



May 31, 2002

Bruce E. Blowey
Licensing Project Manager
Southern California Public Power Authority
225 So. Lake Avenue, Suite 1410
Pasadena, CA 91101

**MAGNOLIA POWER PROJECT
ZERO LIQUID DISCHARGE SUPPLEMENT DATA REQUESTS**

Dear Mr. Blowey:

On May 14, 2002, Magnolia Power Project LLC submitted a proposal for a zero-liquid discharge (ZLD) system for consideration by Energy Commission staff. Consistent with the Committee order and schedule, staff is now reviewing that proposal, and is conducting a limited discovery period on the proposal. Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information relating to the ZLD proposal specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the proposal, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (#156-197) is being made in the areas of air quality, biological resources, compliance, cultural resources, efficiency, noise, reliability, socioeconomic, traffic and transportation, and visual resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before June 28, 2002, or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner Robert Laurie, Presiding Committee Member for the Magnolia Power Plant Project proceeding, and to me, within 10 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (f)).

If you have any questions, please call me at (916) 653-1245, or E-mail me at jreede@energy.state.ca.us.

Sincerely,

James W. Reede, Jr.
Energy Facility Siting Project Manager

Enclosure
cc: POS

**Magnolia Power Project (00-AFC-6)
Data Requests**

Technical Area: Air Quality

Author: William Walters

BACKGROUND

The cooling tower data provided by the Applicant in the Supplement to the Application For Certification, Zero Liquid Discharge (ZLD) Option contains inconsistent information and apparent omissions. Staff requires clarification of the cooling tower water use and the cooling tower emission assumptions for the zero liquid discharge option.

DATA REQUEST

156. The Health Risk Assessment for the cooling tower notes that the cooling tower emissions now assume 50% recycled water and 50% ground water. However, this does not seem to be assumed elsewhere in the Supplement to the AFC. Please identify the correct water usage basis for the cooling tower.
157. It would appear that the cooling tower PM₁₀ emissions estimate should change with ZLD due to the use of ground water as noted above, and due to the use of the recycled water from the ZLD system. Please provide the assumed TSS and TDS values of the ZLD recycled water and please provide a revised cooling tower emission estimate or identify why the cooling tower emissions will not change (e.g. higher cycles of concentration, etc.).
158. Please provide the cooling tower cycles of concentration assumed for the HRA and identify if this value is consistent with the operation of the cooling tower with the ZLD option.

BACKGROUND

Staff has become aware of another City of Burbank energy project that was not included in the cumulative air quality modeling analysis. Staff assumes that the Applicant, which includes COB as one partner, should have been aware of this proposed project and should have included this project in the cumulative modeling analysis. The cumulative air quality modeling analysis needs to be updated to include this additional proposed COB energy project.

DATA REQUEST

159. Please update the cumulative air quality modeling analysis to include all proposed COB energy projects.
160. Please provide electronic copies of the revised cumulative air quality modeling input and output files.

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Data Requests**

BACKGROUND

Staff believes that the construction modeling analysis is incomplete, as it does not include known concurrent onsite construction projects. The construction modeling analysis needs to include information on the construction schedule and concurrent emission estimates for the two proposed COB energy projects and the proposed NO_x control retrofit project for Olive Boilers 1 and 2, as well as any other known concurrent construction projects at the COB Magnolia Power Station site. Additionally, the Applicant's previous construction modeling results identified exceedances in the 1-hour NO₂ CAAQS. Staff requests that the Applicant perform a more thorough 1-hour NO_x modeling analysis to determine if the project has the potential to cause 1-hour NO₂ exceedances.

DATA REQUEST

161. Please provide a list of proposed construction projects at the COB site listing their anticipated construction schedule duration.
162. For construction projects that will overlap with the MPP construction please identify the hourly, daily and monthly construction emission estimates and add them to the MPP construction emissions estimate to provide a cumulative construction emissions estimate.
163. Please remodel the construction emissions using the worst-case cumulative construction emissions.
164. Please model the 1-hour NO_x emissions using NO_x-OLM with recent hourly meteorological data and recent ozone data. If exceedances are still shown using NO_x-OLM modeling with the recent meteorological and ozone data then please use the Plume Volume Molar Ratio Method to determine the maximum near field NO₂ concentrations.
165. Please provide electronic copies of the cumulative construction emission modeling input and output files.

BACKGROUND

The Applicant has not indicated how it plans on mitigating the cooling tower PM₁₀ emissions. Staff has concluded that the cooling tower emissions will require 30 lbs/day of PM₁₀ emission reduction mitigation. Staff cannot recommend approval of this project until it has identified and secured all necessary and feasible emission mitigation.

DATA REQUEST

166. Please identify the PM₁₀ emission reduction mitigation for the cooling tower PM₁₀ emissions' impacts, and identify when such mitigation will be secured.

**Magnolia Power Project (00-AFC-6)
Data Requests**

Technical Area: Cultural Resources

Author: Mary Maniery

BACKGROUND

For the purpose of analysis, staff needs to address any potential historic resources. Swaner Hardwood is between the existing power plant and the proposed laydown area and the laydown area will abut the lumber facility on two sides. The lumber facility currently uses portions of the proposed laydown area for storage. While the lumber facility isn't within the laydown area, equipment or objects associated with the lumber facility will be removed from the area.

DATA REQUEST

167. How old is Swaner Hardwood? If it is more than 45 years old, please assess any impacts that may be caused by the proposed project.

BACKGROUND

Staff needs clarification of construction procedures to complete the analysis.

DATA REQUEST

168. Please describe any necessary ground disturbance for the offsite laydown area. How deep will the property be graded? Will there be any trenching for drains or poles installed for lights?

**Magnolia Power Project (00-AFC-6)
Data Requests**

Technical Area: Hazardous Materials Management

Author: Alvin Greenberg, Ph.D.

Technical Senior: Rick Tyler

BACKGROUND

The precise identity of the hazardous materials used on site is necessary for staff to assess potential risk.

DATA REQUEST

169. Please provide the chemical name, CAS number and MSDS for the oxygen scavenger solution listed in table 3.4-8 of the "Magnolia Supplement to the AFC Zero Liquid Discharge Option", dated May 2002.

**Magnolia Power Project (00-AFC-6)
Data Requests**

Technical Area: Land Use

Author: David Flores

BACKGROUND

The applicant has stated that the revised off-site construction laydown area is zoned Railroad and M-2. The proposed use is permitted in the M-2 zone and requires a Conditional Use Permit for the portion in the area zoned Railroad. Energy Commission staff needs to know whether the applicant will apply for the Conditional Use Permit through the local planning agency.

DATA REQUEST

170. Please provide copies of the Conditional Use application and any additional pertinent information required by the local planning agency.
171. If the CEC is to make findings in order to approve the equivalent of a Conditional Use Permit, please provide the supporting data to make the findings requirements.
172. Please provide any condition requirements that the City of Burbank would require if granting the Conditional Use Permit.

**Magnolia Power Project (00-AFC-6)
Data Requests**

Technical Area: Public Health

Author: Alvin Greenberg, Ph.D.

Technical Senior: Mike Ringer

BACKGROUND

The “Supplement to the AFC, Zero Liquid Discharge Option”, provides a revised Health Risk Assessment including the emissions from the ZLD system. Clarification regarding the assumption of using 50% reclaimed make-up water is needed. Also, the points of maximum risk and hazard should be identified on a map.

DATA REQUESTS

173. Please provide the basis to the assumption that make-up water will consist of 50% reclaimed water and 50% local ground water.

174. Please provide a map showing the location of maximum cancer risk and hazard indices as stated in Table 5.16-2 of the “Supplement to the AFC, Zero Liquid Discharge Option” dated May 2002.

**Magnolia Power Project (00-AFC-6)
Data Requests**

Technical Area: Soil and Water Resources

Authors: James Schoonmaker and Richard Sapudar

BACKGROUND

We received a 'Supplement' that represents an optional project design. However, there appears to be several areas where the document presents material not previously submitted, and not obviously related to ZLD. For example, it would appear that it is the applicant's intent to replace the entire Section 3 of the AFC, even those not changed by the ZLD 'option'. In addition, the Cumulative Impacts Section appears to present material either not seen before, or presented only in Data Responses. Numerous other examples exist.

DATA REQUEST

175. Please clarify if this 'Supplement' in its entirety is to be disregarded if the 'Option' of ZLD is not selected. Please specify any material that is to be utilized in that event. Further, please specify material that was included for reason other than ZLD and provide the reason for its inclusion.
176. If any of the new information contained in the ZLD Option Supplement is to be considered part of the currently proposed project design using the NPDES permit, it must be identified as part of the proposed project. If this is the case, indicate which new data apply to both the optional ZLD design, and to the proposed NPDES option, and amend the AFC as required.

BACKGROUND

There is discussion of ZLD reliability at 4.3-16 Assumptions item 19) "...a brine storage tank has been added to the ZLD to allow for outages in the crystallizer." The INTRODUCTION 1.1 says there will be a lime precipitator, deionization using a recirculated solids type clarifier and a mobile demineralizer trailer followed by a reverse osmosis unit, and finally a "thermal crystallizer/filter press/sludge dryer combination." Section 5.5.2.1 states the ZLD may include "solids contact units" and/or ion exchange units on mobile trailers, a "thermal or high performance reverse osmosis type brine concentrator", and finally "a crystallizer" with 5 days storage of crystallizer feed. There are no further discussions of reliability, or of the consequences of ZLD failures in any of the equipment other than the crystallizer. There are no details provided concerning the equipment arrangements or specifics of design.

DATA REQUEST

177. Will the power plant operate if any components of the ZLD system are not operational? If yes, describe this operational scenario in detail, particularly with regard to the wastewater discharge.

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Data Requests**

- 178. Will the power plant operate if the overall ZLD system is not operational? If yes, describe this operational scenario in detail, particularly with regard to the wastewater discharge.
- 179. Please provide a basic flow diagram for the ZLD system showing major components and their interconnection. Also see Data Request 187below.

BACKGROUND

The AFC Supplement (AFCS) for the ZLD option, Table 3.4-8 “ANTICIPATED HAZARDOUS CHEMICAL USAGE AND STORAGE”, which is similar to the AFC Table 3.4-6, has the addition of the various chemicals required for the ZLD option. However, it also includes the Sodium metabisulfite required for dechlorination of the original cooling tower blowdown discharge to outfall 001.

DATA REQUEST

- 180. What is this chemical being used for in the ZLD option? If it is not being used, why has this chemical not been eliminated? Is there intent of maintaining the possibility of discharge of cooling tower blowdown with the ZLD option in place?

BACKGROUND

All water used by the project, whether primary, secondary, backup, and/or supplemental water, must be identified and quantified, and the conditions under which it will be used by the project must be adequately characterized. It is not possible for staff to conduct a water resources evaluation without this information. The fact that MPP will obtain its water supply from COB has no bearing on the need for MPP to provide definitive information on the source and quantity of the water being provided to the project. COB is the water provider/contractor for this project. The water COB will deliver to MPP under contract or other agreement must be identified and quantified.

Section 3.11.6 Alternative Water Supply Sources says in part “During peak load periods, the reclaimed water supply will be supplemented by available city water.” This statement is inconsistent with the “Maximum Heat Load, Maximum Water Use, Water Mass Balance” displayed in AFC Figure 3.4-5B, which does not reflect this “city water”. The amount of “City Water” and the sources from which this supplemental water is to be derived requires clarification. While the AFCS does provide tables and figures reflecting the project’s water use and water balance, it does not appear to accurately reflect the amount or method of use of the supplemental water discussed in the supporting text or define the source(s) of this water. For example, Table 3.4-1 note 1 indicates that “On days when sufficient reclaimed water is not available, other waters are used to supplement the reclaimed water supply.”

DATA REQUEST

- 181. Identify the water and supplemental water source(s) and quantities in revised AFCS Tables 3.4-1 and 3.4-1A and/or new tables.

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Data Requests**

182. Estimate on a monthly basis the range and average amount of reclaimed water available to MPP, the range and average amount of cooling water demand of MPP, and the range and average amount of any supplemental water from other source(s) required for operation for both an “average year” and a “drought year” for cooling or other purposes not already identified or quantified by MPP in the AFCS. Discuss the assumptions used for average and drought year projections, and consider the capacity for onsite storage of reclaimed water.
183. Revise the water balance(s) as required to reflect and quantify the use of supplemental water for cooling purposes under average and maximum water demand operating scenarios.
184. Identify any direct, indirect, or cumulative impacts that could result from the use of this supplemental water by the MPP. Identify, propose, and discuss any mitigation required to reduce any significant impacts to less than significant.

BACKGROUND

AFCS section 5.5.1.1 states that “The COB has indicated that its first priority for delivery of backup supply to the MPP would be from local groundwater wells.” Staff has indicated in the Staff Assessment that this is the preferred source.

DATA REQUEST

185. Discuss in detail the COB rights to this groundwater under the adjudication of the groundwater basin. Discuss the requirements of the consent decree regarding remediation of the groundwater contamination, and quantify the amounts of water involved. Discuss the COB/MPP use of this water considering the adjudication and consent decree. Describe all treatment processes necessary for COB to either use this water or comply with the consent decree.
186. Discuss the availability of ground water derived from on-site wells in amounts sufficient to operate the plant under the scenarios described in 180 above, or any other scenario envisioned by MPP that would require the use of this water.
187. Confirm that the project design and operational plan proposed in the AFCS ZLD option will use groundwater as the source of supplemental and/or backup water.
188. Discuss the need for a supplemental and/or backup water supply other than groundwater, the conditions or operating scenario(s) under which this water would be required, and quantify the amount needed on an annual basis.

BACKGROUND

The Water Mass Balance diagram 3.4-5B, appears to have errors around the CTG and HRSG area. There is no diagram in either of the two Mass Balances showing internals of the “Wastewater Concentration System” or ZLD. Textual material indicates there are flows from a lime precipitator, clarifier, RO unit, and Crystallizer; these have apparently

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been combined into the single “recycle” stream. In order to evaluate the reliability of the ZLD system it is necessary to see some detail of the components of the system, particularly storage tanks, which will enhance reliability and maintainability.

DATA REQUEST

189. Provide a more complete flow diagram for the ZLD system that includes the principal components and flows.
190. Discuss the feasibility of using the RO product water from the wastewater concentration system (AFCS Figures 3.4-5A and 3.4-5B) as feedwater for the demineralizer system, rather than cycling it back into the cooling tower basin as makeup. This approach would seem to completely or partially avoid the need for using city water as demineralizer feedwater when the reclaimed water is of inadequate quality, and the amount of RO product water appears to be more than adequate for this purpose.

BACKGROUND

The Revised Site Arrangement Plan Figure 3.4-2 shows Blowdown Treatment Building and Crystallizer Area. No other detail is given other than the footprint of these items. Figure 3.4-3 has an elevation view, but without any labels, it is not possible to determine what the structures are. Figure 3.5-1A, the Grading and Drainage Plan, does not show either the Blowdown Treatment Building or the Crystallizer Area. The Visual Impact area purports to show the change associated with this equipment, but without some knowledge of the equipment it is hard to tell what is provided.

DATA REQUEST

191. Provide basic information on the multiple pieces of equipment that are associated with the ZLD option, including external dimensions for the structures, and their location on the site.

BACKGROUND

The Public Health section, paragraph 5.16.2.2.2 Air Toxic Emissions, states that the cooling tower drift and resulting aerosol/solids emissions was calculated using half reclaimed water and half local ground water. This calculation is not consistent with the project design and operational plan described in AFCS sections 3 and 5, which indicates this calculation should be determined using all reclaimed water.

DATA REQUEST

192. Reconcile this inconsistency and correct the calculation and the appropriate AFCS section(s) as required.

BACKGROUND

The AFCS Section 3.4.7.4.3 specifies that the Maximum Daily Water Balances are a composite of peak and off-peak hours within a single day.

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DATA REQUEST

193. Please provide a heat balance showing the full load design conditions for the plant.
194. Will the Wastewater Concentration System be designed for operation at full load, or will it depend on storage of water in various stages of concentration to achieve a “composite” of peak and off-peak values?
195. If it is designed for the “composite” amounts, please discuss the operation that would occur if the plant operated at peak for more than the “composite” hours, or there were other conditions such as high ambient temperature or high TDS of the reclaimed water that caused above-expected values of water consumption and wastewater discharge. Quantify this additional water consumption and wastewater discharge, and either confirm that they are reflected in the water balance(s) and water supply/wastewater tables, or correct the balances and tables as necessary.

Magnolia Power Project (00-AFC-6)
Data Requests

Technical Area: Traffic and Transportation

Author: James Fore

BACKGROUND

The Southern California Public Power Authority has submitted a change in the proposed location of the offsite laydown area to be used during the construction of the Magnolia Power Plant (MPP). The original location for the laydown area was between Empire Avenue and Maria Street along Victory Place adjacent to the Union Pacific Railroad (UPRR) railroad lines. This location was selected so that rail service could be used for the delivery of heavy equipment and some supplies. This site is approximately 2 miles from the MPP site.

The new laydown area location is approximately 200 yards north of the MPP on the north side of Magnolia Boulevard. This is an industrial area that has some routine truck traffic. The proposed site is currently used as a truck yard and for railroad easement. The location is bounded by Magnolia Boulevard to the south, the Burbank Western Channel on the east and the Union Pacific Railroad (UPRR) tracks to the west and north. The entrance to the laydown area is located off of a dead end road located along the southern edge of the site and parallel to the north side of the Magnolia Boulevard overpass.

It is still the intent of the applicant to use rail service for the delivery of heavy equipment and some materials to the laydown area. Truck deliveries to the site are expected to occur on weekdays between 6:00 a.m. and 6:00 p.m. The site can be accessed by trucks traffic traveling west on Magnolia Boulevard. This traffic would take the service road that parallels Magnolia Boulevard overpass on its south side. This road allows traffic to access businesses located under the Magnolia Boulevard overpass.

Equipment, material, and supplies to be delivered to the plant site from the proposed laydown area are to take the following route. The trucks will turn right from the laydown area taking the parallel access road on the north side of Magnolia Boulevard. Trucks would proceed in the westerly direction to the intersection of Varney Street with Magnolia Boulevard. This intersection is located at the foot of the Magnolia overpass. At this intersection the trucks would make a left turn crossing Magnolia Boulevard to enter the main gate. The gate entrance for the power plant is offset some 25 yards west of the Varney Street/Magnolia Boulevard intersection.

Data Request

196. Please discuss the traffic control plan for movement of equipment, materials, and supplies in and out of the laydown area. This plan should address traffic safety issues associated with the route, such as:
 - The limited sight distance for traffic traveling west on Magnolia Boulevard coming over the Magnolia Boulevard overpass approaching Varney Street,

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Data Requests**

- The fact that this is not a signalized intersection,
 - Truck traffic crossing Magnolia Boulevard will not proceed in a direct line to the north gate but must swing in a southwesterly direction into oncoming traffic,
 - The movement of oversize loads with special attention to safety issues for these trucks crossing Magnolia Boulevard,
 - The effects of truck traffic (in and out of the laydown area) during the peak traffic hours for the community, and
 - The hours for truck traffic from the laydown area to the plant site.
197. Please discuss alternate routes such as the suggestion below, for trucks delivering equipment, materials and supplies to the plant site from the laydown area.

One possible route would be for those trucks leaving the laydown area for the plant site to turn right at the intersection of Varney Street with Magnolia Boulevard and proceed west to Victory Boulevard. Once on Magnolia Boulevard the trucks would move to the center lane and make a left turn at the intersection of Magnolia Boulevard and Victory Boulevard (intersection has traffic signals). This would give the trucks approximately three blocks to merge with traffic, and all turns would be made at intersections with traffic signals. Once on Victory Boulevard the travel route would follow the route that was to be used from the original laydown area. Trucks would proceed south on Victory Boulevard to its intersection with Olive Street. At the Victory Boulevard/Olive Street intersection (controlled by traffic signals) the trucks would turn left on to Olive Street and proceed east. At the Olive Street overpass the trucks would take the parallel access road on the right and proceed under the overpass and through the south entrance of the plant site. This route would require the trucks to travel approximately one mile.