

Panoche Energy Center, LLC
Comments to SJVAPCD on PEC PDOC
June 4, 2007

DOCKET 06-AFC-5
DATE JUN 04 2007
RECD JUN 06 2007

- 1) Page 4: Section VI, first paragraph. The combustion gases exit the turbine at approximately 800F, not 70F as listed.
- 2) Page 7: Section B. Lists the sulfur "emissions" as 1.0 gr-S/100 scf. This value is the sulfur content of the fuel gas, not the exhaust emissions. The listed value is not applicable to an emission statement. It should read "**2.51 lb/hr of SO_x**."
- 3) Page 8: First paragraph. PEC suggests that the sentence should read "...estimated by the manufacturer for **each** of the proposed CTGs..."
- 4) Page 8: First table "Normal Emission Rates and Concentrations". SO_x emission limit concentration is listed as 1.0 grS/100 scf. As noted in #2 above, this value refers to the fuel, and cannot be used as a concentration limit of the exhaust gas.
- 5) Page 8: Second, third, and fourth tables. The Startup Emissions, Warmup Emissions, and Total Startup Emissions include values that are not included in the original "Determination of Compliance Conditions." PEC is concerned that these emission rates are not guaranteed from the vendor, nor are they verifiable with the CEM system, because the CEM system is designed to "complete a minimum of one cycle of operation ... for each 15-minute period..." Therefore, emissions during a 10 minute startup will not be officially reported. However, if this is included with the "Worst Case Startup Emissions" listed in the fifth table, then it should not be a problem.
- 6) Page 9: First table. Same issue with Shutdown Emissions as described in #5 above.
- 7) Page 10: Section C.2.a. Second sentence incorrectly refers to "both turbines". The last two sentences should read: "The maximum hourly PE for **each** turbine is when **it** is starting up. The maximum hourly emissions for **each** turbine are summarized in the table below:"
- 8) Page 11: Third table "Maximum Normal Emissions". SO_x emission limit concentration is listed as 1.0 grS/100 scf. As listed in #2 above, this value refers to the fuel, and cannot be used as a concentration limit of the exhaust gas.
- 9) Page 11: Section b, second sentence. Sentence should read "The results for **each turbine** are summarized ..."
- 10) Page 12: Section d. Sentence should read "The hourly, daily, and annual PE2 **for each turbine is** summarized ..."
- 11) Page 21: Section 3. States that BACT has been satisfied with the following: SO_x and PM10 with "gas with <0.75 grains S/100 scf". PEC believes this value should be **1.0** grains S/100 scf to be consistent with Condition 27 of "Determination of Compliance Conditions".
- 12) Page 49: Section 60.4400 - NO_x Performance Testing, second paragraph. Replace "fourth" with "**forth**".
- 13) Page 51: Rule 4101 Visible Emissions, first sentence. PEC suggests inclusion of the word "cause" as follows: "...no person shall **cause** discharge into the atmosphere..."

- 14) Page 53: Rule 4201 Particulate Matter Concentration, first equation and following description of input values. Two issues:
 - a. The equation uses "air flow rate" in the denominator, then uses an input value of "Exhaust Gas Flow". Since the turbine technically has both air flow and exhaust gas that are different values, PEC believes the equation should be clarified to more correctly reflect the use of Exhaust Gas Flow.
 - b. The equation incorrectly uses a value of 888,554 scfm. This is an incorrect use of this value. The GE Performance Data Case 104 predicts 888,554 acfm, but the equation requires scfm, so 361,394 scfm is correct if this same test case is used. This changes the PM Concentration calculations on Page 54 to 0.0019 gr/scf.
- 15) Page 54: Second line. Results of changes to equation on Page 53 (See #14.b above) changes results to 0.0019 gr/scf.
- 16) Page 54: C-7220-6-0. Same concern as #14.a - the use of "air flow rate" and "exhaust gas flow" are used interchangeably, but should not be. PEC is unable to determine if the value used as the Exhaust Gas Flow is correct.
- 17) Page 56: Rule 4703 Stationary Gas Turbines, first sentence. Incorrectly identifies the project as installing "three 180 MW gas turbines". Should be modified to "four 100 MW gas turbines".
- 18) Page 57: Calculations on top half of page. PEC was unable to find the source of 3,412 Btu/kW-hr and 7,815 Btu/kW-hr. These values are not included in the GE data, but they could be some sort of default value included in the calculation. PEC is concerned that they could be carried over from the 180 MW turbines incorrectly referenced in the previous paragraph.
- 19) Page A-11. Remove the words "Power Plant" from the first sentence to read as follows: "The owner/operator of the Panoche Energy Center (PEC) ..."
- 20) Page A-12. In Condition #15, references to Conditions 12 and 14 should be reversed to read as follows: "During the commissioning period, the permittee shall demonstrate NO_x and CO compliance with condition #14 through the use of properly operated and maintained continuous emissions monitors and recorders as specified in condition #12.
- 21) Page A-13. For Condition #21, PEC suggests that the original language be replaced with the following: "The owner or operator shall submit to the District, before issuance of the Permit to Operate, information correlating the control system operating parameters to the associated measured NO_x output. The information must be sufficient to allow the District to determine compliance with the NO_x emission limits of this permit when no continuous emission monitoring data for NO_x is available or when the continuous emission monitoring system is not operating properly. [District Rule 4703]"
- 22) Page A-16. This and a number of other conditions start with a number like "[1835]." PEC does not know if the District meant to leave these numbers in the final conditions, but it is not clear what purpose they serve.