



CH2M HILL  
2485 Natomas Park Drive  
Suite 600  
Sacramento, Ca 95833  
Tel 916-920-0300  
Fax 916-920-8483

February 29, 2008

Christopher Meyer  
Project Manager  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

<b>DOCKET</b> <b>07-AFC-4</b>
<b>DATE</b> FEB 29 2008
<b>RECD.</b> FEB 29 2008

Subject: Chula Vista Energy Upgrade Project (07-AFC-4)  
Response to Environmental Health Coalition Data Requests 36 through 54

Dear Mr. Meyer:

Attached please find one original and 12 copies of MMC Energy, Incorporated's responses to the Environmental Health Coalition's Data Requests 36 through 54 for the Application for Certification for the Chula Vista Energy Upgrade Project (07-AFC-04).

If you have any questions about this matter, please contact me at (916) 286-0278 or Sarah Madams at (916) 286-0249.

Sincerely,

CH2M HILL

A handwritten signature in black ink, appearing to read 'D. Davy', written over the typed name.

Douglas M. Davy, Ph.D.  
AFC Project Manager

Attachment

cc: S. Madams

# Air Quality (36-44)

---

## Greenhouse Gas Reduction Goals

36. *Please provide an analysis on potential greenhouse gas emissions from the project and quantify any projected reductions or increases in the city's totals.*

**Response:** The existing MMC Chula Vista peaking power plant, utilizing the Pratt & Whitney TwinPac FT4/GG4 natural gas turbines, has the potential to generate 168,821 metric tons of greenhouse gases (carbon dioxide and its equivalents CO<sub>2e</sub>) or, on a tons per megawatt (MW) basis, the existing facility will generate 3,926.1 metric tons CO<sub>2e</sub>/MW. The new facility, using two GE LM6000 natural gas turbines, will produce up to 99,285 metric tons of CO<sub>2e</sub> from each turbine, or 2,206.3 metric tons of CO<sub>2e</sub>/MW. Thus, the new facility will result in a net decrease of greenhouse gases on a metric ton per megawatt-generated basis.

The City of Chula Vista may rely on this facility for some of its future power needs. This proposed upgrade to the Chula Vista Power Plant will result in new power generation that is far more fuel and carbon (CO<sub>2e</sub>) efficient than the existing facility. Thus, the proposed upgrade will aid the City of Chula Vista in meeting its future carbon-reduction goals.

## Construction Costs

37. *Please provide revised numbers of the potential overall construction costs of the CVEUP.*

**Response:** MMC's estimate of the total capital cost of the CVEUP is \$76.5M. This estimate, however, includes only \$1.6M to account for potentially required San Diego Gas and Electric Company (SDG&E) transmission line upgrades. If SDG&E determines in its Facilities Study that transmission line upgrades beyond this amount would be required, then this amount could be higher. In addition, the cost estimate does not currently include the cost to upgrade the onsite fuel gas meter. This may be necessary, and Sempra has indicated that the cost could be as high as \$695K. Generally speaking, the final project capital cost is expected to be between \$75M and \$80M

## Power Plant Life Span

38. *What is the projected life span over this power plant?*

**Response:** As stated in the AFC (Section 2.2.2.1, page 2-33), the projected life span for this power plant is 30 years.

## Hours of Operation

39. *What are the projected average hours of operation per year?*

**Response:** As stated in the responses to Environmental Health Coalition Data Requests 1, 9, 23 through 27, and 31, the most likely scenario is that the project will operate approximately 500 hours per year. This is consistent with CEC studies, as well as actual operating data from similar peaking power projects in the region.

## Climate Change Analysis

40. *Conduct an analysis on how much the plant would operate based on various climate change scenarios.*

**Response:** To the best of MMC's knowledge at this time, the CVEUP would not operate differently during its expected 30-year project life. Although it is possible that changes in the climate could be reliably detected during this time span, it is not clear at this point what direction any possible changes would take (cooler, warmer, wetter, drier, etc.) and the extent to which any such changes would or would not affect the demand for electricity in general or peaking power in particular. The fact would remain, in any case, that the CVEUP is a peaking power plant. Therefore, if the demand for electricity were to increase, new baseload plants would be constructed and CVEUP would maintain its role as a provider of peaking power. Under these circumstances, the CVEUP would be most likely operate as currently planned.

## Power Purchase Agreement

41. *Has MMC sought or is it planning to seek a Power Purchase Agreement with SDG&E?*

**Response:** Previous local requests for offers have preferred SDG&E-owned locations. MMC will evaluate new requests for offers when they are issued. In addition, the California Public Utilities Commission is considering establishing a capacity market to satisfy local reliability requirements. MMC will evaluate all of these opportunities for future power sales. The existing facility is dispatched by the California Independent System Operator (ISO) and could be so dispatched in the future.

## Pre-Sold Power

42. *Has MMC pre-sold its power? Or is it in the process of doing so?*

**Response:** MMC is currently operating the facility under a contract with the California ISO. The power from the upgraded facility could be sold under any of the scenarios described above. See the response to Data Request #42.

## Peak Power Supply Demands

43. *Is it true that MMC seeks to contract to be available at a moment's notice to fire up the turbines to supply power during peak demand periods? Is this compatible with the Resource Adequacy (RA) system (as this sounds like an RMR-style approach)?*

**Response:** The ability to start the turbines and to supply power to the grid quickly is an important attribute for a peaking power plant and can assist the California ISO in preventing power shortages, brownouts, and blackouts. Quick-start provides operating flexibility for the ISO during potential shortage situations and, for this reason, is compatible with the RA system.

Power is sold under a variety of attributes. Quick-start facilities with a 10-minute start-time such as the CVEUP, are capable of providing both spinning and non-spinning reserve capacity without the need to burn fuel when they are not called on to operate. The CVEUP would provide a backup power supply to the grid without the need to be operating. Furthermore, peaking facilities are a recognized and important resource to support the

addition of intermittent resources such as wind or solar generation, as required by the renewable portfolio standard and the greenhouse gas legislation AB 32.

Resource adequacy requirements specify that all load-serving entities must show they have sufficient resources to meet their projected load. One part of the resource adequacy requirement includes providing sufficient local resources within identified constrained load pockets. The CVEUP could satisfy both general resource adequacy and local resource adequacy requirements because of its location in a constrained load pocket.

### **Air Quality Assessment**

44. *Please provide an air quality assessment based on the increased butane content directly attributable to the use of liquefied natural gas (LNG).*

**Response:** The future use of LNG as a supplement to existing pipeline transport may result in a higher butane content in the fuel that is used by the proposed upgrade at Chula Vista. According to the U.S. Environmental Protection Agency AP-42, Section 1.5 (Liquid Petroleum Gas Combustion), October 1996, butane has a heating rate of 97,400 Btu/gallon or 2,864 Btu/Standard Cubic Feet (Gas Engineers Handbook, American Gas Association, 1965). The heat rate of PUC-grade pipeline natural gas is approximately 1,025 Btu/SCF (HHV). Thus, the introduction of butane with a higher heating value will result in less fuel use at Chula Vista, leading to a possible reduction in potential emissions of criteria and hazardous air pollutants. No update to the existing air quality impact analysis is necessary.

# Transmission (45-47)

---

## Substation Expansion Energy Impacts

45. *Explain in detail the planned substation expansions for the nearby substation on Main St. by SDG&E and how they could impact the amount of energy that the CVEUP could produce and transmit.*

**Response:** According to SDG&E, it will not be necessary to upgrade the Otay Substation, which is located at the corner of Albany and Main streets in Chula Vista, other than to upgrade line-protective relays. No new breakers will be installed there. The transmission line extending between the CVEUP site and Otay Substation (TL6929) and this line's relay systems, limit the amount of power that could be conveyed to the grid from this location to approximately 100 MW.

## Transmission Expansions

46. *Please provide any information regarding planned transmission expansions in the immediate area that could affect increased output from CVEUP.*

**Response:** MMC has no information regarding any planned transmission system expansions in the Chula Vista Area. The element that limits CVEUP's output to the grid is Transmission Line 6929 and MMC is not aware of plans to increase the capacity of this line.

## Transmission Congestion

47. *Please provide any information supporting MMC's claims that due to transmission congestion problems, CVEUP must be located in areas west of the I-805 and not areas east of the I-805.*

**Response:** MMC may have indicated that the electrical transmission system is somewhat congested east of I-805. The System Impact Study for the CVEUP indicates that this is so (see response to Data Request #49). A detailed understanding of congestion problems can only be developed through load flow studies and system modeling of the type conducted for a System Impact Study.

# Alternatives (48-49)

---

## Landfill Area as an Alternative Location

48. *Please provide a detailed evaluation of the landfill area (that is the actual land fill and parcels adjacent to it) regarding its feasibility as an alternative location to the CVEUP.*

**Response:** Please see MMC's response to EHC Data Request 34.

## Landfill Area Transmission Infrastructure

49. *Please provide an analysis regarding transmission infrastructure for the landfill area since it is known that some limited transmission does exist.*

**Response:** The Otay to Otay Lake Tap transmission line (TL649A) is a 69-kV transmission line that runs from the Otay Substation east to Otay Lake, passing through eastern Chula Vista. This line is rated at 50 MVA. In the California ISO's Interconnection System Impact Study for the CVEUP of March 21, 2007 (included as Appendix 3A to the AFC), potential overloads to this line are indicated unless the line is upgraded to a rating of 80 MVA. It would be necessary to conduct a separate System Impact Study, however, to assess the capacity of this line or other lines to accept generation from a power plant sited in eastern Chula Vista. This is the only high-voltage transmission line available in eastern Chula Vista.

# Noise (50-51)

---

## New Residential Noise Standard

50. *How does MMC plan on meeting the city's proposed new residential noise standard of 40 decibels? Please explain.*

**Response:** MMC is unaware of a proposed new residential noise standard of 40 decibels. Planning to meet such a standard would require more specific information about the proposed ordinance (would it stipulate a standard for nighttime hours only, a one-hour average or daily average, etc.?). MMC plans to meet the existing standard using extensive noise attenuation technology, including constructing 16-foot-high sound walls on the northern, eastern, and western boundaries of the project site.

## Noise Level Deviations

51. *Explain any deviations from the existing power plant's noise level obligations since MMC took over control of the plant.*

**Response:** In its January 17, 2008 letter to Mr. Eric Meyers, the City of Chula Vista listed the noise compliance studies that had been conducted to demonstrate compliance of the existing Chula Vista Power Plant with the City's noise ordinance. These are summarized below:

- Charles M. Salter & Associates conducted a noise monitoring study dated December 17, 2001. This study tested noise levels between the project's noise barrier and property lines east, west, and south of the plant. The City's letter concluded that "These recorded noise levels indicated that the noise generated by the operating plant was in full compliance with the City of Chula Vista Municipal Code requirements."
- A noise monitoring study conducted by CH2M HILL on July 25 included several hours during which the existing plant was in full operation. This study monitored noise levels at existing residences. The City's letter concluded that "All of the noise measurements taken were in compliance with the Noise Element of the City of Chula Vista General Plan, and with the noise limits set in Section 19.68.030 of the City of Chula Vista Municipal Code."

The City of Chula Vista has, therefore, concluded that the existing plant is in compliance with its noise obligations.

# Cultural Resources (52-53)

---

## Anderson House Mitigation Impacts

52. *Explain MMC's planned measures regarding mitigation of impacts to the Anderson House as well as to the residents thereof.*

**Response:** EHC has not provided the address of this structure, so additional analysis is not feasible. MMC has conducted a thorough literature search and analysis of historic buildings and structures in the immediate project area (see AFC Section 5.3 and the responses to CEC Staff Data Requests 34 and 35). The conclusion of this analysis is that the CVEUP would not adversely affect historic properties and so mitigation is not required.

## Potential Impacts to the Anderson House

53. *Please provide any and all analyses down (sic) regarding potential impacts to (sic) Anderson House.*

**Response:** See the response to Data Request #52, above.

# Water Resources (54)

---

## Change in Air Emissions for Potable vs. Reclaimed Water

54. *Please provide an analysis comparing the change in air emissions for criteria pollutants between the CVEUP when using potable water and the CVEUP when using reclaimed water.*

**Response:** There would be no difference in the quantities of criteria pollutants emitted from the CVEUP when using potable water and if it were using reclaimed water. This is because any process water to be used, regardless of source, would be demineralized and otherwise purified and treated before use.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE  
STATE OF CALIFORNIA

Application for Certification for the  
*CHULA VISTA ENERGY*  
*UPGRADE PROJECT*

Docket No. 07-AFC-4

PROOF OF SERVICE  
(Revised 01/03/08)

**INSTRUCTIONS:** All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION  
Attn: Docket No. 06-AFC-07  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

**APPLICANT**

Harry Scarborough  
Vice President  
MMC Energy Inc.  
11002 Ainswick Drive  
Bakersfield, CA 93311  
[hscarborough@mmcenergy.com](mailto:hscarborough@mmcenergy.com)

**COUNSEL FOR APPLICANT**

Jane Luckhardt, Esq.  
Downey Brand Law Firm  
555 Capitol Mall, 10th Floor  
Sacramento, CA 95814  
[jluckhardt@downeybrand.com](mailto:jluckhardt@downeybrand.com)

**APPLICANT'S CONSULTANTS**

Douglas M. Davy, Ph.D.  
CH2M HILL Project Manager  
2485 Natomas Park Drive, Suite 600  
Sacramento, CA 95833  
[ddavy@ch2m.com](mailto:ddavy@ch2m.com)

**INTERESTED AGENCIES**

Larry Tobias  
Ca. Independent System Operator  
151 Blue Ravine Road  
Folsom, CA 95630  
[LTobias@caiso.com](mailto:LTobias@caiso.com)

**APPLICANTS ENGINEER**

Steven Blue  
Project Manager  
Worley Parsons  
2330 E. Bidwell, Suite 150  
Folsom, CA 95630  
[Steven.blue@worleyparsons.com](mailto:Steven.blue@worleyparsons.com)

Electricity Oversight Board  
770 L Street, Suite 1250  
Sacramento, CA 95814  
[esaltmarsh@eob.ca.gov](mailto:esaltmarsh@eob.ca.gov)

## **INTERVENORS**

**\* California Unions for Reliable Energy (CURE)**  
c/o Marc D. Joseph  
Gloria Smith  
Suma Peesapati  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080  
mdjoseph@adamsbroadwell.com  
gsmith@adamsbroadwell.com  
speesapati@adamsbroadwell.com

**\* City of Chula Vista, California**  
c/o Charles H. Pomeroy  
Caren J. Dawson  
McKenna, Long & Aldridge, LLP  
444 South Flower Street  
Los Angeles, CA 90071  
cpomeroy@mckennalong.com  
cdawson@mckennalong.com

**\* Environmental Health Coalition**  
Diane Takvorian & Leo Miras  
401 Mile of Cars Way, Suite 310  
National City, CA 91950  
DianeT@environmentalhealth.org  
LeoM@environmentalhealth.org

## **ENERGY COMMISSION**

Jackalyne Pfannenstiel, Chair  
Presiding Committee Member  
[jpfannen@energy.state.ca.us](mailto:jpfannen@energy.state.ca.us)

James D. Boyd, Vice Chair  
Associate Committee Member  
[jboyd@energy.state.ca.us](mailto:jboyd@energy.state.ca.us)

Raoul Renaud  
Hearing Officer  
[rrenaud@energy.state.ca.us](mailto:rrenaud@energy.state.ca.us)

Chris Meyer  
Project Manager  
[cmeyer@energy.state.ca.us](mailto:cmeyer@energy.state.ca.us)

Kevin Bell  
Staff Counsel  
[kbell@energy.state.ca.us](mailto:kbell@energy.state.ca.us)  
Public Adviser's Office  
[pao@energy.state.ca.us](mailto:pao@energy.state.ca.us)

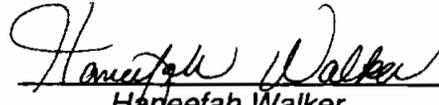
**DECLARATION OF SERVICE**

I, Haneefah Walker, declare that on February 29, 2008, I deposited the required copies of the attached Response to Environmental Health Coalition Data Requests 36 through 54, filed in support of the Chula Vista Energy Upgrade Project (07-AFC-4) in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. I declare under penalty of perjury that the foregoing is true and correct.

**OR**

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

  
\_\_\_\_\_  
Haneefah Walker