DOCKETED

Docket Number:	07-AFC-06C
Project Title:	Carlsbad Energy Center - Compliance
TN #:	203263
Document Title:	Data Request Set 4, Soil and Water Resources (Nos. 86-90), Transmission System Engineering (91-92)
Description:	N/A
Filer:	April Dearbaugh
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	10/28/2014 12:03:20 PM
Docketed Date:	10/28/2014

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

October 28, 2014

George L. Piantka, PE
NRG West Director, Environmental Business
5790 Fleet Street, Suite 200
Carlsbad, CA 92008

Dear Mr. Piantka:

CARLSBAD ENERGY CENTER PROJECT AMENDMENT (07-AFC-6C) DATA REQUESTS Set 4 (nos. 86-92)

The California Energy Commission staff continues to review the requested modifications to the licensed Carlsbad Energy Center Project (licensed CECP), and requires the following information pursuant to Title 20, California Code of Regulations, section 1769(a)(1)(E), necessary to: 1) more fully understand the project modifications; 2) assess whether the amended facility will be constructed, and old facilities demolished, in compliance with applicable regulations; 3) assess whether the amended CECP will result in significant environmental impacts; 4) assess whether the facilities will be constructed and demolished in a safe, efficient, and reliable manner; and, 5) assess the need for potential mitigation measures beyond those already approved by the Energy Commission in its May 31, 2013 Final Order.

This **final** set of Data Requests (Set 4) includes the following technical disciplines: Soil & Water Resources (nos. 86-90) and Transmission System Engineering (nos. 91-92). Staff requests that responses to the enclosed Data Requests be submitted as soon as possible (before November 26, 2014). Given the necessary schedule of discovery and analysis for this proceeding, staff continues to encourage the petitioner to submit thorough data responses in order that potential schedule delays for completion of the Preliminary Staff Assessment (PSA) are avoided.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to both Commissioner Karen Douglas, Presiding Committee Member for the Carlsbad Energy Center Project Amendment, and me as soon as possible, but no later than 20 days after receipt of the data requests. If you have any questions, please call me at (916) 654-4894, or E-mail me at mike.monasmith@energy.ca.gov.

Sincerely,

Mike Monasmith
Siting Project Manager

Enclosure:

Technical Area: Soil and Water Resources
Author: Mike Conway

BACKGROUND – RECYCLED WATER DISCHARGE

On September 24, 2014, staff attended a publicly noticed workshop along with the petitioner, intervenors, and agency staff, in the city of Carlsbad. In attendance from the city were Terry Smith, Senior Engineer of the city of Carlsbad Utilities and Gary Barberio, Assistant City Manager. One of the topics of discussion was the design of the amended CECP's industrial wastewater discharge system, if reclaimed water were used for industrial purposes. The Reclaimed Water Balance diagram (Petition to Amend [PTA], Figure 2.1-3b) indicates the petitioners' intent to discharge a peak daily amount of 262 gallons-per-minute (gpm) to the Encina Wastewater Authority (EWA) sewer system. The discharge to the sewer system would flow to the Encina Water Pollution Control Facility (EWPCF) approximately 1.5 miles south of the Encina Power Station site, where it would be treated. A portion of the EWPCF discharge goes directly to the ocean and a portion goes to the Carlsbad Water Recycling Facility (CWRF), where it is treated to tertiary standards and delivered throughout the city for authorized reclaimed water uses.

The amended Carlsbad Energy Center Project (amended CECP) use of up to 675 gallons per minute (gpm) of reclaimed water would result in a significant increase in total dissolved salts (TDS) or 'salinity' of associated wastewater flows into the EWA system. Salinity concentrations in wastewater treatment plants discharge are limited through state and federal regulation by the San Diego Regional Water Quality Control Board (SDRWQCB). The treatment processes at the treatment plants do not remove salts from the wastewater they receive. Therefore, there is potential for the proposed wastewater discharge to impact the treatment plant's ability to comply with applicable regulations and standards stipulated in their permit.

The petitioner submitted a formal request to the city, dated August 1, 2014, requesting their acceptance of wastewater volume amounts expected from the amended CECP (TN# 203099). The city staff in attendance at the September 24, 2014 meeting indicated that the discharge would likely contain high levels of TDS that would be unacceptable by the EWPCF. City staff described how their reclaimed water facility is already receiving the maximum allowable levels of TDS and cannot accept higher levels from the amended CECP. For this reason, the applicant's request for sewer service of the amended CECP's wastewater discharge would likely not be accepted.

The PTA indicated that the petitioner was currently considering their options for reconfiguring their proposed discharge design. Options under consideration included constructing a new "brine" discharge line from the EWPCF to the ocean; direct discharge from the amended CECP site to the ocean; and, additional onsite treatment facilities at the amended CECP site prior to discharge into the sewer system. In order to complete an environmental analysis and ensure LORS compliance, staff needs additional information on the proposed method(s) for treatment and disposal of the industrial wastewater discharged from the amended CECP.

DATA REQUESTS:

86. Please describe alternative wastewater discharge options currently under consideration for the amended CECP, including flow diagrams showing how the discharges would be routed and/or treated.

87. For each discharge option under consideration, please specify the ultimate discharge location.

88. If any new offset facilities and linear facilities are required to handle wastewater flows, please identify what they are, where they would be located, area(s) of expected and potential disturbance, and what approvals would be needed for construction.

89. If post treatment of industrial wastewater at the project site is proposed prior to discharge into the EWA sewer system, please identify what equipment will be required and where it will be located on the project site.

90. For each discharge option being considered, please describe the potential for schedule delays related to any potential permits required by SDRWQCB in terms of the acceptance of increased wastewater discharge. For instance, will the discharge require Waste Discharge Requirements (WDRs) from the SDRWQCB, or a will-serve acceptance from the city of Carlsbad and/or Encina Wastewater Authority?

Technical Area: Transmission System Engineering
Authors: Ajoy Guha, P. E. and Mark Hesters

BACKGROUND: ONE-LINE DIAGRAM OF THE PROPOSED SWITCHYARDS

Since the proposed project would consist of three separate switchyards (two 230/13.8 kV switchyards for the proposed units 6 & 7, and units 8 & 9; one 138/13.8 kV switchyard for the proposed units 10 & 11), the submitted switchyard one-line diagram Figure DR21-1 does not include complete electrical one-line diagrams of the switchyards. It is standard industry practice to locate circuit breakers with associated disconnect switches on either end of a generator (gen) tie line for protection of the gen line. The provided diagrams do not depict any circuit breaker with associated disconnect switches for the outgoing gen tie line at the switchyard 230 kV/138 kV buses. (Data Response to TSE data request set 1, dated August 15, 2014: tn202938).

DATA REQUEST

91. Resubmit Figure DR21-1 and provide complete electrical one-line diagrams for each of the three switchyards with additional information. The diagrams should show all equipment for the interconnection facilities within the three switchyards *including length, sizes and/or ratings which match the individual MVA rating of each gen unit or two gen units together where applicable*, as follows:

    a. Any bus duct connectors or cables between each gen unit and the low side of each gen step-up transformer (GSU), or between each gen unit and the 13.8/15 kV switchgear buses, breakers, and disconnect switches up to the low side of each gen step-up transformer (GSU);

    b. The GSU transformers with revised ratings (currently each GSU transformer rating appears to be underrated, shown as 76/101/127 MVA) based on each generator 155 MVA, 13.8 kV ratings (maximum generation MW output 131.8 MW @ 0.85 power factor as stated in your response) including percentage impedance of the revised GSU transformers based on its new base MVA rating.

    c. Any bus duct connectors or short overhead conductors/cables from the high side of the GSU transformer to the respective switchyard 230 kV/138 kV buses including 230 kV/138 kV breakers and associated disconnect switches.

    d. Provide the ampere ratings of the 230 kV and 138 kV switchyard busses, if any.

BACKGROUND: TERMINATION OF THE CECP 230 kV GEN TIE LINE AT THE SDG&E 230 kv SWITCHYARDS

The termination point of the CECP 230 kV gen tie line has not been specifically described. Applicant's September 19,2014 Set 1 Data Responses (to DR no. 28) indicated "In the 230 kV portion of the Encina switchyard , SDG&E will take necessary actions to ensure that a breaker position is available for the new 230 kV line from the CECP amendment, thereby preventing interference with the existing EPS unit connections." However, it is necessary for the CEC to know the specific point of interconnection details (at least tentative) in order to complete the TSE PSA (Data Response to TSE data request set 1, dated Sept. 19, 2014)

DATA REQUEST

92. Describe the proposed actions/modifications that would be required by SDG&E to make space for a switching bay position for terminating the CECP 230 kV gen tie line, and please resubmit Figure DR28-4 (the post-project one line diagram of SDG&E 230 kV switchyard showing the new switching bay no. with installations such as additional breaker(s) with associated disconnect switches etc. with their ratings), and depict the intended actions/modifications necessary for the switchyard to accommodate the incoming amended CECP 230 kV gen tie line.