colusa comments
rob
to:
R9AirPermits
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Plaese find my comments on the COlusa PSD permit attached

Thank you

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Colusa PSD comments

A recurring concern that I have with PSD permits is failure to provide for public participation. My hope was that the Russell City Energy Center EPA Environmental Appeals Board (EAB) Remand provided guidance that would be followed in permitting polluters. Environmental Appeals Judges Edward E. Reich, Charles J. Sheehan, and Anna L. Wolgast held that:

(3) While the Board generally will not consider notice allegations in a petition where the sole deficiency alleged is failure to give notice to a particular person other than the petitioner, it nevertheless regards it as appropriate to consider claims of failure of notice to other persons within the scope of allegations of fundamental defects in the integrity of the notice process as a whole that may be prejudicial to the notice rights of the petitioner and others.

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Furthermore, conferring standing in a restrictive manner would be at odds with clear Congressional direction for "informed public participation," *see* CAA § 160(5), 42 U.S.C. § 7470(5), and § 124.10's expansive provision of notice and participation rights to members of the public. This is illustrated by the requirement for permitting agencies to implement general outreach by compiling mailing lists of persons interested in permitting actions, *see* 40 C.F.R. § 124.10(c)(1)(ix)(A)-(C), and the statement elsewhere in part 124 that "*any* interested person may submit written comments on the draft permit." *Id.* § 124.11 (emphasis added).

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Moreover, given the pivotal importance to Congress of providing adequate initial notice within EPA's public participation regime under 40 C.F.R. part 124, *see supra* Part IV.B.,

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I have found no evidence of a public Notice for this facility that includes the information needed for "informed public participation" which is a demonstration of the projects effects on air quality in relationship to the National Ambient Air Quality Standards. The amendment Notices that I have seen include no indication of the volume of pollutants. Original Notices for the facility appear to include a gross weight of pollutants but no basis in relationship to air quality. I found no evidence that Region 9 incorporated the interested parties lists from the CEC proceeding or the Air Districts proceeding. I found no evidence the Notice was provided to the County Supervisors or other required government officials. I have seen no evidence of outreach or development of lists of potentially interested individuals, organizations or agencies.

I have found no evidence of greenhouse gas considerations. I would like to understand what greenhouse gases will be emitted, understand if the EPA considers them subject to regulation and comment. I recall no response to my previous inquiries regarding this facility. This process would seem to discourage public participation. While the polluters appear to enjoy unbridled cooperation even the Remand from the EAB has not encouraged regulators to respond to the public. If the public was aware of the effects of this plant they through some

outreach they would likely be interested. After the Remand where the Air District claimed there was no interest or comments on the PSD permit the Air District has now received close to 1000 responses. I have been commenting on PSD permits but never recall receiving a substantive response to my comments. I certainly do not have the expertise or resources to participate to a degree that other organizations have in other PSD permits. If the other organizations that have participated in other PSD permits in the region received Notice of this proceeding they may participate.

BACT

CO BACT WATER BATH HEATER

The Colusa Generating Station Water Bath Heater is expected to emit CO at 100 parts per million by volume dry (ppmvd). Seven sources have lower CO emission rates than the CGS's fuel gas heater, ranging from 27 to 72 ppmvd.[1] The AES Puerto Rico Cogen application # PR-007 has a limestone dryer with an emission rate of 27 PPM @3% O2 for CO. The BP Exploration (Alaska) Inc, Milne Point Production application Number AK-047 also has an emission rate of 27 PPM @3% O2 for CO. South Cal Gas application number SCAQMD AN: 347641 has an emission rate of 50 ppm @ 3% O2 for CO. Norton Energy Storage, LLC application # OH-0264 has a CO emission rate of 53 ppm @ 3% O2 for CO which has been verified in practice. The PSD permit must adopt a lower limit for CO emissions for the Water Bath heater.

NOX BACT WATER BATH HEATER

The Colusa Generating Station Water Bath Heater is expected to emit NOx at 30 parts per million by volume dry (ppmvd). Based on a review of the EPA's RACT/ BACT/LAER Clearinghouse, California Air Resources Board Statewide Best Available Control Technology (BACT) Clearinghouse, and the San Joaquin Valley Air Pollution Control Districts Best Available Control Technology (BACT) Clearinghouse there are 4 sources which report a lower NOx emission rate than the CGS WBH, ranging from 9 to 20 ppmvd of NOx. NELCO Products, force circulation oil heater, application number SCAQMD AN: 371784 has a 12ppm @ 3% O2 emission rate. South Cal Gas, heater, application # SCAQMD AN: 347641, has a 20 ppm @ 3% O2 emission rate for NOx. The SJVUAPCD BACT clearinghouse lists tow BACT determinations of 9 ppm and 12 ppm as BACT for NOx emissions from a pre heater.[2]

BASELINE EMISSIONS

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[1] From: Jerry.Salamy@CH2M.com To: Shaheerah Kelly/R9/USEPA/US@EPA Cc: <CRPf@exchange.pge.com>, Andrea@agrenier.com Date: 04/08/2009 05:04 PM Subject: PG&E CGS Water Bath Heater and Wet Surface Air Cooler http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-R09-OAR-2009-0697

[2] From: Jerry.Salamy@CH2M.com To: Shaheerah Kelly/R9/USEPA/US@EPA Cc: <CRPf@exchange.pge.com>, Andrea@agrenier.com Date: 04/08/2009 05:04 PM Subject: PG&E CGS Water Bath Heater and Wet Surface Air Cooler http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-R09-OAR-2009-0697

According to Ambient Air Quality Impact Report for the Colusa Generating Station, Clean Air Act Prevention of Significant Deterioration Permit Permit No. SAC 06-01 dated May of 2008, the modification of the CGS triggers the adjustment of baseline emissions to include the adjacent Delevan compressor Station. As stated in the 2008 permit:

"As shown in Figure 4-1, CGS will be located near the Delevan Compressor Station (DCS), an existing natural gas compressor station that is also owned and operated by PG&E and located west of Glenn-Colusa Bridge and Dirks Road. The facility will be fueled by natural gas delivered from DCS to the site via a new 8 inch, 1,500-foot natural gas pipeline owned and operated by PG&E. Since CGS and DCS (1) will both be owned by PG&E (under common control), (2) have the same 2-digit Standard Industrial Classification (4911 for CGS and 4922 for DCS; Major Group 49, Electric, Gas, and Sanitary Services), and (3) will be located on contiguous or adjacent properties and physically connected by a pipeline, both facilities will be considered a single source for Title V purposes. Designation of these two facilities as a single source does not affect the current PSD evaluation. If the source is subsequently modified, however, the source's "baseline actual emissions" under 40 CFR 52.21(b)(48) will comprise emissions from both facilities (CGS and DCS))."[3] The PSD regulations define a "building, structure, facility, or installation," for source definition and emissions accounting purposes, as follows: ". . . all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) . . . Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (which have the same two-digit code) as described in the Standard Industrial Classification Manual . . ."

[3] **Ambient Air Quality Impact Report Colusa Generating Station Clean Air Act Prevention of Significant Deterioration Permit Permit No. SAC 06-01 page 7** **http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-R09-OAR-2008-0436**

ENDANGERED SPECIES ACT BIOLOGICAL IMPACTS

The AMBIENT AIR QUALITY IMPACT REPORT for the Colusa Generating Station PSD Permit No.: SAC 06-01 states on page 5:

Because the proposed equipment changes will not result in any new construction outside the current footprint of the facility, and will reduce CGS's facility-wide emissions of all pollutants covered by the Permit, EPA concludes that the proposed changes will not affect listed species in a manner that was not considered in the BO. By e-mail on August 13, 2009, FWS confirmed that no additional ESA consultation is required for this project.[4]

The applicant has recently filed an amendment at the CEC to, "to request the CEC's approval to amend the CGS project description to allow slight modification of the size and layout of the switchyard and the electric transmission interconnection route.[5] The CEC final decision approved a total of 12 new towers, four on site (within the 100 acre parcel and eight offsite. The applicant's new proposal will add a total of 20 new towers with eight on site and 12 offsite. As stated on page 2-2 of the amendment, "Construction of the new towers has the potential to slightly increase permanent impacts to Swainson's hawk foraging habitat."[6] "The reconfigured switchyard/substation will result in an additional 0.87 acre of disturbance of annual grassland. The two project component changes will result in a total of 1.15 acres of additional impacts to annualgrassland beyond what was originally permitted in the CEC's Final Decision for the CGS project." [7] The Biological opinion did not include impacts and mitigation for the Swainson hawk. The May 2008 SOB states the conclusions of the Biological assessment:

"On March 14, 2008, the Service issued its biological opinion. According to the biological opinion, the Service determined that the proposed project was likely to directly affect the federally-listed vernal pool tadpole shrimp (Lepidurus packardi) and vernal pool fairy shrimp (Branchinecta lynchi), and permanently affect the giant garter snake (Thamnophis gigas). In the biological opinion, the Service discusses various conservation measures proposed by PG&E, and the biological opinion also specifies PG&E's conservation responsibilities, including purchase of vernal pool preservation and creation credits at a Service-approved conservation bank and purchase of giant garter snake habitat credits from

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[4] **AMBIENT AIR QUALITY IMPACT REPORT for the Colusa Generating Station PSD Permit No.: SAC 06-01 states on page 5:**

[5] http://www.energy.ca.gov/sitingcases/colusa/compliance/documents/2009-01-21_AMENDMENT_PETITION_2_TN-49817.PDF

[6] Pacific Gas & Electric's Colusa Generating Station l=»project (06-AFC"9C) License Petition Amendment #2 http://www.energy.ca.gov/sitingcases/colusa/compliance/documents/2009-01-21_AMENDMENT_PETITION_2_TN-49817.PDF page 2-2

[7] Pacific Gas & Electric's Colusa Generating Station l=»project (06-AFC"9C) License Petition Amendment #2 http://www.energy.ca.gov/sitingcases/colusa/compliance/documents/2009-01-21_AMENDMENT_PETITION_2_TN-49817.PDF page 3-2

a mitigation bank approved by the Service and the California Department of Fish and Game."[8]

The original biological opinion did not consider impacts or provide mitigation for impacts to the Swainson hawk. Neither the original biological opinion nor the current SOB has analyzed the impacts from the placement of six new transmission towers or the realignment of the original transmission towers. Consultation with the USFWS must be reinitiated and completed before approval of PSD permit per 50 CFR Section 402.1 (3).[9]

The applicant's addition of the WSAC Unit will increase operational water use by 21 Acre feet per year from 130 AFY to 151 AFY. The applicant's agreement with the Glen-Colusa Water District guarantees 130 AFY for the project but any additional water is subject to the water shortage provisions in Article 9A of the agreement.[10] The implications of the additional water usage and its impact on the environment should be discussed in the SOB.

REMOVAL OF THE AUXILLARY BOILER

The original PSD permit included an Auxiliary Boiler. According to the applicant, "A natural gas-fired auxiliary boiler rated at 44 million BTU/hr will be included to provide steam to shorten the time required for plant starts."[11] Since the applicant is removing the boiler the SOB needs to evaluate the impact and BACT for startup and shutdowns times and emissions. Start up and shutdown The application describes emissions from facility start up and shutdown, but does not report the modeled impact of those operating conditions. Start up and shutdown conditions should be modeled to ensure no PSD increment or NAAQS is violated. The projects startup and shutdown emissions create the largest air quality impacts for the project. Current times for startup and shutdown do not meet BACT requirements for startup and shutdown emissions. Combined cycle turbines are currently being permitted which can achieve cold, warm, and hot starts taking no longer than 1-hour to demonstrate compliance with normal steady state emission limits.[12] These fast start machines are now

[8] Air Quality Impact Report Colusa Generating Station May 2008 Page 45 of 47

[9] "the Proposed action is subsequently modified in a manner that causes an eefect to listed species that was not considered in this opinion. 50 CFR Section 402.1 (3)

[10] CEC FSA page 4.9-10
http://www.energy.ca.gov/2007publications/CEC-700-2007-003/CEC-700-2007-003-FSA.PDF

[11] URS modeling MODELING PROTOCOL FOR THECOLUSA GENERATING STATION COLUSA COUNTY, CALIFORNIA July 12, 2006 page 2-1
"A natural-gas fired auxiliary boiler will be installed to facilitate plant starts."
http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-R09-OAR-2008-0436

[12] http://www.energy.ca.gov/sitingcases/contracosta/documents/applicant/afc/Volume%201/CCGS_5.1_Air%20Quality.pdf page 5.17

being utilized in most new power plant applications such as the new proposed Contra Costa Generating Plant, the Willow Pass Generating Station and the Marsh Landing Project. The Contra Costa Generating Station utilizing a GE Model 7FA with fast start capability is capable of achieving cold starts in one hour with only 96 pounds of NO2 emissions as illustrated on page 5.1-9, table 5.16, of the AFC. [13]

Similarly the Marsh Landing Facility employing Siemens Flex Plant 10 (FP10) technology is capable of startup times of less than 12 minutes and worst case startup emissions of 38.7 pounds for NO_2 and 279.8 pounds per hour for CO emissions for a cold start. [14]

Also the Willow Pass Generating stations expected emissions associated with CTG Cold startup and shutdown event is 38.7 pounds of NO_2 and 279.8 pounds of CO. Based on vendor information, startup (i.e., the period from initial firing to compliance with emission limits) of the FP10 units is expected to occur within 12 minutes. During a shutdown event, the efficiency of the emission controls will continue to function at normal operating levels down to a load of 60 percent for the FP10 units; thus, shutdown periods and emissions are measured from the time this load is reached.[15]

The EPA in a recent consent decree with PG&E has required fast start technology on GE Frame 7 machines the same equipment used at Colusa:

V. ENVIRONMENTAL MITIGATION PROJECTS

13. By January 1, 2010, PG&E shall submit applications to the CEC and/or BAAQMD, as necessary, for the installation of the General Electric OPFLEX Turndown and OPFLEX Startup NOx products as described in Paragraphs 14 and 15, below.

14. By January 1, 2011, PG&E shall install and make fully operational at GGS' combined cycle units the General Electric OPFLEX Turndown product. EPA is requiring use of this product in order to allow the combined cycle units to run at low capacity, thereby avoiding shut downs, startups, and the higher NOx emissions associated with startups.

15. By January 1, 2011, PG&E shall install and make fully operational at GGS' combined cycle units the General Electric OPFLEX Startup product. EPA is requiring use of this product in order to reduce the higher NOx emissions associated with startups.

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[13] http://www.energy.ca.gov/sitingcases/contracosta/documents/applicant/afc/Volume%201/CCGS_5.1_Air%20Quality.pdf page 5.1-9
Contra Costa Generating Plant 09-AFC-4

[14] http://www.energy.ca.gov/sitingcases/marshlanding/documents/applicant/afc/Volume%20I/7_1%20Air%20Quality.pdf pages 7.1-49 table7.1-16, page 7.1-8 08-AFC-03

[15] http://www.energy.ca.gov/sitingcases/willowpass/documents/applicant/afc/Volume_01/7.1%20Air%20Quality.pdf page 7.1-9 08-AFC-6

http://www.usdoj.gov/enrd/ConsentDecrees/2060_r_Pacific_Gas_and_Electric_Company_CDFinal.pdf page 7

EPA is cognizant of the fast start capability for these turbines and must require the project to meet lower startup and shut down times and emissions since they are allowing removal of the auxiliary Boiler which was installed "to provide steam to shorten the time required for plant starts." Startup and Shutdown emission rates are much greater than steady state emissions for NOx and CO1 therefore, BACT FOR NOx emitted during startup and shutdown is not covered by the steady· state NOx Top-Down Analysis. Since BACT is triggered for NOx, an analysis of BACT for NOx during startup is required. The following possible control technologies could be utilized:

1. GE OpFlex Startup NOx

GE OpFlex Startup NOx and Startup Fuel Heating system is a series of enhancements designed to expand the operating profile of gas turbines while maintaining or lowering emissions. The OpFlex Startup NOx system uses proprietary GE advanced fuel scheduling technology to reduce startup and shutdown NOx emissions. This technology has been used to limit gas turbine emissions to less than 25 ppm at the turbine outlet (prior to controls).

2. GE Rapid Response Technology
GE offers its "Rapid· Response" technology that reduces startup time of the turbine and startup NOx and CO emissions. This system allows the gas turbines in a combined cycle plant to startup in a similar process as a simple cycle unit. The typical gas turbine at a combined cycle plant will initially fire and ramp up to approximately 20% load. The turbine is then be held at 20% load while the steam systems are slowly brought online. This method of starting up the system is slow, since the operator must avoid ramping the temperature up to fast which can cause stress cracks in the system from thermal expansion. This hold at 20% load increases the time that the system spends in startup mode.

Rapid Response accomplishes a faster startup by breaking the startup of the gas turbine free of the steam cycle. The system is equipped with a steam bypass that allows the hot exhausts to circumvent the steam cycle during startup, allowing the turbine to ramp up directly to nearly 100% load. This method of operating the unit allows the gas turbine to sync to the power grid within approximately 10 minutes of ignition. The steam cycle is then gradually brought online while the unit is synched to the power grid.

The key elements of the GE Rapid Response package are:
a. A Power Island Integrated System Controller
b. An HRSG designed to handle loading ramp rate of the gas turbines
c. A hybrid steam bypass system designed to accept 100% of the gas turbine load during startup

d. Steam control and valve modifications
e. Purge credit for gas turbines (purge cycle is activated on shutdown instead of during startup)
f. A startup gas turbine fuel heating system that is independent of the HRSG

AIR QUALITY IMPACTS

Page 4 of the SOB for the project states," The PSD regulations require an ambient air quality impact analysis to determine the impacts of the proposed project on ambient air quality and nearby Class I areas. For all regulated pollutants emitted in significant quantities, the analysis must consider whether the proposed project will cause a violation of (1) the applicable PSD increments, or (2) the NAAQS. EPA conducted this analysis as part of our prior permitting action. *See* Sections 8 and 9 of the Ambient Air Quality Impact Report for the proposed PSD permit issued for public comment in May 2008 (AAQIR). EPA conducted these modeling analyses using "worst case assumptions" for all subject pollutants, e.g., startup and shutdown emission rates or maximum allowable annual emissions. *Id.* At 36. Because the proposed revisions to the Permit do not alter any of these assumptions and will reduce the facility-wide emission limits for all pollutants covered by the Permit, these changes do not require a reevaluation of our prior air quality impacts analysis.

While the project has proposed a reduction in PM 2.5 emissions the change in the physical configuration has led to higher ambient air concentrations for PM 2.5.[16] The projects PM 2.5 ambient air quality impact changed from 2.73 ug/m3[17] in the original FDOC to 3.3 ug/m3 with the projects modifications triggering an assessment of the project s PM 2.5 impacts under the new EPA PM 2.5 regulations. The May 2008 SOB states: "Consistent with existing EPA policy, PSD review of PM10 emissions will serve as a surrogate for review of PM2.5 emissions while EPA continues to work through the significant technical difficulties associated with integrating the new PM2.5 standard into the PSD program." Accordingly the EPA never examined PM 2.5 ambient air Quialty impacts in the 2008 SOB. EPA has decided to repeal its recently adopted provision in 40 C.F.R. 52.21 (i) (1) (xi) that directs permitting agencies to use the so called surrogate approach in addressing PM 2.5 compliance issues. The 2009 PSD analysis must now demonstrate that the facility will use BACT to control PM 2.5 emissions and conduct an Air Quality Impact Analysis showing that the facility will not contribute to an exceedance of the PM 2.5 NAAQS for annual and 24 hour standards.

ADDITIONAL IMPACT ANALYSIS

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[16] http://www.energy.ca.gov/sitingcases/colusa/compliance/documents/2008-08-14_AMENDMENT_PETITION_TN-47582.PDF page 3-3
FDOC page 24
http://www.energy.ca.gov/sitingcases/colusa/documents/intervenors_others/2007-06-12_CCAPCD_DETERMINATION-OF-COMPLIANCE.PDF

[17] http://www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480756449 FDOC page 24

The SOB relies on the applicant's assessment for nitrogen deposition that was presented in the applicant's 2006 PSD permit application. A review of the applicant's analysis demonstrates that the applicant did not include nitrogen deposition impacts from the projects ammonia emissions which has much larger impacts than the NO2 or SO2 emissions. Therefore the EPA analysis is defective since the projects 159 tons a year of ammonia emissions will create much larger nitrogen deposition impacts than the projects other NO2 and So2 emissions.

Applicant Compliance Record

CCAPCD Rule 3.6 (c) 7 requires that **"**The owner or operator of a proposed new or modified source shall to the satisfaction of the APCO that all major stationary sources owned or operated by such person (or by an controlling, controlled by, or under common control with such person) in California which are subject to emission limitations are in compliance or on a schedule of compliance with all applicable emission limitations and standards.

PG&E owns a facility in Contra Costa County the Gateway Generating Station that is currently undergoing compliance review at the California Energy Commission. The project is the subject of an FNOV and a proposed consent decree which is undergoing a public comment period.[18] At the present time the project is not in compliance with State and Federal Air Quality Regulations and will not be in compliance until the activities required by the consent decree are completed. The project's PSD permit cannot be approved until the project owner PG&E completes the requirements of the consent decree and comes into compliance with these new air quality requirements.

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[18] http://www.usdoj.gov/enrd/ConsentDecrees/2060_r_Pacific_Gas_and_Electric_Company_CDFinal.pdf