubble. D
- Noise from the plant and how it will interfere with the tranquil wildlife area around has not been addressed. E

RICE PRODUCTION IMPACT

The application of chemicals and fertilizers are generally done by airplane in our area. At present our property is bordered to the West by the 500 kV PG&E lines, which permits us to fly in the North-South direction for application of the chemicals and fertilizers. Adding lines to the South of our property will restrict the aviator from covering the South end of the Rooster Club, a loss of about ¼ of that field. The alternatives are ground rigs or helicopters. These options are far more costly. F

PROOF OF SERVICE (REVISED ____ FILED WITH ____

A. Comment noted.

B. Comment noted.

C. Refer to Section 5.2.6 for a discussion related to transmission line safety. The Conditions of Certification in the *Draft EIS* (page 456) defines measures intended to mitigate or avoid impacts to migratory birds. Section 5.2.15 also discusses impacts to migratory birds.

D. Refer to Section 5.2.3 for a discussion on the availability of ERCs.

E. The Commission has set specific Conditions of Certification for noise (*Draft EIS*, p. 235-239) that provide assurance that noise levels are at less than significant levels. Additional information on the noise impacts on wildlife can be found in a study by Memphis State University prepared for the EPA ("Effects of Noise on Wildlife and Other Animals," 1971). It was reported that birds adapt to continuous noise, even their own distress calls. A study of impacts on birds near an airport indicated that birds accustomed to jet noise were not startled by the noise. It would appear that birds adapt to harsh noises (jets) and would not be affected by noise associated with SPP. Refer to Section 5.2.11 for a discussion related to noise.

F. Refer to Section 5.2.6 above for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities

Roberts Consulting Engineering
336 Broadway Suite #7 • Chico, CA 95928 • (530) 894-8801
E-mail: cj@r-c-e.com & Website: http://www.r-c-e.com

7

DUCK HUNTING IMPACTS

G The hunting on our property is considered superb. Hunters avidly pursue this area because it is truly great. There is a waiting list to get on the property and we have plans to improve the hunting more. The hunting on this property has been carefully cultivated over the last 30 years through experiment, trial & error and a lot of lengthy discussions. There is a great duck hunting business opportunity here due to shrinking wildlife areas, the present quality of the shooting and the expanding human population. The impact of the power lines on the duck hunting, both to the quality of the hunt and to any perceived reduction in hunt quality by our customers, must be addressed properly by all parties involved.

WILDLIFE IMPACTS

H Any construction encroachment onto a wildlife area must be considered carefully. The impact upon the wildlife was not given adequate consideration when the 500 kV PGE transmission lines were installed and are evidently not being considered for this project. Thousands of birds are killed each year by the lines and only the hunters and farmers seem to notice. In other venues, like the recent oil spill near San Francisco, killing less than 100 waterfowl was a major issue. The existing lines kill far more birds than the recent oil spill.

I The wintering waterfowl have *imprinted* upon the neighboring farmlands for the grain portion of their diet. The "imprinting" is a rapid learning process that takes place early in life for any social animal, like our waterfowl, and establishes a behavior pattern. This pattern of behavior is due to their natural affinity they have for the waste grains in the field and the proximate location of the field to their sanctuary. Waterfowl rest in the sanctuaries during the day and at night seek out familiar feeding grounds for grain. One of the sanctuaries at the Sutter Wildlife Refuge lies directly to the West of our property. Many of us enjoy watching and listening to the birds as they invade the fields each night. They come in with a fervor and even walking out in the field does not stop them. When they are fed and dawn approaches they return to the sanctuaries, even on days when we don't enter the field to hunt. Unfortunately many of the birds, sometimes in mass, collide with the 500 kV PGE lines either being killed instantly or being severely wounded. Adding additional lines through any of the feeding grounds has a devastating impact upon the environment and requires the appropriate study, via an Environmental Impact Report.

J

AIR POLLUTION IMPACTS

K Air pollution credits are very complex and most people are either thoroughly confused by their use or are unaware of them entirely. The mass consumption of the credits by the power plant affects the ability of the county to develop additional businesses and for farmers to burn crop stubble. The farmer's opinion is simply to avoid anything that further constrains our ability to be farmers.

L

M

G. Comment noted.

H. Comment noted. See the discussion in Section 5.2.15 on the measures being taken to mitigate impacts to migratory birds by the transmission line.

I. Comment noted.

J. Refer to Section 5.2.6 above for a discussion related to transmission line safety and Section 5.2.15 on the measures being taken to mitigate impacts to migratory birds by the transmission line. The Conditions of Certification in the *Draft EIS* defines measures intended to mitigate or avoid impacts to migratory birds (*Draft EIS* p.456). The *Draft EIS*/FSA is an Environmental Impact Report.

K. Comment noted.

L. Refer to Section 5.2.3 above for a discussion on the availability of ERCs for future development.

M. Comment noted.

Roberts Consulting Engineering
336 Broadway Suite #7 • Chico, CA 95928 • (530) 894-8801
E-mail: cj@r-c-e.com & Website: http://www.r-c-e.com

7

NOISE POLLUTION IMPACTS

N

Noise pollution is a far more difficult subject. What effect there is on residents will be up to industry standards, promises made by the license applicant, (CalPine), and the actual resulting noise. Will the noise affect wildlife? How has this been addressed? Will the noise deter duck hunting business? How has this been addressed? Our family built a homestead on the King Ranch Trust many years ago and the home has since burned down. We have in recent years discussed re-building the home that was destroyed. Will the noise make building a home more attractive? No it will not. Will the noise affect the tranquil nature of the area and the dreams we have of re-building? It could ruin those dreams.

CONCLUSION

O

This project has been all about CalPine's dreams of quickly constructing a profitable power plant in the soon to be deregulated power market. Getting to the market quickly and making a profit is their goal. We as local farmers, aviators and duck club businesses also have dreams and goals. Our goals are written down, we have worked hard for them and we are determined to see them come true. Our great-grandfather owned this property and we will not stand by idle to see this destroyed. We are against the power lines running near our property as we are against them running near any wildlife feeding area. The additional issues of noise and pollution simply go further to prove the point that the commercial power plant does not fit into a pristine wildlife and farming area.

P

Calpine to our knowledge has not offered anything in return for the losses that the local economy will suffer as a result of their construction and operation of the plant. If they want to be our neighbor they should offer solutions to these problems or compensate the farmers for their losses. They have offered neither.

Thank you in advance for your consideration. Please contact me at the address and number above if we can be of any help in your decisions or if you have any questions.

Sincerely Yours,

Charles J. Roberts, PE

N. The Commission has set specific Conditions of Certification for noise (*Draft EIS*, p. 235-239) that provide assurance that noise levels are at less than significant levels. Additional information on the noise impacts on wildlife can be found in a study by Memphis State University prepared for the EPA ("Effects of Noise on Wildlife and Other Animals," 1971). It was reported that birds adapt to continuous noise, even their own distress calls. A study of impacts on birds near an airport indicated that birds accustomed to jet noise were not startled by the noise. It would appear that birds adapt to harsh noises (jets) and would not be affected by noise associated with SPP.

O. Comment noted.

P. Comment noted.

6

October 28, 1998

Paul Richins
Project Manager, California Energy Commission
1516 Ninth Street
Sacramento, California 95814

Re: Public Notice to Land Owners
Consideration of an Alternative Transmission Line Route
Sutter Power Plant Project, Application for Certification [97-AFC-2]

Dear Mr. Richins,

I am a part owner of a property on O'Bannion Road [parcel #21-240-019, #21-240-020 and #24-070-003]. I am writing to protest the proposed transmission line route on O'Bannion Road because aircraft will not be able to fly in to seed and fertilize our land. The land is used to grow rice, and it is not feasible to grow other crops. Since it is not economical to seed and fertilize without the use of aircraft, our income would be eliminated. A

I urge you to reconsider this route.

Sincerely,

Patricia A. Luther

Patricia A. Luther

c.c. Mr. Larry Combs
c.c. Mr. Richard Hall

DOCKET
98-AFC-2
DATE OCT 28 1998
RECD. NOV 3 1998

PROOF OF SERVICE (DELIVERED ...)
FILED WITH ORIGINAL ... FROM
SACRAMENTO ON 11/3/98

A. Refer to Section 5.2.6 for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities.

5

LAW OFFICES OF
GRAY AND THURN, INC.

October 29, 1998

DOCKET
97-AFC-2
DATE OCT 29 1998
RECD NOV 04 1998

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Attention: Paul Richins, Jr., Project Manager

Re: Sutter Power Project Proposed on the West Side of South Township Road, South of East Road, Yuba City (Application for Certification)

Dear Mr. Richins:

Our law firm represents the owners of agricultural rice land in Sutter County that will be adversely impacted if a project transmission line is placed on the north end our clients' property on O'Banion Road in Sutter County. A

On behalf of our clients we object to the placement of the proposed transmission line on O'Banion Road.

Our clients are the owners of Assessor's Parcel Nos. 21-240-019; 21-240-020; and 21-070-003 in Sutter County which property borders south of O'Banion Road. Our client's property has been used since the early 1930's for growing rice and continues to be so farmed. The placement of a transmission line upon O'Banion Road will severely impact the ability of our clients to farm their property by reason of the need for aerial seeding and fertilization of their crops. For your information I am enclosing a map of our client's property showing it bordering on O'Banion road. B C

Our clients and their ancestors have been tax paying farmers of Sutter County for more than sixty (60) years and supporters of the community. Above ground transmission lines placed on O'Banion Road will greatly disturb the farming of the property. D

Our clients intend to be present at the hearing in November on this matter, but we would like it "of record" that they oppose E

PROOF OF SERVICE (REVISED _____ PROOF OF ORIGINAL MAILED FROM SACRAMENTO ON 11/4/98

A. Comment noted.

B. Comment noted.

C. Refer to Section 5.2.6 for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities.

D. Comment noted.

E. Comment noted.

5

October 29, 1998
Page Two

the transmission line on the basis that it would severely impact their ability to farm their property which they have done so for a very long time as stated above. F

Yours very truly,

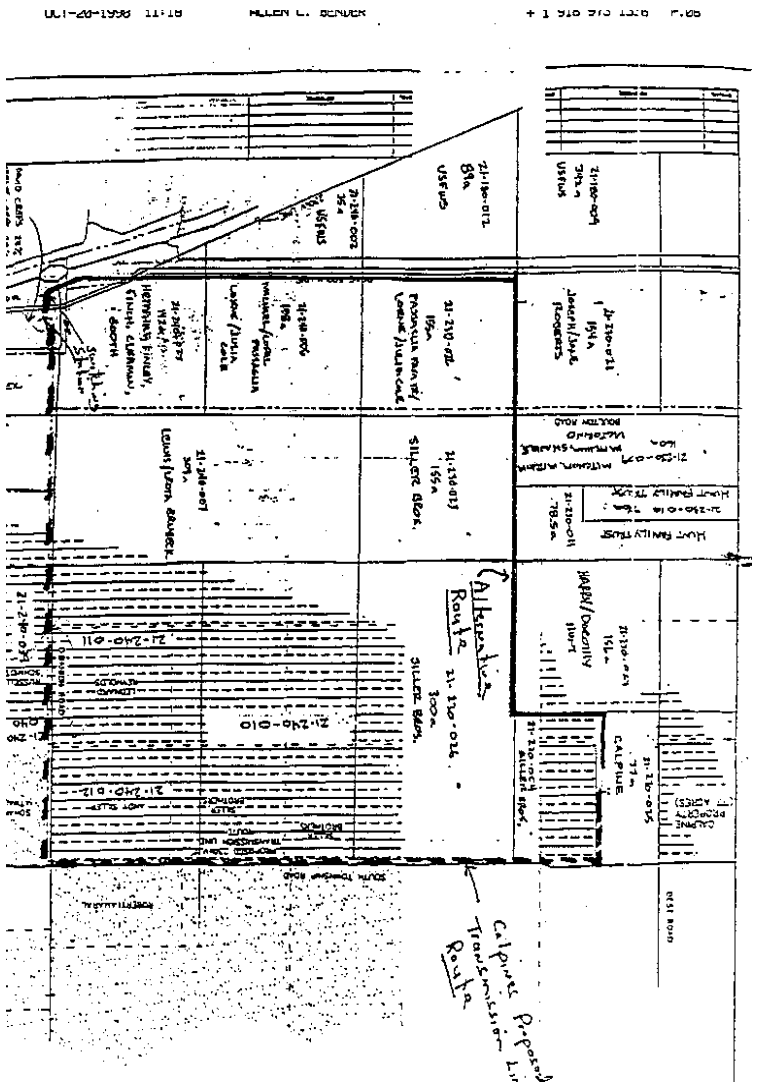
RICHARD L. THURN
OF GRAY AND THURN, INC.

RLT/bp

cc: Sutter County Community Service Department
Larry Combs, County Administrative Officer
1160 Civic Center Boulevard
Yuba City, CA 95993

Sutter County Community Service Department
Richard Hale, Director
1160 Civic Center Boulevard
Yuba City, CA 95993

F. Comment noted.


Alternative Route
Calpine Proposed Transmission Line Route
21-240-011
21-240-010
21-240-012
SOUTH TOWNSEND ROAD
CALPINE
HUNT FAMILY TRUST
SILLER BROS.
21-230-016
21-230-015
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ichins - OPPOSITION TO PROPOSAL, CALPINE USE CREPS' LANDS Page

From: wcoc <wcoc@raiden.lightspeed.net>
To: HeadQuarters.HqPo1(Prichins)
Date: 11/9/98 12:44PM
Subject: OPPOSITION TO PROPOSAL, CALPINE USE CREPS' LANDS 4

Wilma Creps LaPerle
958 Fairway Drive
Bakersfield, California
(805) 397-1202

November 9, 1998
Via U.S. Mail
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, California 95814

Hand Out
e-mail: prichins@energy.state.ca.us

Atten: Paul Richins, Jr., Energy Commission Project Manager

Re: Opposition to Alternate Proposal to Locate Any Calpine Facility On Creps et al 56 Acre Parcel
O'Banion Road, Sutter County, CA

Dear Sir:

We, David Creps, Irene Creps and Wilma Creps LaPerle, the owners of 2/3rds (66-2/3%) interest in the 56 acre parcel on O'Banion Road are totally and inalterably opposed to the location of any Calpine facility on our property. A

This property is vital to the 1000 acres we farm adjacent to it within the Sutter By-Pass. We have owned all of our acreage since before the By-Pass was built in the 1920s. Because of the flooding conditions in the By-Pass, the 56 acre parcel is the only land we own where we can store our farm equipment. B

In addition, the Sutter Basin Duck Club facilities have been located on this property for at least 70 years. The Duck Club facilities include a club house where meals are served to the members. Because many of the members are from the San Francisco Bay Area, they park their trailers adjacent to the club house facilities and sleep there during the hunting season. They do not come to the country to be next to power facilities. C

We grow rice on all of the 56 acres that is not occupied by farm equipment storage facilities and the duck club facilities. D

In 1941, our ranch in Yuba County was condemned and taken for Camp Beale when we were small children, one year after our father had died. The creation of the Sutter By-Pass has taken mineral rights from our lands and placed restrictions on our farming operations within the By-Pass area. E

This parcel on O'Banion Road is crucial to us. Surely you can use an alternate location for the Calpine switching facility that won't sever our lands and destroy our Duck Club and farming operation. F

A. Comment noted.

B. Approximately 2 acres will be used in the proposed switching station. Responses to similar comments have been provided in Section 5.2.14.2.

C. Comment noted.

D. Comment noted.

E. Comment noted.

F. Refer to Section 5.2.1 and 4.2 for a discussion related to alternatives and 5.2.14 for impacts to agricultural activities.

Nichols - OPPOSITION TO PROPOSAL, CALPINE USE CREPS' LANDS Page

4

Very truly yours,

Wilma Creps LaPerle

P:\deeig\file\creps4

cc: California Energy Commissioners
Sutter County Planning Commission
Department of Fish & Game
Sutter National Wildlife Refuge
David Creps
Irene M. Creps

3

LAW OFFICES OF
GRAY AND THURN, INC.
195 CADILLAC DRIVE
SACRAMENTO, CALIFORNIA 95825

CHARLES F. GRAY, JR
RICHARD L. THURN
ROBERT F. WHITWORTH

TELEPHONE
(916) 920-2800
TELECOPIER
(916) 920-3409

November 30, 1998

DOCKET
97-AFC-2
DATE NOV 30 1998
RECD DEC 07 1998

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Attention: Paul Richins, Jr., Project Manager

Re: Sutter Power project Proposed on the West Side of South Township Road, South of Best Road, Yuba City (Application for Certification)

Dear Mr. Richins:

Our law firm represents the owners of the agricultural rice land affected by the above project and we have previously written to you on October 29, 1998 concerning our client's objection to the proposed transmission line on O'Banion Road in Sutter County.

A

In reviewing with our client their objections, two more reasons for the objections are as follows:

1. Impact of airport landing field.

B

2. Impact on flyaway of ducks and geese.

C

Our clients have advised us that they have an airstrip on their property which airstrip would be directly affected by the proposed power line since the runway lines up with the proposed poles and lines. As you can well imagine, this would create a danger to the pilots landing and taking off from that runway. In addition, I am sure that our clients have certain easement rights for the landing field going back over fifty years. If the line is built in its present position and if there is an accident with an airplane hitting the towers or the lines this would certainly create a liability on behalf of the State and the owners of the transmission lines.

D

With respect to the ducks and geese, I am informed that the transmission line would be directly in the fairway of the geese and ducks and this would impact each area, not only our client's property but other property in the flyaway. As you know, each blind or gun can be rented out on lands that are in the flyways of ducks and geese for up to $1,500 per year and in some cases

E

A. Comment noted.

B. Comment noted.

C. Refer to Section 5.2.6 for a discussion related to transmission line safety. In addition, the January 1999 presiding Member's Proposed decision (PMPD) on 87 in Condition of Certification LAND USE –4 must build a new landing strip to county specifications.

D. Liability is a question of fact that would be determined pursuant to the act (FTCA 28 U.S.C.)

E. The impact of the SPP on local property values is discussed on pp. 414-418 of *Draft EIS*. The last paragraph of this section of the *Draft EIS* states "Based on the findings of the Kinnard-Dickey paper and the Crockett analysis, Energy Commission staff believes that the potential for the proposed transmission line route to significantly diminish property values would be difficult, if not impossible to prove."

3

November 30, 1998
Page Two

even higher. This again would impact the property value and earnings of our clients.

We trust that you will bring these matters up at the public hearing and consider them and the placement of the line transmission as it is now proposed. F

Yours very truly,

RICHARD L. THURN
OF GRAY AND THURN, INC.

RLT/kt
cc: Darrell Dettling
Jennifer Bittner

F. Comment noted.

YUBA-SUTTER FARM BUREAU
475 Flora Avenue • Yuba City • California 95991
673-6550 • Fax 671-5836

DEC 1998 RECEIVED

13

November 30, 1998

Honorable Larry Munger, Chairman
Sutter County Board of Supervisors
1160 Civic Center Blvd., #A
Yuba City, California 95993

Dear Supervisor Munger: RE: Calpine Power Plant Project

The Yuba-Sutter County Farm Bureau strongly opposes the proposed amendment to the General Plan that would allow the siting of a 500 megawatt natural gas fueled power plant on the west side of Township Road, south of Best Road. This area is an exclusive agricultural zone, with 80 acre minimum parcel sizes, and rezoning this property to permit this industrial use would violate numerous Sutter County General Plan policies. A

A. Comment noted.

We also firmly reject the Energy Commission's staff evaluation that this project is "a good candidate for agricultural land conversion" as well as the planning staff's efforts to downplay the enormous consequences that this new facility will have on Sutter County. B

B. Comment noted.

We would like to offer the following specific comments for your consideration:

AIR QUALITY:

Although the Final Staff Assessment (FSA) is still incomplete as of this writing, we urge you to consider the potential impact that this proposed facility could have on future economic development in Sutter County. A large number of Emission Reduction Credits will be necessary to offset the toxic pollutants emitted from the plant, including ammonia, volatile organic compounds, and nitrous oxides. The plant would also exacerbate the Feather River Quality Management District's attempts to keep the air quality basin in C

C. The Commission supplemented their *Final Staff Assessment* with the Final Determination of Compliance (FDOC) from the FRAQMD on Nov. 13, 1998 (Appendix F). The Commission updated the air quality section based on the FDOC on Nov. 17, 1998 (Appendix G and H). See the discussion of ERC use for SPP in Section 5.2.3.

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HONORABLE LARRY MUNGER
NOVEMBER 30, 1998
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attainment for particulate matter because PM 10 emissions could be as high as 547 lbs. per day.

Farm Bureau believes that it would be short- sighted for the county to approve this General Plan amendment when it would seriously impair your ability to approve future projects that could provide countless more jobs and generate significantly more economic activity for Sutter County residents. D

SOIL AND WATER RESOURCES

We also want to express our concern about the increase in impervious surface area in an area that already suffers from localized flooding during heavy storms. The original FSA contained language requiring Calpine to provide on-site storm water retention, the production of the report on the potential impacts of project runoff, and verification or coordination of public and private entities that own or maintain facilities downstream from the project. Since the FSA was changed, apparently at the county staff's request, to delete the requirement that approval be obtained from those public and private entities, Sutter County could be liable if the on-site water retention facilities fails. We also believe that neighboring private entities could be subject to higher insurance costs due to new storm water runoff threat. E

VISUAL RESOURCES:

Farm Bureau is particularly concerned about the significant visual impacts of this project. Despite the county staff's attempt to downplay the substantial unmitigated visual impacts of both the power plant and the transmission lines, we believe that the only way to mitigate these impacts is to require relocation of the plant to the existing industrial zone in South Sutter County. This would not only be more appropriate for the location of the facility, it would be F

D. Comment noted. See Section 5.2.3 concerning the availability for emission credits for future development.

E. The issue of stormwater control is discussed in Section 5.2.16. Specifically, the Commission has directed Calpine to comply with two provision concerning stormwater. On pp. 193-194 of the PMPD, Calpine would be required to comply with the provisions of the General Industrial Stormwater permit, and they would provide on-site retention of stormwater during periods of high runoff, defined as 10-year, 24-hour storms or greater. The intent was to ensure that stormwater from the facility would not impact adjacent properties.

F. Refer to the discussion of visual resource impacts in Section 5.2.14.

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HONORABLE LARRY MUNGER
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PAGE THREE

consistent with the General Plan and eliminate the need for many miles of visually disruptive high-power transmission lines.

LAND USE:

We most strenuously disagree that an industrial use of this magnitude in an agriculturally-designed area can be considered consistent with the General Plan 6. A-1. This policy reads:

> "The County shall preserve agriculturally-designated areas for agricultural uses and direct non-agricultural development to areas designated for urban/suburban growth, or rural communities and/or cities."

According to the November 12, 1998 Planning Commission staff report, the site was converted to an urban/industrial use in 1984 "based on the finding that the project was consistent with the General Plan by allowing full development of natural resources located in the county." While is may be true the original finding was accurate because the Greenleaf 1 power plant utilized the county's natural resources, the proposed project will not and would, therefore, be inconsistent with the General Plan.

We would also like to call to your attention the staff's circular logic that produces the conclusion that rezoning this parcel to an M-2 General Industrial, District is consistent with the General Plan. Just because the proposed project was determined to be consistent with an industrial zoning designation does not justify the proposed change in zoning from exclusive agriculture. Such a change would be inconsistent with the General Plan because the natural gas resources are not located in the county.

G

G. Refer to Section 5.2.9 for discussions of the needed general plan amendment.

H

H. Comment noted. The Sutter County Board of Supervisors will need to resolve this issue. Western has no decision to make concerning the general plan amendment.

I

I. Comment noted.

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HONORABLE LARRY MUNGER
NOVEMBER 30, 1998
PAGE FOUR

SAFETY:

Although not discussed in the county staff report, we would like to call to your attention the significant negative impact that the proposed transmission lines will have on the county's agricultural operations. The location of such lines across farmers' rice fields would be totally unacceptable due to the necessary reliance on aerial applications of seed, fertilizer and pesticides. Allowing the creation of such a hazardous situation would be inconsistent with General Plan Policy 1. F-1 that states: J

> "The county shall require that new development adjacent to agricultural acres be designed to minimize conflicts with adjacent agricultural uses."

Farm Bureau sincerely hopes that the Board of Supervisors will protect the integrity of our Sutter County General Plan and require this project be located in a preexisting industrial zone. To do otherwise would cause serious damage to our county's agricultural sector. K

Yours truly,

George Van Ruiten
President

cc: Members, Sutter County Board of Supervisors

J. Refer to Section 5.2.6 for a discussion related to transmission line safety and to Section 5.2.14 for a discussion of socioeconomic impacts related to farming activities.

K. Comment noted.

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of.	)	
	)	
Application for Certification of the Sutter Power Plant Project	)	Docket No. 97-AFC-2
	)	
	)	

STATEMENT OF CALIFORNIA UNIONS FOR RELIABLE ENERGY (CURE)

October 22, 1998

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c1105-038

A. Comment noted.

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
	)	
Application for Certification of the	)	Docket No. 97-AFC-2
Sutter Power Plant Project	)	
	)	

STATEMENT OF CALIFORNIA UNIONS FOR RELIABLE ENERGY (CURE)

October 22, 1998

I. INTRODUCTION

CURE files this 'statement regarding the Sutter Power Plant in response to the Notice of Evidentiary Hearings.

CURE has been participating in these proceedings as an Intervenor. CURE is a coalition of unions whose members build, operate and maintain power plants. CURE has been concerned about the proposals for new power plants in California as a result of the deregulation of the electrical energy market. CURE's concerns are that the power plants will degrade the environment and will not provide benefits for the local economy.

Many of CURE's members depend upon continued construction, because they earn their living performing construction work. They have seen that large construction projects that degrade the environment can cause a backlash against continued construction, when people suffer the adverse effects of poorly planned projects. Approval of power plants that minimize

c1105-038

environmental impacts is more likely to lead to sustainable economic and construction growth.

Additionally, CURE's members live and work in the areas proposed for construction of the power plants. They and their families suffer the same adverse impacts of poor air quality, water degradation and water shortage and other adverse impacts as everyone else.

CURE's members can provide the skills to build, operate and maintain the power plants in a safe and professional manner. CURE's members have been participating in these proceedings to advocate approval of environmentally and economically beneficial projects.

Many of CURE's concerns have been addressed through the Commission's public participation process. As a result, CURE anticipates presenting testimony only on socioeconomic impacts. As discussed below, CURE's major environmental concerns have now been addressed by the Applicant.

II. ENVIRONMENTAL BUTIGATION MEASURES

CLTRE has participated in the workshops, focussing mainly on air quality and water resources impacts.

A. Water Quality

CURE has been concerned that the plant would have an adverse impact on water resources due to groundwater pumping and discharge of wastewater into agricultural drainage ditches and canals, and eventually into the wildlife refuge. The water discharge had the potential to degrade water quality in the Sutter National Wildlife Refuge to the detriment of the wildlife that use the refuge. It **also** had the potential to degrade water in the agricultural ditches. Consultants to CURE participated in the workshops and focussed on these issues, raising questions about the basis for the Applicant's conclusions about impacts to water resources.

CURE met with representatives of Calpine to advocate resolving these potentially significant adverse environmental impacts. Eventually, Calpine agreed to use 100% dry cooling, instead of wet cooling. Dry cooling does not require cooling towers. This will eliminate the discharge into the ditches and canals from the cooling towers. Dry cooling requires less water use, and reduces groundwater pumping. Using dry cooling also eliminates concerns about the cooling tower drift, which could create a negative impact on air

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quality. CURE supports this resolution of the issues and appreciates Calpine's willingness to adopt this measure.

B. Air Quality

CU'RE has also been concerned about air quality impacts. Under the federal Clean Air Act, there is only room for a limited amount of growth, because the Clean Air Act limits the amount of pollution that can be added to the air. The power plant would emit nitrogen oxides, which are precursors to ozone and could worsen the air quality in the area.

Calpine originally proposed that the power plant's nitrogen oxide ('No_x") emissions would be limited to 3.0 parts per million. Calpine expressed its belief that it could not reduce its NO_x emissions any lower, because of the need to respond to energy demand quickly. Calpine was concerned that it could not maintain the lower emission rate during the times that the plant's output was increasing or decreasing.

CURE spoke with the vendors of the air pollution control equipment for the power plant. All of the vendors stated that they could guarantee lower NO. limits during periods of increasing or decreasing operation. They provided CURE with written statements to that effect. CURE then provided the statements to Calpine, to the U.S. Environmental Protection Agency, to the California Air Resources Board and to the CEC staff.

CURE met with Calpine to discuss the need to reduce air emissions below 3.0 parts per million. Calpine ultimately agreed to reduce the power plant's NO_x emissions to 2.5 parts per million. CURE appreciates Calpine's resolution of this issue.

Calpine has responded to the two environmental concerns about which CURE has been most adamant. Calpine's response has been substantial and significant.

III. SOCIOECONOMIC BENEFITS OF THE WORKFORCE

Approval of the Sutter Power Plant will provide socioeconomic benefits. The members of CLTRE who will build, operate and maintain this plant are highly skilled. They provide high quality construction work and receive wages and benefits that are commensurate with their skills. They.9pend and invest their wages and benefits in their local communities in California. They are a stable workforce, composed of people with roots in their communities.

CURE anticipates filing testimony regarding socioeconomic impacts of the Sutter Power Plant. The Staff, the Applicant and the Hearing Officer have all agreed that this testimony may be filed on November 2, 1998. CURE also plans on presenting a witness at the evidentiary hearing on socioeconomic issues on November 10, 1998. CURE estimates that the oral presentation by the witness on November 10, 1998 will take approximately 15 minutes. The witness will be **a** representative of CURE.

IV. CURE'S PARTICIPATION IN EVIDENTIAP.Y EMARINGS

Because the Applicant has responded substantially and significantly to the air quality and water resources and issues that CURE has raised in these proceedings, because the power plant will provide significant socioeconomic benefits, and because other issues have been resolved with other parties (e.g. transmission line relocation and land use restriction on remainder of parcel), CURE will not dispute any of the issues that may remain. CURE does not plan to provide any testimony or evidence, except as to socioeconomic issues. CURE will not undertake any cross-examination of witnesses.

V. CONCLUSION

CURE believes that the Energy Commission proceedings have thus far produced significant and substantial environmental mitigation measures, have resolved questions and concerns about the construction and operation of the power plant and have allowed for extensive and worthwhile public participation. CLTRE appreciates having the opportunity to participate.

Dated: October 22, 1998

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c1105-038 4

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
	)	
Application for Certification of the Sutter Power Plant Project	)	Docket No. 97-A.FC-2
	)	
	)	

A. Comment noted.

TESTIMONY OF
ROBERT CARE, FRANK SECREET, CHUCK CAKE and ERIC WOLFE
ON BEHALF OF
CALIFORNIA UNIONS FOR RELIABLE ENERGY (CURE)
ON
SOCIOECONOMIC IMPACTS OF THE PROJECT

November 2, 1998

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STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
	)	
Application for Certification of the Sutter Power Plant Project	)	Docket No. 97-AFC-2
	)	
	)	

TESTIMONY OF
ROBERT CARR, FRANK SECREET, CHUCK CAKE and ERIC WOLFE
ON BEHALF OF
CALIFORNIA UNIONS FOR RELIABLE ENERGY (CURE)
ON
SOCIOECONOMIC IMPACTS OF THE PROJECT

November 2,1998

I. INTRODUCTION

AA&O- explained in its filing of October 23, 1998, CURE is a coalition of unions whose members build, operate and maintain power plants. CLTRE has participated in the Commission's workshops, raising issues and questions about the impacts of the project. CURE's main environmental concerns, about air quality and water resources, have been addressed by the Applicant.

CURE is presenting testimony regarding the socioeconomic impacts of the project.

II. SOCIOECONOMIC BENEFITS OF THE WORKFORCE

Approval of the Sutter Power Plant will provide socioeconomic benefits. The members of CURE who will build, operate and maintain this plant are highly skilled. They provide high quality construction work. They receive wages and benefits that are commensurate with their skills. They spend and invest their wages and benefits in their local communities in California.

c1105-036

They are a stable workforce, composed of people with roots in their communities.

A. Skills and Training

The construction trade unions that are members of CLTRE are able to train and mobilize a skilled, efficient, professional workforce. The union training programs are privately funded from the total wage and benefit package for each construction project. The amount is based on the total hours worked on the project. The following are three examples of union training programs.

1. Pipefitters

Calpine estimates that at its peak, the project will employ 45 pipefitters an this job. Over the course of 17 months, the project win employ an average of 16 pipefitters per month. Plumbers and Steamfitters U.A. Local 228 in Yuba City is a member of CURE and will provide workers for this project.

Members of Local 228 are skilled workers. A worker first joins Local 228 as an apprentice. An apprentice must complete both on-the-job training and classroom training. The apprenticeship-training program takes five years. It includes 8,500-10,000 hours of on-the-job training and a minimum of 1,080 hours of related classroom instruction. The program is divided into one-year segments. The instructors themselves must complete a 200-hour program before becoming certified instructors. The apprenticeship-training program includes both basics, such as mathematics and drawing, and advanced training leading to qualification in specialties such as pipefitter, plumber and steamlfitter.

Local 228 in Yuba City has a now training center that houses equipment and computers that are used to train apprentices in modern construction techniques. Currently Local 228 has 6 trained/credentialed instructors and 32 apprentices. The apprentices are trained in safety, CPR and drug and alcohol awareness. They are also required to serve a minimum number of community hours each year.

In addition to apprenticeship training, Local 228 provides advanced training to journeymen. In 1998-1999, local 228 will offer nine different journeymen classes that include HAZ-NUT certifications, CPR and Medical Emergency courses, environmental construction **classes** and CAD computer classes.

2. Electrical Workers

Calpine estimates that at its peak, the project will employ 84 electricians. Over 17 months the project will employ an average of 32 electricians per month. International Brotherhood of Electrical Workers (IBEW) Local 340 in Sacramento will provide workers for this project.

Local 340 has an apprenticeship-training program that requires 5 years of classroom study and on-the-job training. Apprentices work 40 hours a week, and also attend school at night. To attain journey person status, an apprentice must attend 1,000 classroom hours and participate in a m' ' um of 8,000 hours of on-the-job training.

The classroom -study includes blueprint reading, conduit fabrication, electrical theory, mathematics, the requirements of the National Electrical Code, OSELA/Safety Awareness, Health & Saf6ty Awareness, transformers, electrical ground, electronics, motors, systems analysis, repair and certification, digital electronics, fiber optics, air conditioning, fire alarm, instrumentation, intelligent wiring systems, local area network systems, low voltage systems, programmable controllers, security systems and telecommunications.

On-the-job training covers all aspects of the work of an electrician, including project layout and planning, reading and interpreting specifications, coordination between crafts, engineers and architects, layout feeders, risers and branch circuits. The training also covers underground installation, thin wall conduit raceway systems, rigid conduit raceway systems, installing services, switchboards and panels, floor duct installation, motor control center installation, installing, splicing and terminating wires and cables, cable tray installation, lighting system installation, testing and troubleshooting feeders, motors and branch circuits, fire alarm installation, motor installation, control system installation, installing and programming programmable logic controllers, installing instrumentation and process control systems, security system installation, installing sound and communication systems, installing and terminating transformers, installing fiber optics cable, welding and brazing, service and troubleshooting, material handling and pre-fabrication and safety awareness. All on the job training is performed under the supervision of a Journeyman Wireman.

3. Boilermakers

Calpine estimates that at its peak the project will employ 15 boilermakers. During the project, Calpine will employ an average of 11 boilermakers per month. This estimate is very likely too low, because it was

based upon an earlier design of the project. Boilermakers Local 549 has a Construction Boilermaker Apprenticeship program. It requires 6,000 hours of on-site training, over a period of 3 Y2 to 4 years, including three classroom sessions of eight weeks each. Training includes the use of hand and power tools, layout, measuring devices, blueprint interpretation, rigging and moving, plate fabricated structures, tanks and penstocks, refineries and industrial plants, nuclear plants, welding and cutting, mathematics and material strengths. Safety practice and procedures are also emphasized. Once the training is complete, the apprentice must successfully pass a certification examination.

The Journeyman Upgrade Program includes courses in HAZMATIBAT training, leadership training, First Aid/CPR, safety awareness, rigging, welding, exchangers, blueprint reading, layout and tube rolling.

Local 549 has also established a program in cooperation with contractors to test and certify welders in advance of hiring. Contractors have agreed on **a** joint testing program. Passing the test qualifies a welder to work for any of the participating contractors, without having to take **a** separate qualifying test for each contractor. This allows contractors to bid more competitively, because they do not need to include the costs of testing for every job.

Local 549 has established a program through a joint labor management trust, that includes a Safety and Hazard Recognition Program. The program uses OSHA-certified instructors and teaches safety practices based on federal regulations governing general industry, the construction industry and process safety management.

B. Wages

Construction workers travel from job to job. The availability of work is always uncertain and often short-term. In the absence of adequate wages, construction workers become itinerant workers, never able to settle in a community, not spending their money in the local area. Without adequate wages, they cannot afford to acquire the skills necessary to perform safe and efficient construction work. It is very important to workers and to local communities that adequate wages be paid to skilled workers. Such wages allow workers to settle in their communities and to spend their money there. Such wages are also necessary for high quality construction work.

Calpine has agreed to pay such wages. This means that skilled workers in the Sutter County/Sacramento County area will be able to work on the project and continue to participate as members of their communities.

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Wages will stay in the area and in California. The quality of construction work on the power plant will be high.

C. Benefits

Construction workers do not have a single employer who can provide benefits such as health care or a retirement plan. Construction workers are always moving to a new job with a new employer. Therefore, it is critical to them that construction employers pay into multi-employer benefit programs. These benefit programs include health and welfare benefits, as well as pension benefits.

Members who receive these benefits spend them locally. For example, Local 228 estimates that its members spend about $300,000 - $350,000 in the local health care system annually. The average pension paid to a retired member of Local 228 in Sutter and Yuba counties is $45,000, which is also spent locally. The benefit programs are funded from the total wage and benefit package that is paid on a construction job, and is based on the number of hours worked. Not only do workers benefit by having health care and a pension plan, but the local economy benefits.

D. Efficiency

CURE has agreed with Calpine that the work on the power plant will be performed on an expedited schedule, if Calpine elects to do so. CURE has agreed that there will be no strikes during the construction of the plant. Workers will work 10-hour shifts, at Calpine's option. Because the workers are trained and skilled, this project should proceed smoothly without construction delays.

E. Local Employment

The unions that are members of CLTRE have local workers. For example, Plumbers & Steamfitters U.A. Local 228 has 450 members, of whom 125 live in Sutter County, 100 in Yuba County and 80 in Butte County. Hiring these workers benefits the local community, not only through the spending of wages and benefits locally, but because union members donate their time to community projects. In 1997, Local 228 estimates that its apprenticeship-training program donated $80,000 in volunteer work. For example, the local installed a major sprinkler system at Live Oak High School in 1997, using donated materials and volunteering its members' time. Local 228 will dispatch workers to this project from its hiring hall in Yuba City.

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IBEW Local 340 has approximately 850 members who live in Sutter, Yalo, Placer, Yuba, and Sacramento counties. These members spend their wages and benefits in their local communities.

Boilermakers work on large construction projects, constructing not only boilers but also pressure vessel assemblies, huge storage tanks and components of hydroelectric power stations and nuclear power plant reactors. These projects are widely scattered in California and the west and boilermakers must often travel to their jobs. However, Boilermakers Local 549 has members who live in the greater Sacramento area, including in the counties of Sutter, Yuba, Butte, Yolo and Sacramento. Approximately 40 - 45 members live in these counties, and will likely spend their wages and benefits in their local communities.

F. Plant Operation

Calpine estimates that it will employ approximately 12 operators and 4 maintenance technicians. International Brotherhood of Electrical Workers (IBEW) Local 1245 has approximately 300-400 members who live in the counties around the Sutter Power Plant site. Local 1245 will be able to refer operators and maintenance technicians to Calpine who have extensive training and experience. Many have been trained by PG&E.

Local 1245 has an apprenticeship program that trains machinists, electricians and operators. The apprenticeship program is a three year program. Operators require an additional two and a half years of training, including 400 hours of classroom training. The training includes safety and emergency procedures. Operators are trained on power plant control-room simulators. Training includes simulating emergencies, so that operators are trained to respond quickly and accurately.

III. WITNESSES

A. Robert Carr

Robert Carr is the Business Manager of Plumbers & Steamfitters Local 28 in Yuba City.

B. Chuck Cake

Chuck Cake is the Business Manager of IBEW Local 340 in Sacramento.

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STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
	)	
Application for Certification of the Sutter Power Plant Project	)	Docket No. 97-AFC-2
	)	
	)	

A. Comment noted.

CONCLUDING BRIEF
OF
CALIFORNIA UNIONS FOR RELIABLE ENERGY (CURE)

December 9,1998

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STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
	)	
Application for Certification of the A.FC-2	)	Docket **No.** 97-
Sutter Power Plant Project	)	
	)	

CONCLUDING BRIEF OF CALIFORNIA UNIONS FOR RELLA33LE ENERGY (CURE)

December 9, 1998

I. INTRODUCTION

CURE supports approval of the Sutter Power Plant because the Applicant has significantly addressed the potentially significant impacts of its project on air quality and on water quality and because the Project win provide significant local economic benefits, including jobs for local construction workers and for operators of the plant.

CURE is a coalition of unions whose members build, operate and maintain power plants, and CURE has been participating in these proceedings as an intervenor. CURE is concerned about the impact on the California economy and environment of all of the power plants that are being proposed for construction in the near future.

Many of CURE's members earn their living performing construction work, and they depend upon continued growth in the construction industry. While construction of many new power plants will provide construction jobs

c1105-043

in the short term, poorly planned and environmentally detrimental construction threatens jobs in the long term. Large construction projects that degrade the environment and do not provide local economic benefits can cause a backlash against continued construction. When such projects threaten the water supply, degrade air quality, cause traffic congestion, or other similar problems, then they can lead to construction moratoriums. Approval of power plants that minimize environmental impacts and provide local economic benefits is more likely to lead to sustainable economic and construction growth.

Additionally, CURE's members live and work in the areas proposed for construction of the power plants and are concerned about potentially adverse environmental impacts. They and their families suffer the same adverse impacts of poor air quality, water degradation and water shortages, and other adverse impacts as everyone else.

CURE's members can provide the skills to build, operate and maintain the power plants in a safe and professional manner. As discussed below, the CURE union members undergo lengthy and rigorous apprenticeship training programs that last 3 - 5 years and include 8,000 - 10,000 hours of classroom instruction. Additionally, employment of local construction workers will provide local economic benefits.

Many of CURE's concerns about economic and environmental impacts have been addressed through the Commission's public participation process, as discussed in more detail below. Therefore, CURE supports approval of the Sutter Power Plant.

II. ENVIRONMENTAL IMPACTS

A. Air Quality

CURE raised several issues during the workshops regarding air quality impacts. CURE's goal was to ensure that the air pollution emissions from the power plant were minimized to comply with all federal, state and local air quality requirements. Significant degradation of air quality adversely affects the people in the area and also can limit future growth.

The federal, state and local air quality requirements provide that a new source of air emissions, such as a power plant, must use the best available control technology to limit air pollution emissions. Calpine originally proposed to use control technology to Emit nitrogen oxide ("NO_x") emissions to 3.5 parts per million. NO_x is a precursor to ozone, and can be a significant air pollutant.

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CURE carefully reviewed the potentially adverse impacts of the project on air quality. CURE participated in the workshops on air quality issues and hired a consultant and reviewed the materials submitted by the Applicant. CURE became convinced that the NO_x emissions from the project could be reduced. CURE's consultant spoke with the vendors of air pollution control equipment and determined that NO_x emissions from the plant could be reduced to 2.5 parts per million averaged over one hour, or 2.0 parts per million averaged over three hours.

CURE then presented this information to the California Energy Commission and to Calpine, as well as to the U.S. Environmental Protection Agency, the California Air Resources Board, and the Feather River Air Quality Management District.

Calpine ultimately agreed to reduce its NO_x emissions to 2.5 parts per million averaged over one hour. This is a very significant reduction in NO_x emissions. Calpine's willingness to address this issue has resulted in a substantial reduction in air pollutant emissions.

B. Water Quality

As originally proposed, the project would have used an enormous amount of groundwater, mostly for use in the cooling towers that were proposed to cool the steam from the turbines. The proposed project would have had to discharge the waste water from this use into agricultural drainage ditches, which lead eventually into the Sutter National Wildlife Refuge.

CURE participated in the workshops on water quality, raising questions about the potentially adverse impacts of the water use and water discharge. CURE hired consultants to analyze the potential impacts of the water discharge to the canals and to the Refuge. CURE sent numerous data requests to the Applicant regarding the discharge and participated in an the workshops involving water issues. CURE's consultants obtained information from outside sources about the water issues.

After reviewing the project and gathering information from its consultants, CLTRE met with representatives of Calpine to advocate resolving these potentially significant adverse environmental impacts.

Eventually, Calpine decided not to use cooling towers. Instead, Calpine decided to use 100% dry cooling, which does not require water for cooling. Instead, fans are used. Because water is not used for cooling, the

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groundwater pumping will be greatly reduced, as will the discharge of waste water into the agricultural drainage ditches. Using dry cooling also eliminates concerns about the cooling tower drift, which could create a negative impact on air quality.

The decision to use dry cooling instead of wet cooling significantly and substantially reduces the projects impacts on water resources. CURE appreciates Calpine's willingness to address these issues and to reduce the water impacts.

III. SOCIOECONOMIC IMPACTS

Approval of the Sutter Power Plant will provide socioeconomic benefits. The members of CURE who will build, operate and maintain this plant are highly skilled. Many live in Sutter County and in the surrounding counties. They provide high quality construction work. They receive wages and benefits that are commensurate with their skills. Their wages and benefits will be spent in Sutter County and in the surrounding local communities. They are a stable workforce, composed of people with roots in their communities.

A. Plant Construction

The construction trade unions that are members of CURE are able to train and mobilize a skilled, efficient, professional workforce. As discussed in the written testimony that was presented on the socioeconomic impacts of the project, the union training programs are privately funded from the total wage and benefit package for each construction project. The amount is based on the total hours worked on the project.

The Pipefitters, Boilermakers and Electrical workers who presented written testimony all described the extensive apprenticeship training programs that are required for their workers. They require between 6,000 and 10,000 hours of on-the-job training and about 1,000 hours of classroom instruction. They also provide training for journey-level workers to maintain and update their skills.

Calpine will hire the best-trained and most highly-skilled workers and will pay its workers adequate wages and benefits. The benefit programs include health and welfare benefits, as well as pension benefits. Members who receive these benefits spend them locally. For example, Local 228 estimates that its members spend about $300,000 - $350,000 in the local health care system annually. The average pension paid to a retired member of Local 288 in Sutter and Yuba counties is $45,000, which is also spent

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locally. The benefit programs are funded from the total wage and benefit package that is paid on a construction job, and is based on the number of hours worked. Not only do workers benefit by having health care and a pension plan, but the local economy benefits.

CLTRE has agreed that there will be no strikes during the construction of the plant. Workers will work 10-hour shifts, at Calpine's option. Because the workers are trained and skilled, this project should proceed smoothly without construction delays.

CLTRE's best estimate is that construction of the power plant will require one million hours of work. At an average wage and benefit package of $30 per hour, this work would add $30 Million to the local economy.

Construction of the power plant will provide significant socioeconomic benefits to the local economy and to the members of CURE who will build the plant.

B. Plant Operation

Operators and maintenance workers will be referred to Calpine by the International Brotherhood of Electrical Workers (IBEW) Local 1245. Local 1245 has approximately 300-400 members who live in the counties around the Sutter Power Plant site. The workers who will be referred have extensive training and experience. Many have been trained by PG&E.

Local 1245 has an apprenticeship program that trains machinists, electricians and operators. The apprenticeship program is a three year program. Operators require an additional two and a half years of training, including 400 hours of classroom training. Calpine will have access to skilled, trained operators and maintenance workers.

C. Plant Maintenance

The power plant will be maintained by members of the unions that belong to CURE. As discussed above, these union members are skilled, trained workers. They will provide high quality work and will maintain the power plant in a safe and efficient manner.

IV. CONCLUSION

CURE has been an active participant in the Energy Commission proceedings, attending workshops, submitting data requests, employing its own consultants to perform independent investigation of air quality and

c1105-043 5

water quality issues, and providing written and oral testimony in the evidentiary hearings on socioeconomic impacts. As a result of its participation, CURE has become convinced that this project will provide genuine and significant economic benefits to the local economy while minimizing its impacts on air quality and water quality.

CLTRE supports approval of this project and urges the Commission to grant Calpine's application for a license.

Dated: December 8, 1998

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Chapter 6

References, EIS Recipients, Preparers and Index

Sierra Nevada Customer Service Region

CHAPTER 6
REFERENCES, EIS RECIPIENTS, PREPARERS AND INDEX

6.1 INTRODUCTION

The following chapter presents the following reference information:

- References (Sec. 6.2)
- EIS Recipients (Sec. 6.3)
- Preparers (Sec. 6.4)
- Index (6.5)

6.2 REFERENCES

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6.3 EIS RECIPIENTS

Table 6.1 List of EIS Recipients

Agency	Address	Contact Point	Remarks
FEDERAL AGENCIES			
Argonne National Laboratory, Environmental Assessment Division	9700 S. Cass Avenue, Argonne, IL 60439-4832	Bruce Verhaaren	
Environmental Protection Agency, Region 9	75 Hawthorne Street, San Francisco, CA 94105	Rosalyn Johnson	
National Marine Fisheries Service	777 Sonoma Ave, Room 325, Santa Rosa, CA 95404	Steve Edmundson	
National Wildlife Refuge, Sacramento	752 County Rd 99W, Willows, CA 95988	Larry Williams	Asst. Refuge Manager
Rural Utilties Service	1400 Independence Ave, SW, Stop 1571, Washington, DC 20250-1571	Dennis E. Rankin	Engineering and Environmental Staff
U.S. Army Corps of Engineers, Regulatory Section	1325 J Street, Room 1480, Sacramento, CA 95814	Dave Tedrick	
Department of the Interior, Office of Environmental Policy and Compliance	600 Harrison Street, Suite 515, San Francisco, CA 94107-1376	Patricia Sanderson Port	Regional Environmental Officer
Department of the Interior, Office of Environmental Policy and Compliance	Office of the Secretary, Washington, DC 20240	Terrence N. Martin	Team Leader, Natural Resources Management
EPA, Region IX	75 Hawthorne Street/San Francisco, CA 94105	Matt Haber	
F&WS, Endangered Species Division	3310 El Camino Ave, Sacramento, CA 95821-6340	Kelly Hornaday	
F&WS, Endangered Species Division	3310 El Camino, Ave, Sacramento, CA 95821-6340	Lori Rinek	
F&WS, Wetlands Branch	3310 El Camino Ave, Sacramento, CA 95821-6340	Mark Littlefield	
F&WS, Sutter National Wildlife Refuge	752 County Road 99W, Willows, CA 95988	Gary Cramer	Refuge Manager

Agency	Address	Contact Point	Remarks
STATE AGENCIES			
Air Resources Board	PO Box 2815, 2020 L Street, Sacramento, CA 95812	Peter D. Venturini	Stationary Source Division
Air Resources Board	PO Box 2815, Sacramento, CA 95815-2815	Ray Menebroker	Stationary Source Division
Air Resources Board	2020 L Street, Sacramento, CA 95812	Richard Corey	
Air Resources Board	2020 L Street, Sacramento, CA 95814	Jean Woecker	
California Energy Commission	1516 Ninth Street, Sacramento, CA 95814-5512	David A. Rohy	Vice Chair
California Energy Commission	1516 Ninth Street, Sacramento, CA 95814-5512	Paul Richins	Docket Unit, MS-4; Docket No. 97-AFC-2
California Public Utilities Commission	505 Van Ness Ave, San Francisco, CA 94102-3298	Richard Bilas	Commissioner & President
California Public Utilities Commission	505 Van Ness Ave, Room 401, San Francisco, CA 94102-3298	Mark Ziering	Energy Division
California Waterfowl Association	4630 Northgate Blvd, Sacramento, CA 95834	Dan Lockman	
Department of Fish and Game	2868 Coy Drive, Yuba City, CA 95993	Sam Castillo	
Department of Fish and Game	1701 Nimbus Road, Rancho Cordova, CA 95670	John Nelson	
Department of Fish and Game	1416 Ninth Street, Sacramento, CA 95814	Bob Orcutt	
Department of Fish and Game	1416 Ninth Street, Sacramento, CA 95814	Ron Schlorff	
Department of Fish and Game, Region 2	1701 Nimbus Rd, Ste A, Rancho Cordova, CA 95670	David S. Zezulak	Environmental Spec IV, Sup
Department of Fish and Game, Region 2	1701 Nimbus Rd, Ste A, Rancho Cordova, CA 95670	Dale Whitmore	
Department of Water Resources	2440 Main Street, Red Bluff, CA 96080	Jerry Boles	
Electrical Oversight Board	1516 Ninth Street, Sacramento, CA 95814	Gary Heath	Executive Director
Native American Heritage Commission	915 Capitol Mall, Room 364, Sacramento, CA 95814	Larry Myers	Executive Secretary
Resources Agency	1416 Ninth Street, Suite 1311, Sacramento, CA 95814	Douglas Wheeler	Secretary
State Office of Historic Preservation	PO Box 942896, Sacramento, CA 94296-0001	Cherilyn Widel	SHP Officer
State Parks and Recreation	1725 23rd Street, Ste 200, Sacramento, CA 95814	Robert Ueltzen	
Wildlife Conservation Board	801 K Street, Suite 806, Sacramento, CA 95814	Marilyn Cundiff	Wetlands Program Manager

Agency	Address	Contact Point	Remarks
LOCAL AGENCIES			
Central Valley Regional Water Quality Control	3443 Routier Road, Sacramento, CA 95827-3098	Christyl Escard	
Colusa County Air Pollution Control District	100 Sunrise Blvd, Ste F, Colusa, CA 95923	Harry Krug	APCO
Colusa County Planning Department	220 12th Street, Colusa, CA 95923	Charles Johnson	Planning Director
Feather River Air Quality Management District	938 14th Street, Marysville, CA 95901	Ken Corbin	Air Pollution Control Ofcr
Regional Waste Management Authority	2100 B Street, Marysville, CA 95901	Keith Martin	
Sutter County Public Works Department	1160 Civic Center Blvd, Yuba City, CA 95993	Robert Barnett	
Sutter County Administrative Office	1160 Civic Center Blvd, Yuba City, CA 95993	Larry Combs	County Admin. Officer
Sutter County Community Services Department	1160 Civic Center Blvd, Yuba City, CA 95993	Ted Schoppe	
Sutter County Community Services Department	1160 Civic Center Blvd, Yuba City, CA 95993	Dana Wiyniger	
Sutter County Community Services Department	1160 Civic Center Blvd, Yuba City, CA 95993	George Carpenter	Associate Planner
Sutter County Office of Emergency Services	1160 Civic Center Blvd, Yuba City, CA 95993	Gary Kraus	Director
Sutter County Office of the County Counsel	1160 Civic Center Blvd, Yuba City, CA 95993	Darrell Larsen	
Sutter County Sheriff's Department	1077 Civic Center Blvd, Yuba City, CA 95993		
Sutter Extension Water District	4524 Franklin Road, Yuba City, CA 95991	Paul Russell	Manager
Yuba City/Sutter Chamber of Commerce	P. O. Box 1429, Marysville, CA 95901	David Shirah	President
Yuba-Sutter Farm Bureau	475 Palora Avenue, Yuba City, CA 95991	George Van Ruiten	President

Agency	Address	Contact Point	Remarks
NATIVE AMERICAN CONTACTS			
	19630 Placer Hills Road, Colfax, CA 95713	April Moore	Maidu
	2329 Via Laton, Oroville, CA 95966	Beryle Cross	Maidu
	P.O. Box 116, Newcastle, CA 95658	Hickey J. Murray	Maidu
	Box 11799 McCourtney Road, Grass Valley, CA 95945	Jill Harvey	Maidu/Miwok
	1720 N Street, #22, Sacramento, CA 95814	Joe Marine	Maidu
	15310 Bancroft Road, Auburn, CA 95603	Rose Enos	Maidu/Washoe
	953 Indian Rancheria Road, Auburn, CA 95603	Sam Starkey	Maidu/Miwok
Berry Creek Rancheria of Maidu Indians	#5 Tyme Way, Oroville, CA 95966	Albert Martin, Chairperson	Tyme Maidu
Butte Tribal Council	3300 Spencer Ave., Oroville, CA 95966	Jewel Pavalunas	Maidu
El Dorado County Indian Council	P.O. Box 564, El Dorado, CA 95623	James Marquez, Chairperson	Maidu
Enterprise Rancheria of Maidu Indians	2950 Feather River, Oroville, CA 95965	Art Angle, Chairperson Attn: Kathy Frasier	Maidu
Maidu Elders Organization	P.O. Box 206, Dobbins, CA 95935	Martha Noel	Maidu
Maidu Nation	P.O. Box 204, Susanville, CA 96130	Clara LeCompte	Maidu
Mooretown Rancheria of Maidu Indians	#1 Alverda Drive, Oroville, CA 95966	Guy Taylor	Maidu/Concow
Shingle Springs Band of Miwok Indians	P.O. Box 1340, Shingle Springs, CA 95682	W. David Murray, Sr., Chairperson Attn: Jeff Murray	Miwok/Maidu

AGENCY	ADDRESS	CONTACT PERSON	REMARKS
OTHER ORGANIZATIONS			
Altrasystems Environmental	6 Jenner, Suite 210, Irvine, CA 92618	Margaret Shekell	
Battelle Institute	8470 Grizzly Way, Evergreen, CO 80439	Tom Anderson	
Calpine Corporation	1160 North Dutton, Suite 200, Santa Rosa, CA 95401	Charlene Wardlow	Environmental Manager
Calpine Corporation	50 West San Fernando Street, San Jose, CA 95113	Curt Hildebrand	Project Director
City of Lodi	1331 S. Hammer Lane, Lodi, CA 95242	Mel Grandi	
Edson and Modisette	925 L Street, Suite 1490, Sacramento, CA 95814	Carolyn Baker	
Electrical Oversight Board	1516 Ninth Street, Sacramento, CA 95814	Garry Heath	Executive Director
Foster Wheeler Environmental Corporation	3947 Lennane Drive, Suite 200, Sacramento, CA 95834-1957	Douglas M. Davy	Project Manager
Greystone	5231 South Quebec Street, Greenwood Village, CO 80111	Charlene Lopez	
Independent System Operator	PO Box 639014, Folsom, CA 95763-9014	Jeff Miller	
Northern California Power Agency	180 Cirby Way, Roseville, CA 95678	Les Pereira	
Pacific Gas and Electric Company	245 Market Street, San Francisco, CA 94277	Peter Lai	Mgr. Trans Planning Dept
R. W. Beck	1851 Heritage Lane, Point West Gardens, Ste 200, Sacramento, CA 95815-4926	Richard R. Thomas	
Sacramento Municipal Utilities District	PO Box 15830, Sacramento, CA 95852-1830	Gilbert Butler	
Sacramento Municipal Utilities District	PO Box 15830, Sacramento, CA 95852-1830	Dana S. Appling	General Counsel

AGENCY	ADDRESS	CONTACT PERSON	REMARKS
INTERVENORS/INTERESTED PARTIES/LAND OWNERS			
California Unions for Reliable Energy (CURE)	651 Gateway Blvd, Ste 900, So San Francisco, CA 94080	Ann Broadwell	Adams, Broadwell & Joseph
Akin, Jim	Del Monte Avenue, Robbins, CA 95676		Landowner
Amarel, Robert Jr. and Charlotte	6368 S. Township Road, Yuba City, CA 95993		S. Township Road Landowner
Bittner, Jennifer L.	1131 Los Molinos Way, Sacramento, CA 95864		O'Banion Road Landowner
Burke, Jerome	2092 Tierra Buena Road, Yuba City, CA 95993		
C&P Duck Co.	2031 Grove Road, Yuba City, CA 95993	Lorne M. Cole	President
Cole, Mike	421 Del Norte Avenue, Yuba City, CA 95991		Bolton Road Landowner/ Duck Club Owner
D. F. Danna & Company	PO Box 5428, San Jose, CA 95150	Stephen F. Danna	Landowner
Dettling, Darrell J.	510 Wilhaggin Drive, Sacramento, CA 95864		O'Banion Road Landowner
Dettling, Karren	212 Cedar Lane, Woodland, CA 95695		O'Banion Road Landowner
Donaldson, Donald	5794 S. Township Road, Yuba City, CA 95993		Landowner
Foster, Brad and Rosie	3568 O'Banion Road, Yuba City, CA 95993		Landowner
Gray and Thurn, Inc.	195 Cadillac Drive, Sacramento, CA 95825	Richard L. Thurn	Represents Landowners
Henson, Leonard and Mary	2689 Colusa Highway, Yuba City, CA 95993		Landowner
Hunt Family	4596 Pierce Road, Yuba City, CA 95993	Harry B. Hunt	Landowner
Janson, Andy	1402 Lincoln Road, Yuba City, CA 95993		
Kenyon, Marilyn and Walter	2026 Nicklaus Circle, Roseville, CA 95678		O'Banion Road Landowner
Luther, Patricia A.	6933 13th Street, Sacramento, CA 95831		O'Banion Road Landowner
Massey, David A.	3936 O'Banion Road, Yuba City, CA 95993		S. Township Road Landowner
Mitchum, Nadine	1160 Sandborn Road, Yuba City, CA		Landowner
Onstott Dusters, Inc	Sutter County Airport, PO Box 709, Yuba City, CA 95992	Charlie Onstott	President and Owner
Roberts Consulting Engineering	336 Broadway Suite #7, Chico, CA 95928		Bolton Road Landowner
Siller, Andy	3699 Lincoln Road, Yuba City, CA 95992		S. Township Road Landowner

AGENCY	ADDRESS	CONTACT PERSON	REMARKS
Siller Brothers	P.O. Box 1585, Yuba City, CA 95992		S. Township Road Landowner
Shannon, Michael G. & Donna	4999 Pierce Road, Yuba City, CA 95993		Landowner
Tomei Family Trust	4345 Oswald Road, Yuba City, CA 95991	Ed Tomei	Landowner
Turner, Holice	1620 Bradley Estate Drive, Yuba City, CA 95993	Sutter Basin Duck Club	Landowner
Woods, Howard and Mary	5872 South Township Road, Yuba City, CA 95993		S. Township Road Landowner

AGENCY	ADDRESS	CONTACT PERSON	REMARKS
LIBRARIES/UNIVERSITIES			
California Energy Commission Library	1516 Ninth Street, Sacramento, CA 95814		
California State Library	914 Capitol Mall, Rm 400, Sacramento, CA 95814		Government Pub. Section
Fresno County Library	2420 Mariposa Street, Fresno, CA 93721		Central Headquarters
Humboldt Library	421 “I” Street, Eureka, CA 95501		
Northwestern University	2040 Sheridan Road, Evanston, IL 60208-4100	H. Paul Friesema	Professor
San Diego Public Library	920 E Street, San Diego, CA 92101		
San Francisco Public Library	Civic Center, San Francisco, CA 94102	T. Storey	BARC Reference Coord
Sutter County Library	750 Forbes Avenue, Yuba City, CA 95991		Main Branch
University of Los Angeles, Research Library	405 Hilgard Avenue, Los Angeles, CA 90024		Public Affairs Service

6.4 PREPARERS

Table 6.2 List of Preparers

Western Staff	Project Expertise	Experience
John Bridges	Terrestrial Biology and Section 7 Consultation	Mr. Bridges has a B.S. and M.S. in zoology, with 25 years experience with the Endangered Species Act, NEPA and impacts of energy developments on natural resources.
Nick Chevance	Cultural Resources and Environmental Planning	Mr. Chevance holds an M.A. degree in anthropology and has more than 20 years experience in cultural resources management. He also has been an environmental planner for the Federal government for more than 10 years.
Koji Kawamura	Law	Mr. Kawamura has a Juris Doctor with an emphasis in natural resource and environmental law. His work in the Federal government has been with the U.S. Forest Service and the Western Area Power Administration.
Loreen McMahon	Environmental Planning & Project Management	Ms. McMahon is the Environmental Project Manager for the SPP. She holds an M.A. degree in public policy and administration with an environmental policy emphasis and a B.A. in Political Science. She has worked for the government for more than 17 years, has 10 years of experience in environmental regulation and planning and more than 12 years of experience in public relations.
Leslie Peterson	Corporate Communications	Ms. Peterson holds an M.S. degree in anthropology and has more than 15 years experience in cultural resources and museum curation. She also has more than 15 years experience in technical writing and 2 years experience in editing and preparing documents for publication.
Dave Swanson	Environmental Planner	Mr. Swanson has a B.A. in biological sciences and has 25 years experience in this field. He has been an environmental planner for 18 years.
Nancy Werdel	Environmental Management	Ms. Werdel has a B.S. in mechanical engineering and has 11 years experience in environmental programs with the Department of Energy. She has served as project manager for restoration projects under RCRA, CERCLA and facilities decommissioning. She is currently Western's Sierra Nevada Environmental Manager and NEPA Compliance Officer.
R.W. Beck Staff	**Area of Interest**	**Expertise**
Mary Hetherington	Public Involvement	Ms. Hetherington holds an M.S. and B.S. in civil engineering. She has worked as a consulting engineer, as well as for city and state governments, for more than 16 years.
Christine Schultz	Land Use Planning	Ms. Schultz holds a B.A. in environmental science with an emphasis in economics. She has worked in consulting for the past 5 years.
Richard Thomas	Public Involvement	Mr. Thomas holds an M.S. and a B.S. in electrical engineering. He has worked for more than 30 years in Federal service and in private enterprise primarily in high-voltage electrical power system engineering, and operation and maintenance.

Western Staff	Project Expertise	Experience
CH2Mhill Staff	**Area of Interest**	**Expertise**
Debra Crowe	Biological Resources	Ms. Crowe holds a B.S. degree in environmental biology and management and has 7 years experience in threatened and endangered species surveys, NEPA/CEQA analyses and permitting. She has conducted surveys for special-status species in the project area of Sutter County for more than 2 years and retains an Endangered Species Act Section 10 (a)(1(A) Take Permit.
Foster Wheeler Staff	**Area of Interest**	**Expertise**
Douglas Davy	Cultural Resources	Dr. Davy holds a Ph.D. degree in anthropology with an archaeology emphasis and has more than 18 years of experience in archaeology and cultural resources management.

6.5 INDEX

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