



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).

CHAPTER 3

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 (PM₁₀) emissions. Records show the current level of both ozone and PM₁₀ 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 (PM₁₀) and its precursors nitrous oxide (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂) and PM₁₀. To partially control the PM₁₀ emissions during operation, Calpine proposed to use an inlet air filtering system, and a dry-cooling tower (which has no PM₁₀ emissions associated with its operation and is the best control technology available). Calpine proposed mitigation for PM₁₀ 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 PM₁₀ 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

SUMMARY OF THE PMPD AND OTHER COMMISSION DECISIONS

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.

CHAPTER 3

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, a 50-foot-tall cooling tower and a 60-foot-tall stack) and Western's 230-kV

SUMMARY OF THE PMPD AND OTHER COMMISSION DECISIONS

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

CHAPTER 3

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 anadromous and 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

SUMMARY OF THE PMPD AND OTHER COMMISSION DECISIONS

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 Calpine⁴. 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.

CHAPTER 3

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

SUMMARY OF THE PMPD AND OTHER COMMISSION DECISIONS

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 permit⁵. 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.

CHAPTER 3

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 sites⁶. 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.

CHAPTER 3

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 ALTERNATIVES⁷

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.

SUMMARY OF THE PMPD AND OTHER COMMISSION DECISIONS

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

CHAPTER 3

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 <i>PMPD</i> Technical Area	Number of Conditions of Certification		Page Numbers	
	DEIS	<i>PMPD</i>	DEIS	<i>PMPD</i>
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

SUMMARY OF THE PMPD AND OTHER COMMISSION DECISIONS

	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 <i>Draft EIS</i> because the final recommendations from the local air district had not been finalized at the time the <i>Draft EIS</i> was released.				