

Public Notice

EPA issued a Fact Sheet for the project on August 12, 2011 to provide information for the public to assess the proposal. EPA's fact sheet estimated that the project's PM-10 emissions would be 62.5 tons per year.¹ In the final permit issued after the close of the comment period EPA disclosed that PM-10 emissions would be 111.1 tons per year² or a 77 % increase in PM-10 emissions for the project. Similarly the August 12, 2011 Fact Sheet claimed that PM 2.5 emissions would be 56 tons per year.³ After the close of the comment period and with the issuance of the final permit EPA now estimates that PM 2.5 emissions will total 88 tons per⁴ year a 57% increase in annual emissions. The public was clearly misled as to the impacts of this project and the Board must remand the permit back to EPA to reissue the draft with the correct emissions so the public can effectively understand the project's impacts and comment on the permit.

The public was also led to believe by the Fact sheet that EPA is setting mass emission limits of 4.7 lb/hr without duct firing and 8.0 lb/hr with duct firing based on a 3-hr average for PM-10 which would be BACT for PM-10.⁵ The final permit allows a 8.6 lb/hr of PM-10 without duct firing and a 11.3 lb/hr of PM-10 with duct firing averaged over 9 hours. The final permit allows an 82% increase in PM-10 emission rate without duct firing and an averaging period three times longer than the original permit. The public has plainly been misled by the fact sheet which offers a brand new Cadillac but the final delivers a run down clunker.

The Permit must be Remanded to Address Massive Post Comment Changes for PM-10 Emission Rates.

¹ FACT SHEET AN AMBIENT AIR QUALITY IMPACT REPORT August 2011 Page 10

² PSD Permit October 18, 2011 Page 7

³ FACT SHEET AN AMBIENT AIR QUALITY IMPACT REPORT August 2011 Page 10

⁴ PSD Permit October 18, 2011 Page 7

⁵ FACT SHEET AN AMBIENT AIR QUALITY IMPACT REPORT August 2011 Page 27

The Fact sheet issued for public comment state that EPA was setting mass emission limits of 4.7 lb/hr without duct firing and 8.0 lb/hr with duct firing based on a 3-hr average for PM-10 which would be BACT for PM-10.⁶ The final permit allows a 8.6 lb/hr of PM-10 without duct firing and a 11.3 lb/hr of PM-10 with duct firing averaged over 9 hours. BACT for large combined cycle turbines similar to the Palmdale Project is 7.5 pounds per hour or 0.0036 lb PM₁₀/ PM_{2.5} per MM BTU of natural gas.⁷ This limit was recently permitted for the Russell City Energy Center's PSD permit. The public was misled that the project would be employing BACT for particulate matter but the final permit issued without an opportunity for public comment raised the PM-10 emission rate by 82%. The Board must remand the permit back to Region 9 and allow the public an opportunity to address this enormous increase in PM-10 emission rates and yearly limits. The public was led to believe tha the project was employing BACT for PM-10 but in fact it was not as revealed in the final permit after the close of the comment period.

PM-10 Emissions Averaging Times

The Fact Sheet issued for public comment stated that EPA was setting mass emission limits of 4.7 lb/hr without duct firing and 8.0 lb/hr with duct firing based on a **3-hr average** for PM-10. The final permit allows a 8.6 lb/hr of PM-10 without duct firing and a 11.3 lb/hr of PM-10 with duct firing **averaged over 9 hours**. This is a significant change in the averaging time after the close of the comment period. Normally PM-10 emission rates are averaged over 1 hour such as the Russell City energy Center Permit which has a PM-10 emission rate limitation of 7.5 lb/hr averaged over one hour. The nine hour averaging period is a significant relaxation of the emission rate and is not protective of the health based standards for particulate matter.

⁶ FACT SHEET AN AMBIENT AIR QUALITY IMPACT REPORT August 2011 Page 27

⁷ Russell City PSD Permit Page 10
http://www.baaqmd.gov/~media/Files/Engineering/Public%20Notices/2010/15487/PSD%20Permit/B3161_nsr_15487_psd-permit_020410.ashx?la=en

BACT for Start-Up and Shut down emissions.

In the original draft permit EPA provided hourly permit limits on NOx emissions for Cold Starts of 52.4 pounds per hour and CO emissions of 224 lbs per hour. For shut down events the draft permit restricted NOx emissions to 114 pounds per hour and 674 pounds of CO per hour. In the Final Permit issued after the close of the public comment period EPA removed the hourly limitation and increased cold start emissions to 96 pounds per event for NOx and 410 pounds per event for CO and eliminated the pound per hour limitation. The shut down emission limits were changed to 57 pounds per event for NOx and 337 pounds per event for CO. Warm Start Emissions in the draft permit were 30 lbs per lb hour for NOx and 247 pounds per hour for CO. The final permit changed the emission limits for warm start to 40 lb per event for NOx and 329 pounds per event for CO.

GE has provided vendor guarantees for its fast start technology for the Oakley Generating Station which utilizes the GE Frame 7FA with fast start technology the same class of turbine as the Palmdale Project.⁸ EPA's BACT determination for the Palmdale Project does not meet the current BACT for Start Up and Shutdown emission for this class of turbine. CO BACT for Cold Start Up is 360 pounds per event which is significantly less than the 410 pound per event BACT limit in the Palmdale permit. NOx BACT for warm starts as guaranteed by GE is 22 pounds per event compared to the 40 pounds per event listed as BACT for the Palmdale Project. CO BACT for warm starts is 85 pounds per event which is 25% of the 320 pounds per event CO emissions limit declared as BACT for the Palmdale project . BACT for NOx for shutdown events is 39 pounds per event 30% less than the BACT determination for the Palmdale Project of 57

⁸ Attachment A

http://www.baaqmd.gov/~media/Files/Engineering/Public%20Notices/2011/20798/Footnotes-FDOC/FN045%20FDOC%20GE%20ltr%20BAAQMD%20re%20SU%20and%20SD%2012_2010.ashx?la=en

pounds . The BAAQMD has utilized these vendor guarantees and determined these values as BACT for the GE Frame 7FA with rapid start technology for Start UP and Shut Downs.⁹ Accordingly the permit must be remanded so the EPA can require current BACT for the Palmdale Project.

GHG BACT

Petitioner informed EPA that the project must set its GHG BACT limit through permit limits on the heat rate for the Palmdale project as the proposed permit contained no heat rate limitation.¹⁰ EPA agreed and in response to petitioners comments EPA set a maximum heat rate of 7,319 Btu/kWh.¹¹ The EAB should remand the permit to provide the public an opportunity to comment on the proposed heat rate limitation. EPA's proposed heat rate limitation is higher than the maximum heat rate identified by the applicant of 6,970 Btu/kWh.¹² The proposed heat rate of 7,319 Btu/kWh is higher than the achieved heat rates of comparable facilities identified by the applicant and the California Energy Commission.¹³ Clearly a lower heat rate has been achieved in practice by comparable facilities without the advanced turbines and solar generating capabilities of the Palmdale Project. The permit must be remanded to allow the public to comment on the proposed heat rate limitation.

⁹ FDOC Oakley Page 51

<http://www.baaqmd.gov/~media/Files/Engineering/Public%20Notices/2011/20798/Oakley%20FDOC%20January%202011.ashx?la=en>

¹⁰ EPA Response to comments Number 55 page 46

<http://www.epa.gov/region09/air/permit/palmdale/palmdale-response-comments-10-2011.pdf>

¹¹ EPA Response to comments Number 66 page 53,54

<http://www.epa.gov/region09/air/permit/palmdale/palmdale-response-comments-10-2011.pdf>

¹² **Response to EPA Comments on PHPP GHG BACT Analysis July 15, 2011 Page 2**

“The heat rate of 6,970 Btu/kWh is based on the higher heating value (HHV) of natural gas with two CTGs operating at 100% with no solar input and with no duct firing. A lower heat rate (and hence fewer emissions) would be realized for the scenario of full solar and no duct firing, and would depend on operating conditions (temperature, pressure, etc.).”

¹³ CEC Final Staff Assessment Page 4.1-95 La Paloma Generating 7,172 Btu/kWh, Pastoria Energy Facility L.L.C. 7,025 Btu/kWh, Elk Hills Power, LLC 7,048 Btu/kWh, Sunrise Power 7,266 Btu/kWh

