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July 10, 2002

Ms. Kristy Chew
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

RE: AFC Supplement C, Executive Summary
Cosumnes Power Plant (01-AFC-19)

On behalf of the Sacramento Municipal Utility District, we are filing 12 copies and one original of the preliminary draft of the Executive Summary to Supplement C. This supplement analyzes potential impacts to the project from the use of a zero-liquid discharge system. All of our analysis has not been completed, so the attached Executive Summary is subject to change when the supplement is filed next week.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Program Manager

c: Colin Taylor/SMUD
Kevin Hudson/SMUD
Steve Cohn/SMUD

Preliminary Draft

COSUMNES POWER PLANT (01-AFC-19)

AFC SUPPLEMENT C

(Zero-liquid Discharge Arrangement)

Executive Summary

Submitted by

SACRAMENTO MUNICIPAL UTILITY DISTRICT (SMUD)

July 10, 2002

2485 Natomas Park Drive Suite 600
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EXECUTIVE SUMMARY

The Sacramento Municipal Utility District (SMUD) is proposing to implement a zero-liquid discharge (ZLD) system for Cosumnes Power Plant (CPP). ZLD is designed to process all plant wastewater, returning a relatively high quality distillate stream for reuse in the plant, and producing a solids waste stream suitable for proper landfill disposal. The primary equipment in the proposed ZLD system includes a brine concentrator, crystallizer, and distillate and brine holding tanks.

A ZLD system will have two primary effects on SMUD's overall proposal. First, since process water will not be discharged into Clay Creek as originally proposed, an industrial National Pollution Discharge Elimination System (NPDES) discharge permit will not be required from the Regional Water Quality Control Board (RWQCB). Second, since water will not be discharged, the water stream is essentially cycled more often in the cooling tower and other systems, thereby reducing the amount of water used in the process. The water source will be Folsom-South Canal as proposed in the Application for Certification.

SMUD reviewed each of the 16 environmental categories as it applies to ZLD during its analysis. The addition of the ZLD plant will have no additional impacts beyond those addressed in the AFC in the following areas:

- Air Quality
- Cultural Resources
- Land Use
- Public Health
- Worker Health and Safety
- Socioeconomics
- Agriculture and Soils
- Geologic Hazards and Resources
- Paleontological Resources

Only minor impacts may occur in the following areas:

Biological Resources—The TDS content of the cooling tower drift will not affect the most sensitive species of plants.

Noise—Noise modeling is being performed to determine if the addition of the ZLD equipment will create an increase previously predicted noise levels at the nearest sensitive receptors. A change in noise levels, if any, is expected to be minor.

Traffic and Transportation—Other than a slight increase in construction traffic from having to install the ZLD equipment, the primary impact to traffic will occur from operations. Using Folsom-South Canal water will result in one truck load of salt cake having to be removed from the plant every other day. This minor change will not create a significant traffic impact.

Visual Resources—The brine concentrator will add an 88-foot tall structure to the plant. However, it will only be half the height of the HRSG exhaust stacks. Although visual impacts will remain adverse, they are not considered significant.

Hazardous Materials Handling—Use of the ZLD system will require the plant to use six new chemicals and to increase its use of three other chemicals. These proposed changes do not create a significant impact.

Waste Management— An average of 6.8 tons per day of non-hazardous salt cake will be generated by the ZLD system. This will require landfilling about 2,500 tons of salt per year. This increased landfill requirement will not create an adverse impact to the landfill capacity of the County.

There will be an improvement in the level of impacts discussed in the AFC for the following section:

Water Resources— As mentioned above, the use of a ZLD system will eliminate the need of obtaining an NPDES permit to discharge the plant's wastewater to Clay Creek. It will also allow an increase in the number of times the cooling water is able to circulate in the Cooling Tower, thus reducing the amount of water consumed by the plant. This reduction in surface water consumption is less than the levels described in the AFC.

ZLD will slightly reduce the efficiency of the plant due to the parasitic load of ZLD equipment. The prior reported benefits of discharging water to Clay Creek (water table recharge, water for downstream users, water for riparian habitat, support of aquatic biota, etc.) will not be realized under ZLD.

While, AFC Supplement C was primarily developed to address zero-liquid discharge, SMUD has also charted a course for incorporating a source of reclaimed water, or otherwise mitigating the use of fresh water to potentially supplement the second phase of CPP. SMUD has held preliminary discussions with representatives from the Sacramento Regional Wastewater Treatment Plant (SRWTP) and Galt Wastewater Treatment Plant (GRWTP). Currently, the quantity, quality and availability of reclaimed water have not been established; however, the preferred reclaimed water alternative would involve GRWTP. Also, SMUD has held discussions with Sacramento County Regional Sanitation District (SCRSD) to possibly offset the use of freshwater with recharging groundwater using a reclaimed water source, or by displacing the use of freshwater with other reclaimed water projects within the county. SMUD recognizes the importance of this issue, and is prepared to commit to further study these options, with an option ready prior to groundbreaking on Phase 2.

SMUD envisages two ZLD systems, one for each plant phase. SMUD would plan to interconnect the two systems for process redundancy. The systems will be designed to process a moderate range of influent constituents. The Phase 2 ZLD system can be engineered as water quality constituents become established, and the Phase 1 ZLD system will be engineered to the extent practical for the range of raw water constituents that are currently known.