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TO: Kitty Howard, Manager
Regulatory Assistance Section
Stationary Source Division

FROM: Richard Boyd, Manager
Process Evaluation Section
Stationary Source Division

DATE: January 25, 2007

SUBJECT: COMMENTS ON THE HEALTH RISK ASSESSMENT FOR THE
VERNON POWER PLANT

This memo is in response to your request that we review the December 2005 health risk assessment (HRA) for the Vernon Power Plant Application for Certification submitted to the California Energy Commission (CEC). Our review consisted of evaluating the appropriateness of the health effects values and the methodology for assessing health risks. Our review was limited to the public health and risk assessment sections. We did not review the emissions, emission estimation techniques, or the source emission data or parameters used in the air dispersion modeling for this application. We recommend that the Modeling Support and the Emission Inventory Sections of the Planning and Technical Support Division be asked to review and comment on these data. The Office of Environmental Health Hazard Assessment (OEHHA) Risk Assessment Guidelines were used to evaluate the methods of assessing health risks.

Our comments are based on review of the text and modeling files submitted to the CEC. The minimal information provided was poorly presented, inconsistent, and incomplete; therefore, the health risk assessment for this site may be unreliable. The data provided in Appendix 8.6C does not provide documentation of the assumptions and parameters chosen to assess health impacts. This documentation is necessary for a complete review of the health risk assessment to occur.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

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Specific comments for the Vernon Power Plant health risk assessment have been included as an enclosure. Based on our review, we recommend that the public health section be revised to address these comments and provide documentation for the methodology for estimating the health risks. If you have any questions regarding the enclosed comments, please contact Ms. Renée Coad of my staff at (916) 327-5982.

Enclosure

cc: Ms. Renée Coad
Air Resources Engineer
Process Evaluation Section

Enclosure

Vernon Power Plant Toxic Emissions Health Risk Assessment Review

January 2007

Based on our review, the assessment of health risk impacts due to construction and operation of the Vernon Power Plant was poorly presented, inconsistent, and incomplete. The health risk assessment should clearly show impacts, locations of impacts, and methodology for estimating the health risks to assist in review of the risk assessment. This documentation is necessary for a complete review of the health risk assessment. Accordingly we recommend that the public health section be revised to address the following comments and resolve the inconsistencies.

Comments

- The application does not provide documentation or data that would allow a comprehensive review of the risk assessment. The data provided shows numerous inconsistencies that make it difficult to interpret the health risk assessment results. For example:
 1. The document dated June 2006 shows Appendix 8.6C titled Public Health Assessment/HARP Modeling. The CD provided is titled Appendix 8.6B Health Risk Assessment Modeling Files and dated February 2006. The files on the CD are inconsistent with the files in the June 2006 document.
 2. The sources used in the HARP modeling are not consistent with the sources used for the air quality dispersion modeling. Table 8.1C -1 identifies 19 sources. The health risk assessment shows 13 sources with minimal to no description to help to evaluate the sources in this risk assessment.
 3. Diesel particulate matter (PM) emissions from the emergency fire pumps were not addressed in this risk assessment.
 4. The coordinates given in the HARP source and receptor files for the locations of the sources of emissions are almost 1 kilometer (nearly 1,000 meters) west of the actual location of the proposed Vernon Power Plant. Since the locations of the MEIW and MEIR locations are relative to the emission sources, the location and values of health impacts will change when the sources are located correctly.

5. Appendix 8.1C shows files for cancer impacts at receptor #26068. The figure showing the screen capture highlights the location of receptor #26269 when showing the location of the MEIR.
6. Construction emissions due to 24 months of project construction are discussed several times in this document but health impacts from diesel particulate matter (PM) emissions are not addressed or characterized as recommended in the OEHHA guidelines. The potential risks due to diesel PM can be significant and even short-term exposure has the potential for elevated cancer risks.
7. The public health section 8.6.4.3 shows the health risk assessment was prepared using South Coast AQMD risk assessment guidelines as a supplement to 2003 OEHHA risk assessment guidelines. The OEHHA guidelines methodology for the preparation of risk assessments includes health risk impacts at the point of maximum impact (PMI), MEIR, MEIW, and sensitive receptors (chapter 8 of the guidelines). This risk assessment does not give the health risk impacts at the PMI. To be consistent with the OEHHA guidelines, this risk assessment should include health risk impacts at the PMI.