

DOCKETED

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Herald Fire Protection District

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California Energy Commission
Dockets Unit, MS-4
Docket No. 01-AFC-19C
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Proposed increase in electrical production at the Cosumnes Power Plant currently located at 12495A Clay East Road Herald, CA 95638

To Whom It May Concern:

On behalf of the Herald Fire Protection District, this letter is in response to the proposed increase in electrical production at the Cosumnes Power Plant currently located at 12495A Clay East Road, Herald, CA 95638. The Petition for Post-certification License Amendment (Petition to Amend) was filed with the California Energy Commission requesting modifications to operate the Cosumnes Power Plant (CPP) (01-AFC-19C). The Petition to Amend was submitted to the California Energy Commission on August 8, 2018 for an increase in electrical production (Transaction Number 224625). The Petition to Amend states, in summary, the Cosumnes Power Plant will increase the electrical production from each of the two licensed generators. Overall, electrical output would increase from 534 MW to 603 MW an increase of 69 MW. The Cosumnes Power Plant is within the production parameters of the current license. Notification on the proposed project was received by the Herald Fire Protection District on September 15, 2018. The related regulatory requirements found in, the National Fire Protection Association (NFPA), Health and Safety Codes, California Code of Regulations, and California Fire Codes as well as historical documents on file were reviewed by District personnel. Concerns were found in both the current petition and historical documents.

Cosumnes Power Plant Upgrade Petition, Section 1 Introduction

1.2 Overview of Proposed Amendments

This Petition to Amend addresses the operational impacts associated with the installation of the AGP components, DLN combustors, and an oxidation catalyst emission control system. The construction related impacts were determined by the CEC not to require the submittal of a post-certification amendment. The CEC determined that implementation of the COC's and assignment of a DCBO would ensure continued compliance with applicable laws, ordinances, regulations, and standards (LORS) and that no significant impacts would occur. This increased electrical output will require an increase in fuel consumption of approximately 335 MMBtu/hr-HHV, resulting in a maximum heat input per CT of 2,200 MMBtu/hr-HHV.

The CEC Siting Regulations also require a discussion of the consistency of the proposed project revision with the application laws, ordinances, regulations, and standards (LORS) and whether the modifications are based on new information that changes or undermines the assumptions, rationale, findings, or other basis of the final decision



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(Title 20, CCR Section 1769 (a)(1)(D). If the project is no longer consistent with the certification, the Petition to Amend must provide an explanation why the modification should be permitted.

The proposed project modifications are consistent with all LORS, as discussed in Section 3, and this Petition to Amend is not based on new information that changes or undermines any basis for the final decision. The proposed project change would allow the CPP facility to continue to run efficiently, and to meet environmental goals and the current increased demand for electricity. Therefore, the findings and conclusions remain applicable to the project, as modified.

The final Staff Assessment (Part 1) on the Cosumnes Power Plant Project (February, 2003) page 4.15-3 notes, the Herald Fire Department is the administering agency for the 1998 Uniform Fire Code. The applicable local (or locally enforced) requirements include; 1998 Edition of the California Fire Code and all applicable NFPA standards (California Code of Regulations, Title 24, Part 9), California Building Code (California Code of Regulations, Title 24, 3, et seq) and the Uniform Fire Code, 1998.

The Evidentiary Hearing before the California Energy Resources Conservation and Development Commission (Docket No. 01-AFC-19) (May 12, 2003) page 127 notes, we (SMUD) would in fact get a permit from the Fire Chief before we actually operated the plant itself.

California Government Code: Title 5, Division 1, Part 3, Chapter 1, Article 5, Section 52107 notes, all energy projects shall be consistent with all state, regional, and local planning, zoning, sanitary, safety, and building laws, ordinances, and regulations applicable to the jurisdiction in which the project is planned.

The Herald Fire Protection District was not notified of the pending modifications and not given the opportunity to comment during the initial planning phase. A review of the following regulations gave the Herald Fire Protection District the authority to require needed fire protection improvements prior to construction.

Health and Safety Code: Division 12, Part 2.7, Chapter 5, Section 13862 A District shall have the power to provide the following services; (a) Fire protection services, (b) Rescue services, (c) Emergency medical services, (d) Hazardous material emergency response services, (e) Ambulance services, pursuant to Division 2.5 (commencing with Section 1797), (f) Any other services, relating to the protection of lives and property.

California Fire Code: Chapter 1, Section 1.12 (a) The provisions of these regulations shall be enforced by the State Fire Marshal, the chief of any city or county fire department or fire protection district, and their authorized representatives, in their respective areas of jurisdiction.

California Fire Code: Chapter 1, Section 1.1.3 The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California. This code established regulations affecting or relating to buildings, structures, processes, premises and a reasonable degree of life and property safeguards regarding: 1. The hazard of fire and explosion arising from storage, handling or use of structures, materials or devices. 2. Conditions hazardous to life,



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property or public welfare in the use or occupancy of buildings, structures or premises. 3. Fire hazards in the buildings, structures or on premises from the use of, or operation. 4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems. 5. Conditions affecting the safety of fire fighters and emergency responders during emergency operations.

California Fire Code: Chapter 3, Section 301.1 No person, including but not limited to the State and its political subdivisions, operating any occupancy subject to these regulations shall permit any fire hazard, as identified in this article, to exist on premises under their control, or fail to take immediate action to abate a fire hazard when requested to do so by the enforcing agency.

Note: "Fire Hazard" as used in these regulations means any condition, arrangement, or act which will increase, or cause an increase of, the hazard or menace of fire to a greater degree than customarily recognized as normal by persons in the public service of preventing, suppressing or extinguishing a fire; or which may obstruct, delay, or hinder, or may become the cause of obstruction, delay or hindrance to the prevention, suppression, or extinguishment of fire.

California Fire Code: Chapter 9, Section 901.4 Fire protection systems shall be maintained in accordance with the original installation standards for that system. Required systems shall be extended, altered or augmented as necessary to maintain and continue protection where the building is altered, remodeled or added to. Alterations to fire protection systems shall be done in accordance with applicable standards.

California Fire Code: Chapter 9, Section 901.4.4 In occupancies of a hazardous nature, where special hazards exist in addition to the normal hazards of the occupancy, or where the fire code official determines that access for the fire apparatus is unduly difficult, the fire code official shall have the authority to require additional safeguards, such safeguards include, but shall not be limited to, the following: automatic fire detection systems, fire alarm systems, or portable or fixed extinguishers. Fire protection equipment required under this section shall be installed in accordance with this code and the applicable standards.

California Fire Code: Chapter 9, Section 901.7 Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall be either evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shutdown until the fire protection system has been returned to service.

Where utilized, fire watched shall be provided with not less than one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

Section 901.7.1 The building owner shall assign an Impairment Coordinator to comply with the requirements of this section. In the absence of a specific designee, the owner shall be considered the Impairment Coordinator.

The changes in the electrical, mechanical, natural gas, and ventilation systems necessary to achieve the electrical output, fuel consumption, and resulting heat production outlined in the Petition does require a review and



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redesign of the fire protection systems affected by the changes to ensure they are still compliant with current applicable laws, ordinances, regulations, and standards. The results must then be submitted to the Herald Fire Protection District for comment and approval.

Cosumnes Power Plant Upgrade Petition, Section 3.5 Hazardous Materials Handling 3.5.3 Mitigation Measures

The proposed CPP modifications will not create a significant impact from hazardous materials handling that will require additional mitigation measures.

The original computer model used for the uncontrolled release of aqueous ammonia found in the Final Staff Assessment (Part 1) on the Cosumnes Power Plant Project (February, 2003) is now 15 years old. The model never considered the infrastructure damage resulting from the deflagration of aqueous ammonia, page 4.4-11 notes, data response 181 (SMUD) 20021) provided the results of modeling for a worst-case accidental release of aqueous ammonia. The analysis assumed winds of 1.0 meter per second and atmospheric stability category F would exist at the time of the accidental release. An air temperature of 115 degrees was assumed. The ALOHA (Areal Locations of Hazardous Atmospheres) air dispersion model was used to estimate airborne concentrations of ammonia. These analyses were designed to predict the maximum possible impacts based on distance from the storage tank without regard to specific direction of transport.

The worst-case release is associated with a failure of the ammonia storage tank releasing all of its content into the secondary containment area, and the alternative scenario is a failure of a supply truck loading hose spilling aqueous ammonia onto the truck unloading pad with flow to the capture sump.

The results indicated that concentrations exceeding 75-ppm in the worst-case scenario would be present in the atmosphere 801 feet, which is mostly limited to the project site. The off-site areas impacted by the 75-ppm concentration would be to the north and east of the fence line and approximately 75 feet to the west (just past the transmission towers). In the alternative scenario, the concentration of 75-ppm would be present 318 feet away from the truck unloading pad which would impact off-site areas only to the north and east. Page 4.15-4 notes, Major structural fires may develop from uncontrolled fires or be caused by large explosions of natural gas or other flammable gasses or liquids. Compliance with all LORS would be adequate to assure protection from all fire hazards. The Herald Fire District has stated that it is adequately equipped and staffed to respond to an on-site fire within 10 minutes or less (Hendrickson 2002), and the Sacramento County Environmental Management Department (SCEMD) stated that they are prepared to deal with any hazardous materials spill (Rothchild 2002).

A new computer model using updated equipment must be completed. The new computer model must include the average local wind speed, temperature, and direction. Also, a study on the deflagration damage resulting from the aerosolized aqueous ammonia (as it crosses the transmission towers) must be completed as well. An updated computer model on the uncontrolled release of aqueous ammonia and deflagration damage study, may identify additional construction requirements and impacted areas/persons not known at the time. Of significant importance, is the potential for the entire on-site emergency water supply system including the gravity fed water tank to be either contaminated or in the deflagration zone.



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The Cosumnes Power Plant Upgrade Project notes the increase in natural gas usage. The natural gas pipeline supplying the Cosumnes Power Plant was originally designed for Class 3 service and met, at that time, all known regulatory requirements. The Class 3 designation was based on the population density and land use. Since the original pipeline was constructed, the population density has considerably changed. The number of both permitted and non-permitted occupied dwellings has increased and Rancho Seco Park was remodeled, accommodating more visitors.

On 05/12/2018, a flash type fire occurred during maintenance in the above ground portion of the pipeline located at 12495 Clay East Road. The Herald Fire Protection District received a private phone call to Fire Station 87 directly and not through the Sacramento Regional Fire/EMS Emergency Communications Center (SRFECC). A review of the pipeline Class 3 designation as well as the frequency and type of maintenance procedures performed must be reviewed and identified changes implemented. Also, the established protocols in the Integrated Contingency Plan were not followed. The Integrated Contingency Plan must itself be updated to include plans for a large fire or natural gas release at both of the above natural gas pipeline locations in the Herald Fire Protection Districts response area.

The Herald Fire Protection District will be the first responding fire agency during any hazardous material spill/release or fire but does not have the required equipment needed to perform the mandated procedures required during a large incident. In the event of an on-site water distribution system failure, The Herald Fire Protection District does not have the additional apparatus and remote drafting infrastructure necessary to provide the mandated fire flow requirements at the Cosumnes Power Plant or any of the other SMUD asset locations in the Herald Fire Protection Districts response area.

Cosumnes Power Plant Upgrade Petition, Section 3.6 Land Use

3.6.1 Environmental Baseline Information

No existing recreational, scenic, natural resource protection, natural resource extraction, educational, or religious land uses exist in the vicinity (i.e., within one mile) of the project site. Cosumnes Power Plant (CPP) is approximately two miles west of Rancho Seco Park, which is owned and operated by SMUD. Recreational facilities include fishing, boating, swimming, and camping. No other recreational facilities exist in the vicinity of the project site.

The Final Staff Assessment (Part 1) on the Cosumnes Power Plant Project (February 2003) page 4.4-11 notes, there are no sensitive receptors (schools, hospitals, day care centers, ect.) within a three-mile radius. The Cosumnes Power Plant is 1.4 miles west of Rancho Seco Park (measured by vehicle odometer entrance to entrance) across the emergency use roadway located between Clay Station Road and the park entrance. No reason for the two-mile reduction in distance for sensitive receptor sites was identified in the new Petition. The park was recently remodeled. However, the single lane entrance and exit were not redesigned and repaired. Also, the issue of emergency notification during a release through the dam overflow spillway was not addressed.



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Rancho Seco Park now accommodates more visitors of all ages/abilities and several large events are held there every year.

3.6.2 Future Growth Trends

Sacramento County's General Plan has defined an Urban Service Boundary (USB), which defines a permanent boundary beyond which the County does not provide urban levels of public infrastructure. The CPP site is outside of the USB, and urban growth is not planned for the project vicinity.

Because the proposed project upgrade is not in the USB, no public infrastructure, such as water mains and fire hydrants, exist in the area. The Herald Fire Protection District will continue to shoulder all of the financial responsibility and regulatory requirements necessary to protect all SMUD assets located in the Fire District boundaries.

Currently, there are seven registered address locations in the District. The miles of electrical distribution lines are not included. An audit involving SMUD assets over the last 10.5 years showed a steady increase in the number and severity of emergency calls. The totals are;

- 53 working fires.
- 93 EMS incidents.
- 140 incidents classified as "other".

Among the emergency calls for service were: 1 Remote Area Rescue involving a helicopter; 1 technical rescue; 2 water rescues (involving a total of 4 patients); 1 pipeline fire, 2 deaths; and 1 major flooding incident involving the dam overflow spillway.

3.6.5 Mitigation Measures

The proposed CPP modifications will not create a significant impact to land use that requires additional mitigation measures.

This discrepancy in distance between Rancho Seco Park and the Cosumnes Power Plant must be corrected and more accurately reflected in the new petition. The proposed modifications will create a significant impact to the roadways and widespread panic due to a hazardous material spill/release or large fire at the Cosumnes Power Plant. Currently, the only option for the visitors at the park is for them to shelter in place. This is unacceptable because the majority of overnight visitors are in tents. A second exit from the park must be constructed. This will further aid in the orderly evacuation of the park visitors during an emergency incident.

Cosumnes Power Plant Upgrade Petition, Section 3.12 Traffic and Transportation

3.12.1 Environmental Baseline Information

Due to the changes in the project area, the following updated environmental baseline is provided for completeness.



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This petition to Amend does not require changes to the traffic and transportation environmental baseline information as described in the AFC. However, due to the age of the baseline environmental information provided, SFA provides the following update to the traffic and transportation systems surrounding the CPP site.

The proposed CPP modification will occur entirely on the existing CPP site in Sacramento County, approximately 25 miles southeast of the City of Sacramento. Clay East Road borders the site to the south. Twin Cities Road is the closest road to the north and west of the site. The CPP site is in a rural undeveloped area and no major changes to the existing transportation infrastructure have occurred since preparation of the AFC. The overall operational assessment is still consistent with the assessment performed when the CPP was licensed.

3.12.3 Mitigation Measures

The proposed CPP modifications will not create a significant impact to traffic or transportation that requires additional mitigation measures.

The Final Staff Assessment (Part 1) on the Cosumnes Power Plant Project (February 2003) found “an unacceptable risk” in the transportation of hazardous material to the Cosumnes Power Plant, page 4.4-14 notes, Staff has some concerns about the route used to gain access to the project site. Twin Cities Road is narrow and has no shoulder. Because there are farming and livestock operations in the area, it is reasonable to expect that slow-moving or wide loads (tractors, hay trucks, ect.) would use this road and thus be encountered when transporting hazardous materials to the power plant. It is staff’s opinion that due to the narrowness of this road, it would be impossible for a tanker truck to pass a hay truck going in the opposite direction without at least one vehicle (or perhaps both) going slightly off the road. This would present an unacceptable risk of upset of the tanker truck. Additionally, the route passes a school in Herald and heavy fog exists during morning hours during certain times of the year (late winter and early spring). In order to mitigate this risk, staff recommends adoption of Condition of Certification (HAZ-8); that all hazardous materials tankers carrying more than 1000 gallons be escorted from SR-99 or I-5 to the facility by a lead vehicle equipped with fog lights and a two-way radio or other method of communicating with the transportation vehicle.

Page 4.9-6 notes, At SR-104/Twin Cities Road, Caltrans has long term plans (i.e., in 2015) to widen the Twin Cities Road overpass from two lanes to four lanes at SR-99 and to add a bicycle lane that would fit into an existing wide section of SR-104/Twin Cities Road.

The construction on the Cosumnes Power Plant was completed but the aforementioned “unacceptable risk” remains. Additionally, the overpass at Twin Cities Road now has a roundabout instead of four lanes. A new traffic study must be completed that includes provisions to repair Twin Cities Road along the entire route from SR-99 to the power plant.

Should a vehicle accident involving a tanker carrying hazardous materials occur on Twin Cities Road, the Herald Fire Protection District does not carry the mandated emergency containment equipment needed for a hazardous material spill/release on the roadway in the fire apparatus. Additionally, The Herald Fire Protection District would



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also require additional apparatus and remote drafting infrastructure necessary to combat a fire involving a hazardous material spill/release on the roadway.

Conclusion

The Herald Fire Protection District staff reviewed all of the aforementioned documents and compared the findings to current regulations. The following is a list of discrepancies/violations found;

- The Petition to Amend did not follow established regulatory requirements as required by the California Government Code: Title 5, Division 1, Part 3, Chapter 1, Article 5, Section 52107 and the Herald Fire Protection District is the local enforcement agency as outlined in the Health and Safety Code: Division 12, Chapter 5, Section 13862.
- The Herald Fire Protection District was not notified at the beginning of the project and given the opportunity to ensure the fire protection systems affected by the changes are still compliant with current applicable laws, ordinances, regulations, or standards, and to identify any new conditions or fire hazards that would require additional fire protection safeguards. California Fire Code: Chapter 1, Section 1.1.3 and Chapter 9, Sections 901.4 and 901.4.4.
- During the construction process, it was unknown if any fire protection systems were out of service and what additional fire protection measures had been implemented, if any at all. California Fire Code: Chapter 9, Sections 901.7 and 901.7.1
- Previously undiscovered fire/explosion hazards and access/egress issues were found and must be abated. California Fire Code: Chapter 3, Section 301.1.

Due to the findings, the Herald Fire Protection District cannot support the Petition for Post-certification License Amendment (01-AFC-19C) filed with the California Energy Commission and opposes its approval.