State of California

Memorandum

05-AFC-3
DOCKET
05-AFC-2
DATE JUL 24 2006
RECD. JUL 24 2006

The Resources Agency of California

To: Dockets Unit

Date : July 24, 2006

Telephone: (916)654-4640

From : **California Energy Commission** Lorne Prescott, PM-Siting
1516 Ninth Street
Sacramento CA 95814-5512

Subject: Attached Email from California Air Resources Board and Letter from CH2M Hill regarding the Health Risk Assessment completed for Walnut Creek (05-AFC-2) and for Sun Valley (05-AFC-3)

Attached is a package consisting of a letter dated June 30, 2006 to Stephanie Kato of the California Air Resources Board regarding comments on the Health Risk Assessment for both the Edison Mission Energy Walnut Creek Energy Park and the Sun Valley Energy Projects. The email from CARB responds to these comments.

This package should be docketed, for both of the projects noted above as the original comments, and the response based on the CH2M Hill letter, cover both projects.

Thank You,

Lorne Prescott, Project Manager
Walnut Creek Energy Park (05-AFC-2)

And

Robert Worl, Project Manager
Sun Valley Energy Project (05-AFC-3)

Lorne Prescott - Response to HRA Comments for Walnut Creek 05-AFC-2

From: Stephanie Kato <skato@arb.ca.gov>
To: Eric Knight <cknight@energy.state.ca.us>
Date: 7/19/2006 9:31 AM
Subject: Response to HRA Comments for Walnut Creek 05-AFC-2
CC: Doug Davy <ddavy@ch2m.com>, Richard Boyd <rboyd@arb.ca.gov>, Renee Coad <rcoad@arb.ca.gov>, Kitty Howard <khoward@arb.ca.gov>

Eric,

On May 15, 2006, we transmitted via e-mail ARB's comments on the health risk assessment (HRA) for the Walnut Creek Energy Park project. On June 30, 2006, we received a letter from CH2M Hill responding to our comments. We have reviewed these responses, which show that our issues have been addressed. Therefore, we have no further comments.

Please contact us if you have any questions.

Thank you,
Stephanie Kato

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833
Tel 916.920.0300
Fax 916.920.8463

CH2MHILL

June 30, 2006

Ms. Stephanie Kato
California Air Resources Board
Headquarters Building
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Re: Health Risk Assessments, Edison Mission Energy Sun Valley Energy Project and Walnut Creek Energy Park Applications for Certification

Dear Ms. Kato:

The California Energy Commission Staff have provided Edison Mission Energy (EME) with the California Air Resources Board's comments on the Health Risk Assessments (HRA) that were included as part of the Applications for Certification (AFCs) for the Sun Valley Energy Project and Walnut Creek Energy Park. CH2M HILL assisted EME in preparing the AFCs. Our subconsultant, Mr. Gregory Darvin of Atmospheric Dynamics, prepared the HRA analyses for the AFCs. Mr. Darvin has reviewed your comments and offers the following responses. Because the comments on the HRAs for the two projects were identical, a single response is provided here to apply to both projects.

Comment: *Table 8.9-6 states the construction impacts were adjusted using a factor of 1/70 to adjust the construction cancer health risks. This is inconsistent with the current Office of Environmental Health Hazard Assessment (OEHHA) guidelines. The guidelines in Section 8.2.2 state that to evaluate risk for exposures of less than 9 years it is assumed that average daily dose for short-term exposure lasts for a minimum of 9 years. The adjustment factor used for construction cancer impacts should be 9/70.*

Response: Per the OEHHA guidance document, "as the exposure duration decreases the uncertainties introduced by applying cancer potency factors derived from very long-term studies increases. Short-term exposures are not necessarily equivalent to longer-term lower exposures even when the total dose is the same. OEHHA therefore does not support the use of current cancer potency factors to evaluate cancer risk for exposures of less than 9 years." Most air districts in California, including the South Coast Air Quality Management District, do not, for the preceding reason, require health risk assessments for construction projects, due to the short duration of such projects and the uncertainties associated with such calculations.

The risk value of 3.15E-7 presented in the HRA is based upon the projected and anticipated construction period, and represents a "best estimate" evaluation of potential risk, recognizing the inherent problems of applying the long-term factors to a short-term situation. Conversely, application of a 9-year exposure period to a 1-year project is also inappropriate, but would result in a cancer risk value of 2.84E-6. The 2.84E-6 value is well below the AQMD Rule 1401 significance level for sources constructing with T-BACT. Since the construction equipment is projected to comply with all applicable EPA tier standards (off-road equipment), and use California certified diesel and gasoline fuels, the T-BACT significance level would apply and, as such, the cancer risks would not be significant.

Comment: *The report describes the methodology used to estimate maximum cancer risk, and chronic and acute non-cancer hazard indices. Section 8.9.2.4 and Table 8.9-4 show the use of URFs to estimate cancer risk. This is not consistent with current Office of Environmental Health Hazard Assessment (OEHHA) guidelines recommendations or ARB's recommended interim risk management policy (October 9, 2003). The current methodologies indicate that inhalation cancer risk should be estimated using the inhalation dose (mg/kg-day) and the cancer potency factor* $(mg/kg\text{-}day)^{-1}$.

Response: Table 8.9-4 simply lists the common values used in health risk assessments for the air toxic pollutants identified as potentially emitted from the power plant processes. The HARP risk assessment program uses similar values in terms of units of mg/kg-day and $mg/kg\text{-}day^{-1}$. Since the HARP model was used, as explained in Response #3 below, the risk values are based on the proper dosage values.

Comment: *Review of the modeling files show that the HARP program was used to provide the dispersion modeling and health risks calculations. HARP version 1.0 was used for risk calculations in October 2005 and is not the most current version of HARP. In August 2005, ARB released an update patch to HARP making the current version 1.2a. ARB recommends that the latest version of HARP be used. The current version and update patch are available on ARB's website (www.arb.ca.gov/toxics/harp/harp.htm).*

Response: In February of 2006, the risk calculations were re-run for the gas turbine scenario using the latest version of HARP (1.2a). The table below shows the results of the HRA evaluations for the Sun Valley project gas turbines using HARP 1.0 versus HARP 1.2a.

Sun Valley Energy Project Gas Turbine HRA Results

HARP Version	Cancer Risk	Chronic HI	Acute HI
1.0	$1.37\ E^{-8}$	0.0152	0.079
1.2a	$1.38\ E^{-6}$	0.0152	0.0792

These data indicate that the differences between the HARP versions, for this cancer risk run scenario, are insignificant, i.e., less than one percent. These differences are, furthermore, most likely due to rounding error, and have nothing to do with actual risk calculations.

Please call me at (916) 286-0278 or Greg Darvin at (805) 569-6555 if you would like to discuss your comments, or our responses further. Thank you very much for your comments.

Sincerely,

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

cc: J. Morris (EME)
D. Benham (EME)
G. Darvin (Atmospheric Dynamics)