

Please submit the following:

**Question:** Revised proposed emission limits that include normal operation for the remainder of the startup/shutdown time limit.

**Answer:** Please see the attached revised startup/shutdown emissions which include normal operation during the remaining time periods.

**Question:** Source of proposed commissioning daily emission limits (those listed in proposed conditions are different than Table 5.1-9).

**Answer:** The emissions listed in Table 5.1-9 are facility total emissions, while the commissioning emissions listed in the proposed conditions are on a per turbine basis. For example, the daily commissioning permit condition for NO<sub>x</sub> is 2,380.8 lbs/day per turbine, which assumes 24-hours per day at 99.2 lb/hr. The daily emissions for commissioning listed in Table 5.1-9 include one turbine in commissioning with the other turbine in a worst-case base load condition for 24-hours along with 1-hour of auxiliary boiler operation:

- 2,380.8 lbs/day for one turbine in commissioning mode at the worst-case emission rate of 99.2 lb/hr
- 488 lbs/day for one turbine in cold start plus one shutdown, plus base load for 23 hours
- 0.849 lb/day for the auxiliary boiler for two hours per day

The total for the plant wide NO<sub>x</sub> daily emissions is then 2,869.7 lbs/day.

For CO, the worst-case commissioning day was changed to reflect 10 hours at 700 lb/hr plus 14 hours at 450.2 lb/hr for a total of 13,303 lbs/day. The worst-case commissioning day in Table 5.1-9 should be updated to reflect this plus the same assumptions for NO<sub>x</sub>. Specifically:

- 13,303 lbs/day for one turbine in commissioning mode at the worst-case emission rate of 700 lb/hr for 10 hours plus 450.2 lb/hr for 14 hours
- 715 lbs/day for one turbine in cold start plus one shutdown, plus base load for 23 hours
- 0.738 lb/day for the auxiliary boiler for two hours per day

The total for the plant wide CO daily emissions is then 14,018.7 lbs/day, which replaces the previous proposed limit of 11,520.54. This will not affect the modeling results for CO which is based on 1 and 8-hour averaging periods.

For POC, the worst-case commissioning day assumes 24-hours of commissioning emissions at 37.9 lb/hr plus one turbine in startup and shutdown plus base load for 23 hours with the auxiliary boiler operational at two hours. Specifically:

- 909.6 lbs/day for one turbine in commissioning mode at the worst-case emission rate of 37.9 lb/hr for 24 hours
- 488.12 lbs/day for one turbine in cold start plus one shutdown, plus base load for 23 hours

- 0.211 lb/day for the auxiliary boiler for two hours per day

The plant wide total for commissioning will be 1,397.93 lb/day.

For SO<sub>2</sub> and PM<sub>10/2.5</sub>, the worst case commissioning day was assumed to be based on 24-hours of continuous operation for both turbines plus two hours of boiler operation. The PM<sub>10/2.5</sub> emissions were based on 9 lb/hr while the SO<sub>2</sub> emissions were based on 6 lb/hr.

Thus, for PM<sub>10/2.5</sub>, the daily commissioning limit would be 432.7 lbs/day.

For SO<sub>2</sub>, the daily commissioning limit would be 288.3 lbs/day.

**Question:** If the proposed plant needs transient load condition limits, please request and explain why.

**Answer:** Each turbine startup will result in transient emission rates until steady-state operation for the gas turbine and emission control systems is achieved. In addition, rapid combustion turbine load changes due to the following conditions may create transient conditions with respect to the hourly BACT limits for NO<sub>x</sub>, CO, and POCs:

- i. Load changes initiated by the California ISO or a successor entity when the plant is operating under Automatic Generation Control; or;
- ii. Activation of a plant automatic safety or equipment protection system which rapidly decreases turbine load

OGS requests that transient load conditions be added to the PDOC.

**Question:** If you have public information about startup/shutdown/commissioning times and emissions for a proposed Flex Plant 30 facility, please provide.

**Answer:** We have no data on the proposed commissioning/startup/shutdown emissions for Flex 30 plant designs.

**Question:** CAM applicability determination for CO from the gas turbines - include pre-abatement potential to emit. If subject to CAM, please provide a CAM plan. If CAM is required, OGS may use 64.3(d) and 64.4(b)(2) since CEMS is required for CO.

**Answer:** We believe the turbines are exempt from the CAM Rule for NO<sub>x</sub> and CO based on the exemption at 40 CFR 64.2(b)(1)(vi): the proposed permit will specify a continuous compliance determination method for the NO<sub>x</sub> and CO limitations in the form of a CEMS, as required for 40 CFR 60 and 75 compliance.

Per my conversation with Jim on 7/7/10, OGS has agreed to the following:

- revise not-to-exceed startup/shutdown emission limits to include normal operation for the remainder of the time limits (i.e. hot start 14 min for typical startup + 16 min normal operation)

- limit auxiliary boiler commissioning emissions to 9 pounds per day per pollutant; which does not trigger BACT