

DOCKET

07-AFC-5

DATE OCT 21 2008

RECD. OCT 21 2008

STATE OF CALIFORNIA

Energy Resources Conservation
and Development Commission

In the Matter of:)
)
Application for Certification for the Ivanpah Solar)
Electric Generating System)
)
)
_____)

Docket No. 07-AFC-5

**DOCUMENTS REGARDING THE JOINT CEC-WESTERN AREA POWER
ADMINISTRATION PERMITTING PROCESS**

Jeffery D. Harris
Christopher T. Ellison
Ellison, Schneider & Harris L.L.P.
2015 H Street
Sacramento, California 95811-3109
Telephone: (916) 447-2166
Facsimile: (916) 447-3512

Attorneys for Applicant

The *Revised Committee Scheduling Order* for the Ivanpah Solar Electric Generating System project (“Ivanpah SEGS”) (07-AFC-5) dated September 26, 2008, directs the Parties to “inform the Committee, either in their periodic status reports or by an intermediate report, of any steps that can be taken to advance the schedule.”

The Applicant has been reviewing how the Commission has historically sought to integrate state and federal permitting processes. As one example, the Commission integrated its CEQA-equivalent Certified Regulatory Program with the NEPA obligations of the Western Area Power Administration (“Western”) for the Sutter Power Plant (“Sutter”, 97-AFC-2C). In addition to the Commission’s certification of the power plant, Sutter also sought to interconnect with Western’s high voltage transmission system, which required NEPA compliance.

The Sutter project illustrates that there are other ways to comply with both the CEQA and NEPA processes besides the process that was described in the CEC/BLM MOU. As shown in the attached documents, the Commission/Western proceeding used a process very similar to the process proposed in the Applicant’s Compromise Schedule of October 14, 2008. Specifically, in the Sutter case, the Commission and Western used the following process:

- A PSA-Only document, filed jointly by the Commission and Western. (Attachment A)
- A Joint FSA-Draft EIS (Attachment B)
- The Western Final EIS (Attachment C)
 1. Introduction (14 pages)
 2. Summary of Draft EIS (18 pages)
 3. Summary of PMPD (19 pages)
 4. Restatement of NEPA Analysis (16 pages)
 5. Public Comments and Response to Comments (68 pages)
 6. References, Recipients, Preparers Index (13 pages)
 7. Appendices A-U, including a table summarizing all of the Conditions of Certification from the Draft EIS, PMPD, Revised PMPD (Appendix O), the USFWS Biological Opinion (Appendix T), the Biological Resources Mitigation Implementation Plan (Appendix J), the air district’s Final Determination of Compliance (Appendix F), the wetlands delineation (Appendix A), the US Army Corps 404 Permit (Appendix B), and CEC Staff Testimony and supplemental information on various subject matters (Appendices D, F, G, H, and I). (450 pages)

Attachments A, B, and C are excerpts of the larger documents. Electronic copies of the entire PSA and joint FSA-DEIS are available on the Commission’s website at:

<http://www.energy.ca.gov/sitingcases/sutterpower/documents/index.html>. The Applicant understands the FEIS is available in hard copy from the Commission's library.

October 21, 2008

Respectfully submitted,

ELLISON, SCHNEIDER & HARRIS L.L.P.

By _____

Jeffery D. Harris

Christopher T. Ellison

2015 H Street

Sacramento, California 95811-3109

Telephone: (916) 447-2166

Facsimile: (916) 447-3512

Attorneys for Applicant

ATTACHMENT A

**PRELIMINARY STAFF ASSESSMENT
Filed Jointly By
THE CALIFORNIA ENERGY COMMISSION
AND WESTERN AREA POWER ADMINISTRATION**

**SUTTER POWER PLANT
APPLICATION FOR CERTIFICATION (97-AFC-2)**

**Preliminary Staff Assessment
Filed Jointly by the California Energy Commission
and Western Area Power Administration**

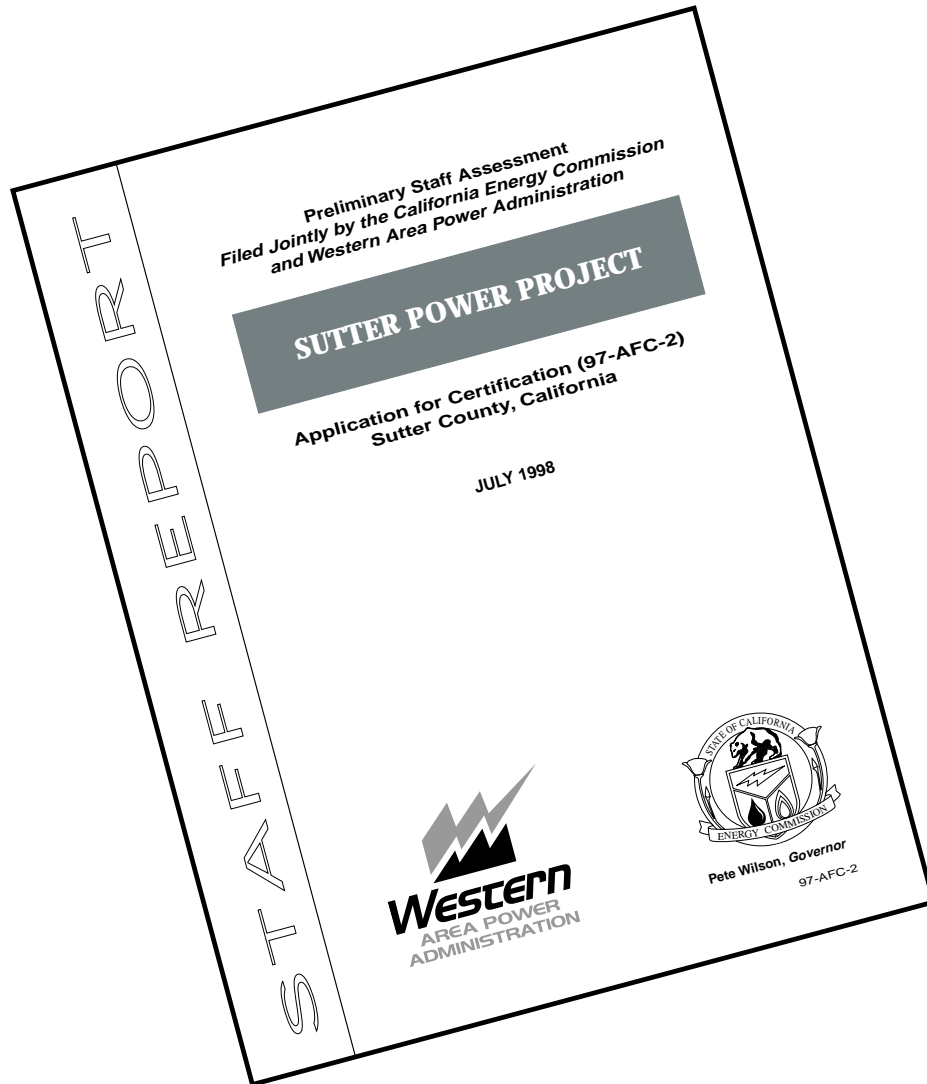
SUTTER POWER PROJECT

**Application for Certification (97-AFC-2)
Sutter County, California**

JULY 1998



Pete Wilson, Governor



CALIFORNIA ENERGY COMMISSION

Paul Richins, Jr., *Project Manager*
Robert Haussler, *Manager*

SITING OFFICE

Robert L. Therkelsen, *Deputy Director*

**ENERGY FACILITIES SITING &
ENVIRONMENTAL PROTECTION DIVISION**

EXECUTIVE SUMMARY

Calpine Corporation (Calpine) proposes to construct, own and operate the Sutter Power Plant Project (SPP), a 500 megawatt (MW) natural gas fueled, combined cycle, electricity generation facility. The SPP is to be located adjacent to Calpine's existing Greenleaf Unit 1 cogeneration power plant. The site is located approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road. The land dedicated for the facility will comprise 10-12 acres of Calpine's existing 77-acre parcel.

A new 5.7 mile 230 kilovolt (kV) overhead electric transmission line will be built to a new switching station which will interconnect to the Western Area Power Administration's (Western) 230 kV electric transmission system. A new 12 mile natural gas pipeline will be constructed to provide fuel for the project. The 16 inch gas pipeline will connect to Pacific Gas and Electric's (PG&E) Line 302, an interstate natural gas supply line located to the west of the SPP site, in Sutter County. Potable water and cooling water will be provided by an on-site well system that will be developed as part of the project. It is expected that three wells, 250-300 feet deep, will be developed to provide approximately 3,000 gallons per minute of water that will be needed during peak operating conditions. Sanitary waste will be treated by an on-site sewage treatment system. All other waste water generated in the operation of the plant and the treated effluent will be discharged to the existing surface drainage system requiring a National Pollutant Discharge Elimination System (NPDES) Permit.

The SPP and related facilities such as the electric transmission line, switching station and natural gas line are under the Energy Commission jurisdiction (Pub. Resources Code (PRC) §§ 25500 et seq.). When issuing a license, the Energy Commission acts as lead state agency (PRC § 25519(c)) under the California Environmental Quality Act (PRC §§ 21000 et seq.), and its process is functionally equivalent to the preparation of an environmental impact report (PRC § 21080.5). Staff's primary responsibility is to provide an assessment of the project's potentially significant effects on the environment, the public's health and safety, conformance with all applicable laws, ordinances, regulations and standards (LORS), and measures to mitigate any identified potential effects.

Western, established in 1977 under Section 302 of the Department of Energy Organization Act, markets and transmits electric power. Western operates and maintains an extensive, integrated and complex high-voltage power transmission system to deliver reliable electric power to most of the western half of the United States. The project, as proposed, will interconnect with Western's transmission system. Therefore, Western will be the lead federal agency for this project.

This Preliminary Staff Assessment (PSA) contains the initial evaluation by the California Energy Commission staff and Western of Calpine's SPP Application for Certification (AFC). The analyses contained in this PSA were prepared in accordance with PRC Sections 25500 et seq.; the California Code of Regulations (CCR) Title 20, Sections 12001 et seq.; the California Environmental Quality Act (PRC §§ 21000 et

seq.) and its guidelines (CCR title 14 §§ 15000 et seq.); and the National Environmental Policy Act (NEPA) (42 U.S.C. 4371 et seq.) and its implementing regulations (40 C.F.R. §§ 1500 et seq.); and the Department of Energy NEPA Implementing Procedures and Guidelines (10 CFR 1021).

On December 15, 1997, Calpine filed the AFC with the Energy Commission, and on January 21, 1998, the Commission found the AFC data adequate and accepted the document. The analyses contained in this document are based upon information from the AFC and subsequent revisions; responses to data requests; supplemental information from local, state and federal agencies, local citizens and interested parties; existing documents and publications; and independent field study. The PSA presents preliminary conclusions and conditions of certification for the design, construction, operation and closure of the facility.

If the project is approved by the Energy Commission, construction of the project, from site preparation to commercial operation, is expected to take 22 to 24 months. Construction is expected to begin in early 1999 and be completed late in the year 2000. Full scale commercial operation is expected by the end of 2000 or early 2001. Calpine expects a peak work force of approximately 256 craft laborers, supervisory, support and construction management personnel on the site during construction. The average work force over the entire construction period is estimated to be about 150 personnel. The total construction payroll is estimated at \$20 million. Calpine will employ 20 full-time plant operators and technicians once the plant is complete. The capital cost of the project is estimated at about \$250 to \$285 million.

Calpine's stated objective for developing the Sutter Power Project is to sell electric power to a mix of retail and wholesale customers in the newly deregulated electricity market (Calpine 1997, AFC pages 1-1, 1-5 and 5-1).

FACILITY CERTIFICATION PROCESS AND AGENCY COORDINATION

Because the project will interconnect with Western's high voltage transmission system, the environmental review and analysis has been completed jointly with Western, the lead federal agency. All staff workshops have been jointly conducted with Western. The analyses in this PSA are filed as a joint Energy Commission/ Western document. To streamline the process and eliminate overlap and duplication between the state and federal processes, this joint California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) document will be the basis for the decisions of both the Energy Commission and Western.

Calpine has applied for a General Plan Amendment and a zoning change with Sutter County for the entire 77-acre parcel as the land is currently zoned for agricultural uses. Energy Commission staff has been working closely with Sutter County throughout the process. Sutter County plans to use the environmental review and analyses from the Energy Commission's process for their final decisions regarding the rezone and general plan amendment. Sutter County staff and officials have participated in all workshops and hearings.

In addition to the above noted coordination with Western and Sutter County, Energy Commission staff have closely coordinated the review and analysis of the project with U.S. Fish and Wildlife Service, Department of Fish and Game, Department of Water Resources, U.S. Army Corp of Engineers, Sacramento National Wildlife Refuge, National Marine Fisheries Service, Central Valley Regional Water Quality Board, Yuba City, California Urban Water Agency, Contra Costa Water District, Sacramento Municipal Utility District (SMUD), California Public Utilities Commission (CPUC), California Independent System Operator, Pacific Gas and Electric (PG&E), City of Roseville, City of Lodi, Electricity Oversight Board, Northern California Power Agency, California Unions for Reliable Energy, the Environmental Protection Agency, California Air Resources Board, Feather River Air Quality Management District, the Native American Heritage Commission, the State Historic Preservation Office and the residents of the community.

ISSUES

Below is a list of issues that have not been fully addressed in the PSA as additional information is pending.

- Water supply and impact to nearby wells (see the Water and Soils section of the PSA);
- Water quality and discharges to the Sutter Bypass/Sacramento River and these impacts to downstream municipal users (Water and Soils, and Public Health) and fisheries (Biological Resources);
- Discharge of project water to surface drainage ditches and localized flooding during winter storms (Water and Soils);
- Transmission line impacts to agricultural operations (Land Use);
- Visual impacts of the power plant, transmission line and cooling tower vapor plume (Visual Resources);
- Air quality issues including cooling tower PM10 emissions, turbine emissions during start-up, air quality offsets and Best Available Control Technology (Air Quality)
- The Section 7, endangered species consultation, and the Biological Opinion may not be completed in time for inclusion in the Final Staff Assessment planned for the end of August (Biological Resources); and
- Due to the agriculture designation of the site, a general plan amendment and rezoning of the site will be required by Sutter County (Land Use).

The PSA is used to resolve issues between the parties and to narrow the scope of issues to be adjudicated in the evidentiary hearings. During the period between publishing the PSA and the Final Staff Assessment (FSA), we will conduct one or more workshop(s) to discuss our findings, proposed mitigation and proposed conditions of certification (construction and operation). Based on these workshop discussions, we will refine our analyses, correct errors and finalize conditions of certification to reflect areas where we have reached agreement with the parties. These changes will be reflected in the FSA.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
FACILITY CERTIFICATION PROCESS AND AGENCY COORDINATION . . .	ii
ISSUES	iii
INTRODUCTION	1
INTRODUCTION	1
PURPOSE OF THIS REPORT	1
ORGANIZATION OF THE REPORT	2
FEDERAL, STATE AND LOCAL AGENCY COORDINATION	2
CONCERNS OF THE LOCAL CITIZENS	3
SCHEDULE OF FUTURE ACTIVITIES	3
PROJECT DESCRIPTION	5
PROJECT DESCRIPTION	5
CONSTRUCTION AND OPERATION	6
FACILITY CERTIFICATION PROCESS AND AGENCY COORDINATION . .	6
NEED CONFORMANCE	13
INTRODUCTION	13
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	13
CONCLUSIONS AND RECOMMENDATIONS	14
WESTERN'S STATEMENT OF PURPOSE AND NEED	15
NEED FOR THE PROPOSED ACTION	15
PURPOSE OF THE PROPOSED ACTION	15
AIR QUALITY	17
INTRODUCTION	17
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	17
SETTING	21
PROJECT INCREMENTAL IMPACTS	43
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	47
MITIGATION	47
CONCLUSIONS AND RECOMMENDATIONS	51
REFERENCES	52
PUBLIC HEALTH	53
INTRODUCTION	53
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	58
SETTING	59
IMPACTS	62
FACILITY CLOSURE	67
MITIGATION	67

COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	67
CONCLUSIONS AND RECOMMENDATIONS	67
CONDITIONS OF CERTIFICATION	68
REFERENCES	69
ATTACHMENT A - CRITERIA POLLUTANTS	70
WORKER SAFETY AND FIRE PROTECTION	77
INTRODUCTION	77
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	77
SETTING	78
IMPACTS	79
MITIGATION	80
FACILITY CLOSURE	84
CONCLUSION AND RECOMMENDATIONS	85
PROPOSED CONDITIONS OF CERTIFICATION	85
REFERENCES	88
TRANSMISSION LINE SAFETY AND NUISANCE	89
INTRODUCTION	89
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	89
SETTING	92
CONCLUSIONS AND RECOMMENDATIONS	95
CONDITIONS OF CERTIFICATION	96
REFERENCES	99
HAZARDOUS MATERIAL MANAGEMENT	101
INTRODUCTION	101
LAWS, ORDINANCES, REGULATIONS, STANDARDS AND POLICIES	101
SETTING	103
IMPACTS	104
FACILITY CLOSURE	106
MITIGATION	107
CONCLUSIONS AND RECOMMENDATIONS	107
PROPOSED CONDITIONS OF CERTIFICATION	108
REFERENCES	110
WASTE MANAGEMENT	113
INTRODUCTION	113
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	113
SETTING	115
IMPACTS	116
FACILITY CLOSURE	118
COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	119
MITIGATION	119
CONCLUSIONS AND RECOMMENDATIONS	120

CONDITIONS OF CERTIFICATION	120
REFERENCES	122
LAND USE	123
INTRODUCTION	123
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	123
SETTING	128
IMPACTS	131
FACILITY CLOSURE	142
MITIGATION	142
CONCLUSION AND RECOMMENDATION	143
REFERENCES	145
TRAFFIC AND TRANSPORTATION	147
INTRODUCTION	147
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	147
IMPACTS	150
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	153
FACILITY CLOSURE	153
MITIGATION	154
CONCLUSIONS AND RECOMMENDATIONS	154
CONDITIONS OF CERTIFICATION	154
REFERENCES	157
NOISE	159
INTRODUCTION	159
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	159
SETTING	161
IMPACTS	162
FACILITY CLOSURE	166
CONCLUSIONS AND RECOMMENDATIONS	166
PROPOSED CONDITIONS OF CERTIFICATION	166
REFERENCES	171
NOISE: APPENDIX A	172
VISUAL RESOURCES	177
INTRODUCTION	177
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	177
SETTING	183
IMPACTS	197
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	218
MITIGATION	218
CONCLUSIONS AND RECOMMENDATIONS	221
PROPOSED CONDITIONS OF CERTIFICATION	222

REFERENCES	229
VISUAL RESOURCES APPENDIX A - VISUAL RESOURCES FIGURES 7 through 20	233
VISUAL RESOURCES APPENDIX B - COMMISSION STAFF'S VISUAL ASSESSMENT METHODOLOGY	248
 CULTURAL RESOURCES	 259
INTRODUCTION	259
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	260
ENVIRONMENTAL SETTING	262
IMPACTS	269
FACILITY CLOSURE	275
MITIGATION	275
LOCAL REQUIRED MITIGATION	277
COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	278
CONCLUSIONS AND RECOMMENDATIONS	278
PROPOSED CONDITIONS OF CERTIFICATION	279
REFERENCES	288
 SOCIOECONOMIC RESOURCES	 291
INTRODUCTION	291
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	291
SETTING	293
IMPACTS	299
FACILITY CLOSURE	305
MITIGATION	305
CONCLUSION AND RECOMMENDATION	306
PROPOSED CONDITIONS OF CERTIFICATION	306
REFERENCES	308
 BIOLOGICAL RESOURCES	 309
INTRODUCTION	309
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	309
SETTING	312
IMPACTS	319
FACILITY CLOSURE	325
MITIGATION	326
CONCLUSIONS AND RECOMMENDATIONS	330
CONDITIONS OF CERTIFICATION	331
REFERENCES	339
 SOIL & WATER RESOURCES	 343
INTRODUCTION	343
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	343
SETTING	345
IMPACTS	348

CUMULATIVE IMPACTS	353
FACILITY CLOSURE	353
MITIGATION	354
CONCLUSIONS AND RECOMMENDATIONS	355
CONDITIONS OF CERTIFICATION	355
REFERENCES	357
PALEONTOLOGIC RESOURCES	359
INTRODUCTION	359
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	359
ENVIRONMENTAL SETTING	361
IMPACTS	365
MITIGATION	371
CONCLUSIONS AND RECOMMENDATIONS	373
PROPOSED CONDITIONS OF CERTIFICATION	374
REFERENCES	384
FACILITY DESIGN	387
INTRODUCTION	387
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	388
SETTING	388
ANALYSIS	388
FACILITY CLOSURE	395
CONCLUSIONS AND RECOMMENDATIONS	395
CONDITIONS OF CERTIFICATION	396
REFERENCES	413
POWER PLANT RELIABILITY	415
INTRODUCTION	415
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	415
SETTING	415
ANALYSIS	417
CONCLUSION	420
REFERENCES	421
POWER PLANT EFFICIENCY	423
INTRODUCTION	423
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	423
SETTING	424
IMPACTS	424
CONCLUSIONS AND RECOMMENDATIONS	427
REFERENCES	427
TRANSMISSION SYSTEM ENGINEERING	429
INTRODUCTION	429
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	430
SETTING	431

ANALYSIS	432
FACILITY CLOSURE	439
CONCLUSIONS AND RECOMMENDATIONS	439
CONDITIONS OF CERTIFICATION	439
REFERENCES	442
ALTERNATIVES	445
INTRODUCTION	445
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	447
SETTING	449
ANALYSIS	449
CONCLUSIONS	459
RECOMMENDATION	461
PURPOSE OF THE ANALYSIS	462
PROJECT AND ALTERNATIVE SITES EVALUATION	462
AIR QUALITY	468
PUBLIC HEALTH	469
HAZARDOUS MATERIALS MANAGEMENT	470
INDUSTRIAL SAFETY AND FIRE PROTECTION	471
TRANSMISSION LINE SAFETY AND NUISANCE	473
LAND USE	474
TRAFFIC AND TRANSPORTATION	475
NOISE	477
VISUAL RESOURCES	480
CULTURAL RESOURCES	481
SOCIOECONOMIC RESOURCES	484
WASTE MANAGEMENT	486
BIOLOGICAL RESOURCES	487
WATER RESOURCES	490
SOIL RESOURCES	491
PALEONTOLOGICAL RESOURCES	492
FACILITY DESIGN AND GEOLOGIC HAZARDS	495
RELIABILITY	495
EFFICIENCY	497
TRANSMISSION SYSTEM ENGINEERING	498
FACILITY CLOSURE	499
ATTACHMENT B - CALPINE'S ALTERNATIVES	501
SITING ALTERNATIVES	501
RELATED LINEAR FACILITIES ROUTE ALTERNATIVES	502
ATTACHMENT C - REFERENCES	503
FACILITY CLOSURE	505
INTRODUCTION	505
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	505
SETTING	505
IMPACTS	505
MITIGATION	506

CONCLUSION AND RECOMMENDATIONS	507
PROPOSED CONDITIONS OF CERTIFICATION	507
REFERENCES	509
COMPLIANCE MONITORING PLAN AND GENERAL CONDITIONS	511
GENERAL CONDITIONS	511
GLOSSARY OF TERMS AND ACRONYMS	525
PREPARATION TEAM	531

ATTACHMENT B

FINAL STAFF ASSESSMENT/ DRAFT ENVIRONMENTAL IMPACT STATEMENT

Filed Jointly By

**THE CALIFORNIA ENERGY COMMISSION
AND WESTERN AREA POWER ADMINISTRATION**

**SUTTER POWER PLANT
APPLICATION FOR CERTIFICATION (97-AFC-2)**

**Final Staff Assessment/
Draft Environmental Impact Statement
Filed Jointly by the California Energy Commission
and Western Area Power Administration**

SUTTER POWER PROJECT

**Application for Certification (97-AFC-2)
Sutter County, California**

OCTOBER 1998

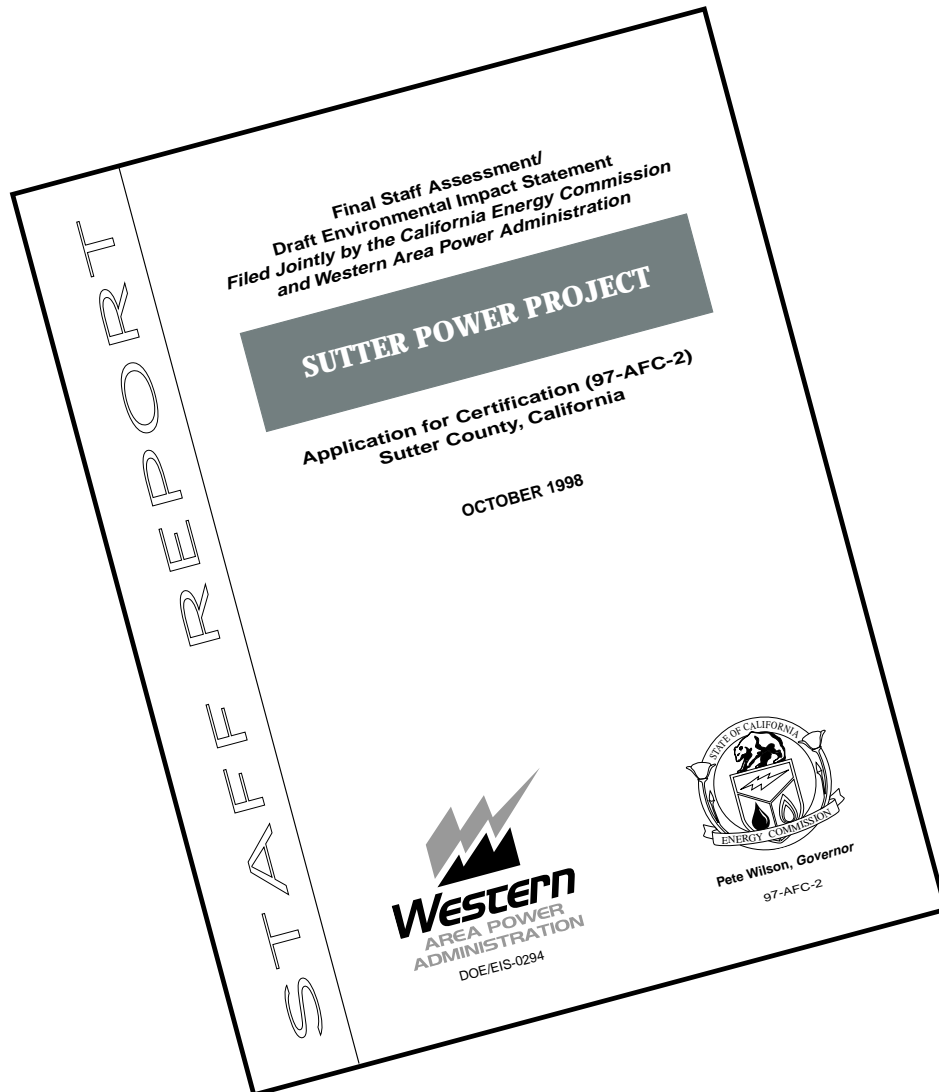


DOE/EIS-0294



Pete Wilson, Governor

97-AFC-2



**UNITED STATES
DEPARTMENT OF ENERGY**

Loreen R. McMahon, *Project Manager*
Jerry W. Toenyas, *Regional Manager*

SIERRA NEVADA REGION

Michael S. Hacskaylo, *Administrator*

WESTERN AREA POWER ADMINISTRATION

**CALIFORNIA ENERGY
COMMISSION**

Paul Richins, Jr., *Project Manager*
Robert Haussler, *Siting Office Manager*

ENERGY FACILITIES SITING OFFICE

Robert L. Therkelsen, *Deputy Director*

**ENERGY FACILITIES SITING &
ENVIRONMENTAL PROTECTION DIVISION**

COVER SHEET

Project Title: Sutter Power Plant Project, Draft Environmental Impact Statement
Sutter County, California

Federal Lead Agency: Western Area Power Administration, US Department of Energy

Joint-State Lead Agency: California Energy Commission

Related Actions: Sutter County General Plan Amendment and a Planned Development Rezone
Western's Sutter Power Plant -- Interconnection Feasibility Study
Calpine Corporation's Application for Certification for Sutter Power Plant Project

Technical Assistance: Foster Wheeler Environmental Corporation
CH2MHill

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 and Olinda-Elverta 230-kilovolt (kV) transmission lines. Calpine is proposing the construction and operation of the Sutter Power Plant 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 power plant in Sutter County, approximately 7 miles south of Yuba City and 36 miles northwest of Sacramento. Calpine's stated objective for developing the Sutter Power Plant 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 Power Plant Interconnection Feasibility Study. The study results indicate that the output from the proposed Sutter Power Plant Project will 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.

Comments on this Draft EIS/Final Staff Assessment must be received by December 14, 1998.

For further information regarding this joint document, contact:

Loreen McMahan or
Environmental Project Manager
Sierra Nevada Region
Western Area Power Administration
114 Parkshore Drive, Folsom, CA 95630
(916) 353-4460 or
e-mail: mcmahan@wapa.gov

Paul Richins
Energy Commission Project Manager
Energy Facilities Siting & Environmental Protection
California Energy Commission
1516 9th Street, Sacramento, CA 95814
(916) 654-4074 or
Web Page:
www.energy.ca.gov/sitingcases/sutterpower

EXECUTIVE SUMMARY

This document, the Final Staff Assessment (FSA)/Draft Environmental Impact Statement (Draft EIS) presents the California Energy Commission and Western Area Power Administration (Western) staff's independent assessment of Calpine Corporation's Application for Certification (AFC) of the Sutter Power Plant Project (SPP). The SPP project is briefly described as follows: Calpine Corporation (Calpine) proposes to construct, own and operate the SPP, a 500 megawatt (MW) natural gas fueled, combined cycle, electric generation facility. The SPP is proposed to be located adjacent to Calpine's existing Greenleaf Unit 1, a 49 MW natural gas fueled cogeneration power plant. The site is located approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road. The land dedicated for the facility will comprise approximately 16 acres of Calpine's existing 77-acre parcel.

Additional project facilities include a 5.7 mile, 230 kilovolt (kV), overhead electric transmission line that would be built from the plant to a new switching station and a new 14.9 mile natural gas pipeline that will be constructed to provide fuel for the project. The 16 inch gas pipeline will connect to Pacific Gas and Electric's (PG&E) Line 302, an interstate natural gas supply line located to the west of the SPP site, in Sutter County. Potable water and cooling water is proposed to be provided by an on-site well system that will be developed as part of the project. Sanitary waste will be treated by an on-site sewage treatment system. All other waste water generated in the operation of the plant and the treated effluent will be discharged to the existing surface drainage system requiring a National Pollutant Discharge Elimination System (NPDES) Permit.

The SPP and related facilities such as the electric transmission line, switching station and natural gas line are under the Energy Commission jurisdiction (Pub. Resources Code (PRC) §§ 25500 *et seq.*). When issuing a license, the Energy Commission acts as lead state agency (PRC § 25519(c)) under the California Environmental Quality Act (PRC §§ 21000 *et seq.*), and its process is functionally equivalent to the preparation of an environmental impact report (PRC § 21080.5). Staff's primary responsibility is to provide an assessment of the project's potentially significant effects on the environment, the public's health and safety, conformance with all applicable laws, ordinances, regulations and standards (LORS), and measures to mitigate any identified potential effects.

The project is also under the jurisdiction of Western as it will interconnect with Western's transmission system. Western, established in 1977 under Section 302 of the Department of Energy Organization Act, markets and transmits electric power. Western operates and maintains an extensive, integrated and complex high-voltage power transmission system to deliver reliable electric power to most of the western half of the United States. Western is the lead federal agency for the project.

To streamline the process and eliminate overlap and duplication between the state and federal processes, this joint Energy Commission/Western FSA/Draft EIS contains the evaluation of the project by the staffs of the California Energy Commission and Western. This document will be the basis for the decisions of both the Energy Commission and Western. This analysis includes both the construction and operation of the proposed facility. The analyses contained in this FSA/Draft EIS were prepared in accordance with PRC Sections 25500 *et seq.*; the California Code of Regulations (CCR) Title 20, Sections 12001 *et seq.*; the California Environmental Quality Act (PRC §§ 21000 *et seq.*) and its guidelines (CCR title 14 §§ 15000 *et seq.*); and the National Environmental Policy Act (NEPA) (42 U.S.C. 4371 *et seq.*) and its implementing regulations (40 C.F.R. §§ 1500 *et seq.*); and the Department of Energy NEPA Implementing Procedures and Guidelines (10 CFR 1021).

On December 15, 1997, Calpine filed the AFC with the Energy Commission, and on January 21, 1998, the Commission found the AFC data adequate and accepted the document. The analyses contained in this document are based upon information from the AFC and subsequent revisions; responses to data requests; supplemental information from local, state and federal agencies, local citizens and interested parties; existing documents and publications; and independent field study. The FSA/Draft EIS presents preliminary conclusions and conditions of certification for the design, construction, operation and closure of the facility.

If the project is approved, construction is expected to take 22 to 24 months. Construction is expected to begin in early 1999 and be completed late in the year 2000. Full scale commercial operation is expected by the end of 2000 or early 2001. Calpine expects a peak work force of approximately 256 craft laborers, supervisory, support and construction management personnel on the site during construction. The average work force over the entire construction period is estimated to be about 150 personnel. The total construction payroll is estimated at \$20 million. Calpine will employ 20 full-time plant operators and technicians once the plant is complete. The capital cost of the project is estimated at about \$250 to \$285 million.

Calpine's stated objective for developing the Sutter Power Project is to sell electric power to a mix of retail and wholesale customers in the newly deregulated electricity market (Calpine 1997, AFC pages 1-1, 1-5 and 5-1).

SUTTER COUNTY AND FEDERAL, STATE, LOCAL AGENCY COORDINATION

Calpine has applied for a General Plan Amendment and a zoning change with Sutter County for the entire 77-acre parcel as the land is currently zoned for agricultural uses. Energy Commission staff has been working closely with Sutter County throughout the process. Sutter County plans to use the environmental review and analyses from the Energy Commission's process for its final decisions regarding the rezone and general plan amendment. Sutter County staff and officials have participated in all workshops and hearings.

In addition to the above noted coordination with Western and Sutter County, Energy Commission staff have closely coordinated the review and analysis of the project with U.S. Fish and Wildlife Service, Department of Fish and Game, Department of Water Resources, U.S. Army Corp of Engineers, Sutter National Wildlife Refuge, National Marine Fisheries Service, Central Valley Regional Water Quality Board, Yuba City, California Urban Water Agency, Contra Costa Water District, Sacramento Municipal Utility District (SMUD), California Public Utilities Commission (CPUC), California Independent System Operator, Pacific Gas and Electric (PG&E), City of Roseville, City of Lodi, Electricity Oversight Board, Northern California Power Agency, California Unions for Reliable Energy, the U.S. Environmental Protection Agency, California Air Resources Board, Feather River Air Quality Management District, the Native American Heritage Commission, the State Historic Preservation Office and the residents of the community.

FINDINGS AND RECOMMENDATIONS

Each technical area assessment in the FSA/Draft EIS includes a discussion of the project and the existing environmental setting; the project's conformance with laws, ordinances, regulations and standards (LORS) and whether the facility can be constructed and operated safely and reliably; project specific and cumulative impacts; the environmental consequences of the project using the proposed mitigation measures; conclusions and recommendations; and any proposed conditions of certification under which the project should be constructed and operated, if it is approved.

In our review of the project, the following potential impacts were identified in the Preliminary Staff Assessment:

- there is the potential for significant visual impacts caused by the proposed transmission line, the proposed power plant and cooling tower vapor plume;
- there is the potential for significant environmental impacts to biological resources due to increased water temperature and exceedances of aquatic biota standards; and
- there is the potential for significant environmental impacts to water resources and flooding due to the inefficient use of groundwater for cooling, exceedances of water quality standards, potential draw down and contamination of nearby wells and inadequately sized drainage ditches and pumps.

In October 1998, Calpine submitted a mitigation package of measures that address many of these findings and potential environmental impacts. They are briefly summarized as follows:

- 1) The Sutter Power Plant will utilize a 100% dry cooling design that will reduce groundwater use by over 95% from the original proposal of 3,000 gallons per minute to a revised annual average of less than 140 gallons per minute.

- 2) The dry cooled plant will be a zero effluent discharge facility and will not discharge any process fluids into drainage canals in the area.
- 3) Calpine is prepared to change the transmission line route to proceed south along South Township and then west on O'Banion Road to a new switching station site on the south side of O'Banion Road near the Sutter Bypass. This route is about 4.0 miles long.
- 4) Calpine proposes to further reduce emissions from the plant to 2.5 parts per million (ppm) nitrogen oxide (NO_x).

These mitigation measures address many of the concerns raised in the case. These mitigation measures effectively reduce the above identified potential significant impacts to a level of insignificance, except for visual resources and storm water runoff. Proposed mitigation measures and recommended conditions of certification under which the project should be constructed and operated, if it is approved, have been mostly agreed to by Calpine and staff.

We further find the project to be in conformance with all Laws, Ordinances, Regulations and Standards (LORS) with the exception of Sutter County land use zoning and general plan conformity. Sutter County is in the process of reviewing Calpine's request for a rezone and General Plan Amendment. If Calpine's request is granted by Sutter County Board of Supervisors, the project will be in conformance with Sutter County land use LORS.

The Energy Commission staff recommends:

1. A project alternatives analysis was performed in which eleven sites were initially reviewed. Applying a first level screening criterion to these eleven sites, seven sites were eliminated from further study. Staff conducted additional analysis on the four remaining. Each of the four sites had both advantages and disadvantages, but no site was without major defect, either the potential for significant environmental impacts or were potentially infeasible due to transmission interconnection problems. Without extensive additional analysis on these alternative sites, we do not recommend an alternative site to the SPP site proposed by Calpine.
2. The use of dry cooling in place of water cooling will eliminate the visual impacts created by the vapor plume and re-routing the transmission line down O'Banion Road will eliminate the visual impacts of the transmission line south of O'Banion Road. However, two potential significant visual impacts remain. The proposed power plant as well as the proposed transmission line along South Township Road would continue to have the potential to cause significant visual impacts. To mitigate the impacts created by the transmission line, staff recommends consideration of another alternative transmission line route. This route would proceed west from the plant along a dirt road to PG&E's 500 kV line which it would then parallel south to the O'Banion Road switching station.

3. The analysis of the various technical areas include proposed conditions of certification under which the project should be constructed and operated, if it is approved. These proposed conditions are necessary to ensure that project specific impacts are reduced to a level of insignificance.

In conclusion, the Energy Commission staff recommends approval of the SPP project provided the proposed mitigation measures, contained in the proposed conditions of certification, are adopted by the Energy Commission. Without these mitigation measures, the project has the potential to create significant environmental impacts.

TABLE OF CONTENTS

COVER SHEET	
EXECUTIVE SUMMARY	i
SUTTER COUNTY AND FEDERAL, STATE, LOCAL AGENCY COORDINATION	ii
FINDINGS AND RECOMMENDATIONS	iii
INTRODUCTION	1
PURPOSE OF THIS REPORT	1
ORGANIZATION OF THE REPORT	2
FEDERAL, STATE AND LOCAL AGENCY COORDINATION	2
CONCERNS OF THE LOCAL CITIZENS	3
PROJECT DESCRIPTION	5
PROJECT DESCRIPTION	5
CONSTRUCTION AND OPERATION	6
CALPINE'S PROPOSED MITIGATION MEASURES	6
WESTERN'S STATEMENT OF PURPOSE AND NEED	13
ALTERNATIVES	15
INTRODUCTION	15
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	18
SETTING	20
ANALYSIS	20
CONCLUSIONS AND RECOMMENDATIONS	32
REFERENCES	34
ATTACHMENT A - STAFF COMPARISONS	35
ATTACHMENT B - CALPINE'S ALTERNATIVES	73
NEED CONFORMANCE	75
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	75
CONCLUSIONS AND RECOMMENDATIONS	76
AIR QUALITY	77
INTRODUCTION	77
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	78
SETTING	81
PROJECT INCREMENTAL IMPACTS	101
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	105
MITIGATION	105
CONCLUSIONS AND RECOMMENDATIONS	109
REFERENCES	110

PUBLIC HEALTH	111
INTRODUCTION	111
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	116
SETTING	117
IMPACTS	120
FACILITY CLOSURE	124
MITIGATION	125
COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	125
CONCLUSIONS AND RECOMMENDATIONS	125
CONDITIONS OF CERTIFICATION	125
REFERENCES	127
ATTACHMENT A - CRITERIA POLLUTANTS	129
WORKER SAFETY AND FIRE PROTECTION	135
INTRODUCTION	135
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	135
SETTING	137
IMPACTS	137
MITIGATION	138
FACILITY CLOSURE	143
CONCLUSION AND RECOMMENDATIONS	143
CONDITIONS OF CERTIFICATION	144
REFERENCES	145
TRANSMISSION LINE SAFETY AND NUISANCE	147
INTRODUCTION	147
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	147
SETTING	151
CONCLUSIONS AND RECOMMENDATIONS	155
CONDITIONS OF CERTIFICATION	156
REFERENCES	158
HAZARDOUS MATERIAL MANAGEMENT	159
INTRODUCTION	159
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	160
SETTING	161
IMPACTS	162
FACILITY CLOSURE	165
MITIGATION	165
CONCLUSIONS AND RECOMMENDATIONS	165
PROPOSED CONDITIONS OF CERTIFICATION	166
REFERENCES	167
WASTE MANAGEMENT	173
INTRODUCTION	173
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	173

SETTING	175
IMPACTS	176
FACILITY CLOSURE	178
COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	179
MITIGATION	179
CONCLUSIONS AND RECOMMENDATIONS	180
CONDITIONS OF CERTIFICATION	180
REFERENCES	182
LAND USE	183
INTRODUCTION	183
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	183
SETTING	188
IMPACTS	194
FACILITY CLOSURE	205
MITIGATION	205
CONCLUSION AND RECOMMENDATION	208
CONDITIONS OF CERTIFICATION	208
REFERENCES	211
LAND USE APPENDIX A - - RESOLUTION 98-58 - CRITERIA FOR AGRICULTURAL LAND CONVERSION	213
LAND USE APPENDIX B - -SUTTER COUNTY LETTER RE: SUTTER COUNTY BOARD OF SUPERVISORS' RESOLUTION NO.98-58	214
TRAFFIC AND TRANSPORTATION	215
INTRODUCTION	215
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	215
SETTING	217
IMPACTS	218
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	221
FACILITY CLOSURE	222
MITIGATION	222
CONCLUSIONS AND RECOMMENDATIONS	222
CONDITIONS OF CERTIFICATION	223
REFERENCES	226
NOISE	227
INTRODUCTION	227
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	227
SETTING	229
IMPACTS	230
FACILITY CLOSURE	234
CONCLUSIONS AND RECOMMENDATIONS	235
PROPOSED CONDITIONS OF CERTIFICATION	235
REFERENCES	240

NOISE: APPENDIX A	241
VISUAL RESOURCES	245
INTRODUCTION	245
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	245
PROJECT DESCRIPTION	246
SETTING	252
IMPACTS	260
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	272
MITIGATION	272
CONCLUSIONS AND RECOMMENDATIONS	280
CONDITIONS OF CERTIFICATION	282
REFERENCES	289
VISUAL RESOURCES APPENDIX A - VISUAL RESOURCES FIGURES 7 through 20	293
VISUAL RESOURCES APPENDIX B - COMMISSION STAFF'S VISUAL ASSESSMENT METHODOLOGY	310
OTHER POSITIONS/POLICIES	325
VISUAL RESOURCES APPENDIX C - COMMISSION STAFF'S ASSESSMENT OF VISUAL SUSCEPTIBILITY FACTORS FOR EACH KEY OBSERVATION POINT	328
VISUAL RESOURCES APPENDIX D - COMMISSION STAFF'S ASSESSMENT OF VISUAL IMPACT SEVERITY FACTORS FOR EACH KEY OBSERVATION POINT	337
VISUAL RESOURCES APPENDIX E - COMMISSION STAFF'S ASSESSMENT OF VISUAL SUSCEPTIBILITY FACTORS FOR THE AREA FROM WHICH THE COOLING TOWER PLUME WOULD BE VISIBLE	351
VISUAL RESOURCES APPENDIX F - COMMISSION STAFF'S ASSESSMENT OF VISUAL SEVERITY FACTORS FOR THE COOLING TOWER PLUME	353
VISUAL RESOURCES APPENDIX G - COMMISSION STAFF'S ASSESSMENT OF VISUAL SUSCEPTIBILITY FACTORS FOR THE ALTERNATIVE TRANSMISSION LINE ROUTE FOLLOWING O'BANION ROAD THAT THE APPLICANT IS CONSIDERING	355
VISUAL RESOURCES APPENDIX H - COMMISSION STAFF'S ASSESSMENT OF VISUAL SEVERITY FACTORS FOR THE ALTERNATIVE TRANSMISSION LINE ROUTE FOLLOWING O'BANION ROAD THAT THE APPLICANT IS CONSIDERING	357
VISUAL RESOURCES APPENDIX I - COMMISSION STAFF'S ASSESSMENT OF VISUAL SEVERITY FACTORS FOR STAFF'S ALTERNATIVE TRANSMISSION LINE ROUTE PROCEEDING WEST TO THE EXISTING PG&E 500 KV TRANSMISSION LINE THEN SOUTH TO THE O'BANION SWITCHING STATION SITE ...	361

CULTURAL RESOURCES	363
INTRODUCTION	363
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	364
ENVIRONMENTAL SETTING	367
IMPACTS	375
FACILITY CLOSURE	380
COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	386
CONCLUSIONS AND RECOMMENDATIONS	386
PROPOSED CONDITIONS OF CERTIFICATION	387
REFERENCES	397
SOCIOECONOMIC RESOURCES	401
INTRODUCTION	401
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	401
SETTING	403
IMPACTS	409
FACILITY CLOSURE	419
MITIGATION	419
CONCLUSION AND RECOMMENDATION	420
PROPOSED CONDITIONS OF CERTIFICATION	420
REFERENCES	422
BIOLOGICAL RESOURCES	425
INTRODUCTION	425
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	425
SETTING	428
IMPACTS	435
FACILITY CLOSURE	442
MITIGATION	443
COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS	449
CONCLUSIONS AND RECOMMENDATIONS	450
CONDITIONS OF CERTIFICATION	450
REFERENCES	461
SOIL & WATER RESOURCES	465
INTRODUCTION	465
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	465
SITE AND VICINITY DESCRIPTION	469
IMPACTS	471
CUMULATIVE IMPACTS	479
FACILITY CLOSURE	479
MITIGATION	480
COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES AND STANDARDS	481
CONCLUSIONS AND RECOMMENDATIONS	482

CONDITIONS OF CERTIFICATION	482
REFERENCES	485
PALEONTOLOGIC RESOURCES	487
INTRODUCTION	487
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	487
ENVIRONMENTAL SETTING	489
IMPACTS	494
MITIGATION	498
CONCLUSIONS AND RECOMMENDATIONS	504
PROPOSED CONDITIONS OF CERTIFICATION	504
REFERENCES	507
FACILITY DESIGN	509
INTRODUCTION	509
SETTING	510
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)	510
ANALYSIS	510
FACILITY CLOSURE	516
CONCLUSIONS AND RECOMMENDATIONS	517
CONDITIONS OF CERTIFICATION	518
REFERENCES	536
POWER PLANT RELIABILITY	537
INTRODUCTION	537
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	537
SETTING	537
ANALYSIS	538
CONCLUSION	543
REFERENCES	543
POWER PLANT EFFICIENCY	545
INTRODUCTION	545
LAWS, ORDINANCES, REGULATIONS AND STANDARDS	545
SETTING	546
IMPACTS	546
CONCLUSIONS AND RECOMMENDATIONS	550
REFERENCES	551
TRANSMISSION SYSTEM ENGINEERING	553
INTRODUCTION	553
LAWS, ORDINANCES, REGULATIONS, AND STANDARDS	553
SETTING	555
ANALYSIS	556
FACILITY CLOSURE	564
CONCLUSIONS AND RECOMMENDATIONS	565
CONDITIONS OF CERTIFICATION	565

REFERENCES	568
FACILITY CLOSURE	571
INTRODUCTION	571
LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)	571
SETTING	573
IMPACTS	573
MITIGATION	574
CONCLUSION AND RECOMMENDATIONS	575
PROPOSED CONDITIONS OF CERTIFICATION	575
REFERENCES	578
COMPLIANCE MONITORING PLAN AND GENERAL CONDITIONS	579
GENERAL CONDITIONS	579
GLOSSARY OF TERMS AND ACRONYMS	593
PREPARATION TEAM	599
DECLARATIONS & WITNESS QUALIFICATIONS	601

ATTACHMENT C

SUTTER POWER PROJECT

**FINAL ENVIRONMENTAL IMPACT STATEMENT
DOE / EIS 0294**

**Filed By
THE WESTERN AREA POWER ADMINISTRATION**

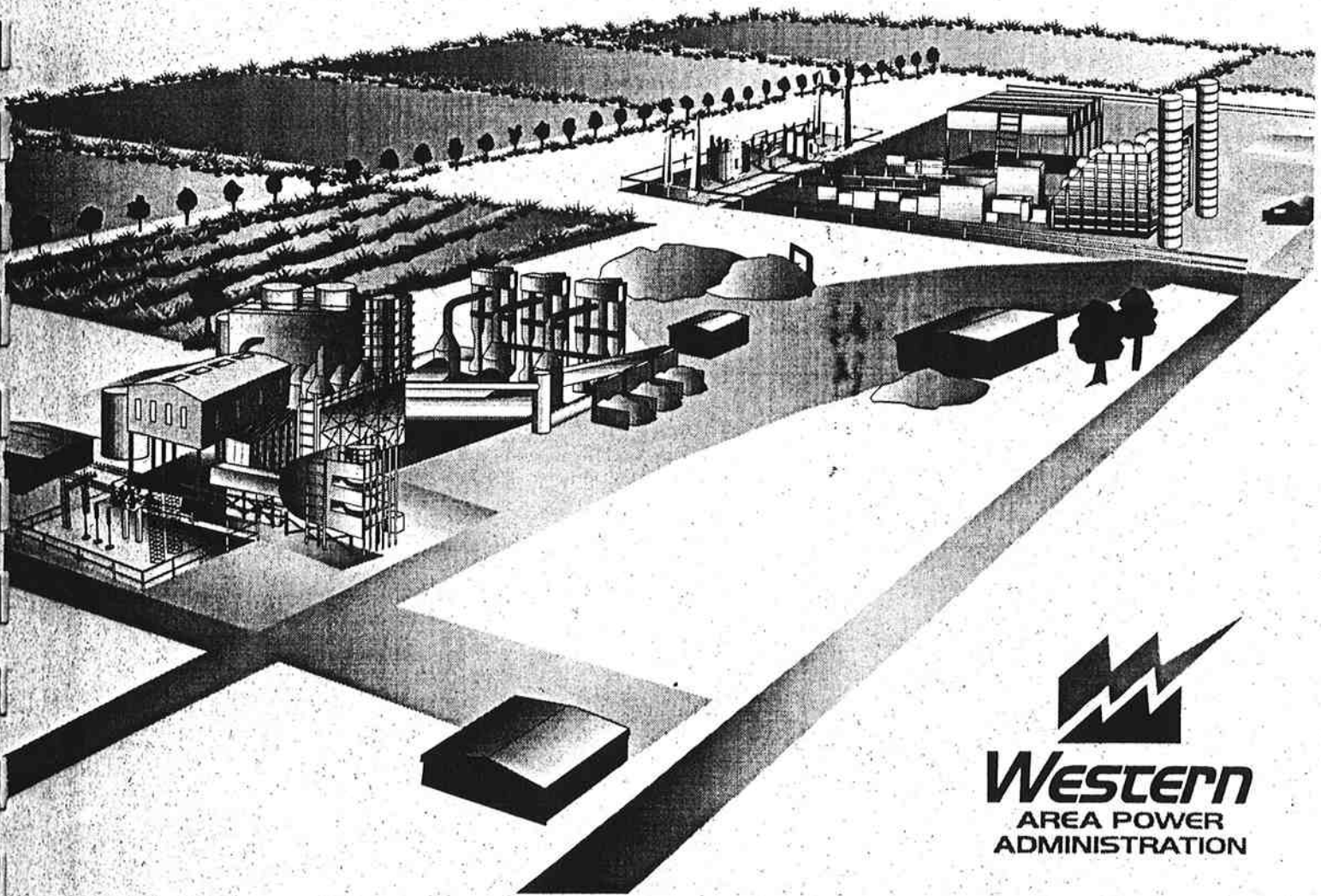
25.42



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

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 proposed 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.

For further information regarding this SPP *EIS*, contact:

Loreen McMahon
Environmental Project Manager
Sierra Nevada Region
Western Area Power Administration
114 Parkshore Drive, Folsom, CA 95630-4710
(916) 353-4460 or e-mail: mcmahon@wapa.gov

Websites that contain information on this project include:

Western Area Power Administration	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

¹The *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.

SUMMARY

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 pre-filing 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 Ethanol 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-

SUMMARY

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.

SUMMARY

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 Commission	http://tis.eh.doe.gov/nepa
	http://www.energy.ca.gov/sitingcases/sutterpower

CONTENTS

VOLUME 1: FINAL ENVIRONMENTAL IMPACT STATEMENT

SUMMARY	iii
CHAPTER 1 INTRODUCTION TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT	1 - 3
1.1 Introduction	1 - 3
1.2 Organization of the Final EIS	1 - 3
1.3 Environmental Review Mandates	1 - 4
1.3.1 Western Area Power Administration Process	1 - 4
1.3.2 California Energy Commission Process	1 - 5
1.3.3 Merging of the Processes	1 - 6
1.3.4 Other Considerations	1 - 7
1.4 Public Involvement	1 - 7
1.5 Consultation and Coordination with Agencies	1 - 10
1.5.1 Biological Resources	1 - 11
1.5.2 Cultural Resources	1 - 12
1.6 Preferred Alternative	1 - 12
1.7 Floodplain/Wetlands Statement of Findings	1 - 15
CHAPTER 2 SUMMARY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT	2 - 3
2.1 Introduction	2 - 3
2.2 Purpose of and Need for Agency Action	2 - 3
2.3 Project Description	2 - 4
2.4 Summary of Powerplant Siting Alternatives, Including the Proposed Action	2 - 5
2.4.1 Analysis of Alternative Powerplant Sites	2 - 5
2.4.1.1 "No Project" Alternative Analysis	2 - 5
2.4.1.2 Alternative Powerplant Sites Considered but Eliminated from Further Study	2 - 6
2.4.1.3 Alternative Powerplant Sites Studied in Detail	2 - 7
2.5 Summary of Environmental Consequences	2 - 10
2.5.1 Alternatives Analysis	2 - 10
2.5.2 Need Conformance	2 - 12
2.5.3 Air Quality	2 - 13
2.5.4 Public Health	2 - 13
2.5.5 Worker Safety and Fire Protection	2 - 13
2.5.6 Transmission Line Safety and Nuisance	2 - 14
2.5.7 Hazardous Material Management	2 - 14
2.5.8 Waste Management	2 - 14
2.5.9 Land Use and Recreation	2 - 15
2.5.10 Traffic and Transportation	2 - 15
2.5.11 Noise	2 - 16
2.5.12 Visual Resources	2 - 16
2.5.13 Cultural Resources	2 - 16
2.5.14 Socioeconomic Resources	2 - 17
2.5.15 Biological Resources	2 - 17
2.5.16 Soil and Water Resources	2 - 18
2.5.17 Paleontological Resources	2 - 18
2.5.18 Facility Design	2 - 18

CONTENTS

2.5.19	Powerplant Reliability.....	2 - 18
2.5.20	Powerplant Efficiency.....	2 - 19
2.5.21	Transmission System Engineering.....	2 - 19
2.5.22	Facility Closure.....	2 - 19
2.6	Summary of mitigation measures as defined by the Commission's Conditions of Certification.....	2 - 20
CHAPTER 3 SUMMARY OF THE PRESIDING MEMBERS PROPOSED DECISION AND OTHER COMMISSION DECISIONS.....		3 - 3
3.1	Introduction.....	3 - 3
3.2	Overview of the Public Hearing Process.....	3 - 3
3.3	Summary of the Commission's Decisions.....	3 - 4
3.4	Summary of the Presiding Member's Proposed Decision.....	3 - 5
3.4.1	Air Quality.....	3 - 5
3.4.2	Public Health.....	3 - 6
3.4.3	Land Use.....	3 - 6
3.4.4	Socioeconomics.....	3 - 7
3.4.5	Visual Resources.....	3 - 8
3.4.6	Biological Resources.....	3 - 9
3.4.7	Noise.....	3 - 11
3.4.8	Traffic and Transportation.....	3 - 11
3.4.9	Soil and Water Resources.....	3 - 12
3.4.10	Hazardous Material Handling.....	3 - 13
3.4.11	Waste Management.....	3 - 14
3.4.12	Worker Safety and Protection.....	3 - 15
3.4.13	Cultural Resources.....	3 - 15
3.4.14	Paleontological Resources.....	3 - 15
3.4.15	Alternatives.....	3 - 16
3.4.16	Engineering Assessment.....	3 - 17
3.4.17	Compliance.....	3 - 19
CHAPTER 4 RESTATEMENT OF THE NEPA ANALYSIS.....		4 - 3
4.1	Introduction.....	4 - 3
4.2	Alternative Analysis.....	4 - 3
CHAPTER 5 PUBLIC COMMENT ON THE DRAFT EIS.....		5 - 3
5.1	Introduction.....	5 - 3
5.2	Summary of Comments Made at Public Hearings.....	5 - 3
5.2.1	Alternatives Analysis.....	5 - 5
5.2.1.1	Comments.....	5 - 5
5.2.1.2	Response.....	5 - 5
5.2.2	Need Conformance.....	5 - 6
5.2.2.1	Comment.....	5 - 6
5.2.2.2	Response.....	5 - 6
5.2.3	Air Quality.....	5 - 7
5.2.3.1	Comment.....	5 - 7
5.2.3.2	Response.....	5 - 8
5.2.4	Public Health.....	5 - 9
5.2.4.1	Comment.....	5 - 9
5.2.4.2	Response.....	5 - 10
5.2.5	Worker Safety and Fire Protection.....	5 - 10

SUTTER POWER PROJECT

5.2.5.1	Comments.....	5 - 10
5.2.5.2	Response.....	5 - 10
5.2.6	Transmission Line Safety	5 - 11
5.2.6.1	Comment	5 - 11
5.2.6.2	Response.....	5 - 12
5.2.7	Hazardous Material Management.....	5 - 14
5.2.7.1	Comment	5 - 14
5.2.7.2	Response.....	5 - 14
5.2.8	Waste Management	5 - 14
5.2.8.1	Comment	5 - 14
5.2.8.2	Response.....	5 - 14
5.2.9	Land Use and Recreation.....	5 - 15
5.2.9.1	Comment	5 - 15
5.2.9.2	Response.....	5 - 15
5.2.10	Traffic and Transportation.....	5 - 16
5.2.10.1	Comment	5 - 16
5.2.10.2	Response.....	5 - 16
5.2.11	Noise.....	5 - 18
5.2.11.1	Comment	5 - 18
5.2.11.2	Response.....	5 - 18
5.2.12	Visual Resources	5 - 18
5.2.12.1	Comment	5 - 18
5.2.12.2	Response.....	5 - 20
5.2.13	Cultural Resources.....	5 - 23
5.2.13.1	Comment	5 - 23
5.2.13.2	Response.....	5 - 23
5.2.14	Socioeconomic Resources	5 - 23
5.2.14.1	Comment	5 - 23
5.2.14.2	Response.....	5 - 26
5.2.15	Biological Resources	5 - 27
5.2.15.1	Comment	5 - 27
5.2.15.2	Response.....	5 - 28
5.2.16	Soil and Water Resources.....	5 - 28
5.2.16.1	Comment	5 - 28
5.2.16.2	Response.....	5 - 29
5.2.17	Paleontological Resources	5 - 30
5.2.17.1	Comment	5 - 30
5.2.17.2	Response.....	5 - 30
5.2.18	Facility Design.....	5 - 30
5.2.18.1	Comment	5 - 30
5.2.18.2	Response.....	5 - 31
5.2.19	Powerplant Reliability	5 - 31
5.2.19.1	Comment	5 - 31
5.2.19.2	Response.....	5 - 31
5.2.20	Powerplant Efficiency	5 - 31
5.2.20.1	Comment	5 - 31
5.2.20.2	Response.....	5 - 31
5.2.21	Transmission System Engineering.....	5 - 32
5.2.21.1	Comment	5 - 32
5.2.21.2	Response.....	5 - 32
5.2.22	Facility Closure.....	5 - 32
5.2.22.1	Comment	5 - 32
5.2.22.2	Response.....	5 - 33
5.2.23	Compliance Monitoring.....	5 - 33

CONTENTS

5.2.23.1 Comment.....	5 - 33
5.2.23.2 Response	5 - 34
5.3 Written comments from Governmental Agencies.....	5 - 34
5.4 Written Comments from Interested Citizens and Private Organizations	5 - 35
CHAPTER 6 REFERENCES, EIS RECIPIENTS, PREPARERS AND INDEX	6 - 1
6.1 Introduction.....	6 - 1
6.2 References.....	6 - 1
6.3 EIS Recipients	6 - 6
6.4 Prepares.....	6 - 14
6.5 Index	6 - 16

VOLUME 2: APPENDICES
(Bound Separately)

- 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, 1998.¹
- 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.

CONTENTS

- 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.

LIST OF TABLES

Table 1.1 ChronoLOGY Of Public Hearings.....	1-9
Table 2.1 Draft Eis Alternative Analysis.....	2-11
Table 2.2 Alternatives Analysis: Comparison Values for the List of Six Potential Significant Environmental Impacts	2-12
Table 3.1 Conditions of Certification in the <i>PMPD</i>	3-20
Table 4.1 Alternatives Comparison Matrix.....	4-6
Table 4.2 Nepa Topical Index.....	4-10
Table 5.1 Issues and Relative Degree of Concern	5-4
Table 5.2 Air Quality	5-8
Table 5.3 Comments from Governmental Agencies.....	5-35
Table 5.4 Comments from Interested Citizens and Private Organizations	5-35
Table 6.1 List of EIS Recipients	6-6
Table 6.2 List of Preparers.....	6-14

LIST OF FIGURES

Figure 1-1 Preferred Alternative Local Setting.....	1-13
Figure 1-2 Preferred Alternative Project Features.....	1-14
Figure 4-1 Alternative Locations in a Regional Setting.....	4-4
Figure 5-1 Current Land Uses Within One Mile of Project Site and One-Quarter Mile from Linear Features.....	5-17
Figure 5-2 Alternative Transmission Line Routes	5-21

STATE OF CALIFORNIA

Energy Resources Conservation
and Development Commission

Application for Certification for the IVANPAH)
SOLAR ELECTRIC GENERATING SYSTEM) Docket No. 07-AFC-5
)
)
_____)

PROOF OF SERVICE

I, Karen A. Mitchell, declare that on October 21, 2008, I served the attached *Documents Regarding the Joint CEC-Western Area Power Administration Permitting Process* via electronic mail to all parties on the attached service list.

I declare under the penalty of perjury that the foregoing is true and correct.



Karen A. Mitchell

SERVICE LIST
07-AFC-5

ATorre@BrightSourceEnergy.com
sdeyoung@brightsourceenergy.com
jcarrier@ch2m.com
jdh@eslawfirm.com
e-recipient@caiso.com
tom_hurshman@blm.gov
Sterling_White@blm.gov
dfgpalm@adelphia.net
tgulesserian@adamsbroadwell.com
jbyron@energy.state.ca.us
jboyd@energy.state.ca.us
pkramer@energy.state.ca.us
Cmcfarli@energy.state.ca.us
dratliff@energy.state.ca.us
pao@energy.state.ca.us