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Ms. Kathleen Truesdell
Air Quality Engineer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

RE: : Contra Costa Generating Station (Oakley) – Emissions Guarantees and Estimated Startup and Shutdown Durations and Emissions

Dear Ms. Truesdell

The Bay Area Air Quality Management District (BAAQMD) requested that General Electric (GE) provide documentation of the guaranteed emissions for normal operation and as well as the estimated startup and shutdown durations and emissions for Contra Costa Generating Station LLC's (CCGS) Oakley Generating Station project.

Table 1 lists the stack emissions during normal operations that GE is guaranteeing for the Oakley Generating Station project.

TABLE 1
Guaranteed Stack Emissions During Normal Operations

Pollutant	Operating Range	Value
NO _x	Minimum Emissions Compliance Load (MECL) to Base Load	2 ppmvd @15% O ₂
CO	MECL to Base Load	2 ppmvd @15% O ₂
NH ₃	MECL to Base Load	5 ppmvd @15% O ₂
POC	MECL to Base Load	1 ppmvd @15% O ₂
PM10	Base Load	9 lbs/hr

Table 2 lists GE's current estimates of the gas turbine startup and shutdown durations and emissions for the Oakley Generating Station project. The values shown are based on gas turbine startup and shutdown profiles for Rapid Response with Purge Credit. Startup values are from gas turbine ignition to the gas turbine Minimum Emissions Compliance Load. Shutdown values are from gas turbine Minimum Emissions Compliance Load to gas turbine flameout. All values are per gas turbine per event.



TABLE 2
Estimated Startup and Shutdown Durations and Emissions

	Hot Start	Warm Start	Cold Start	Shutdown
Duration, min.	14	14	45	30
NO _x , lbs as NO ₂	22	22	96	39
CO, lbs	85	85	360	140
POC, lbs as CH ₄	31	31	67	17

Notes:

1. A hot start is defined as a start following 8 hours of shutdown or less. A warm start is defined as a start following 48 hours of shutdown. Cold start is defined as a start following 72 hours of shutdown or more.
2. Combined Cycle Unit is kept in stand-by configuration during Standby Period with HRSG stack closure closed, gas turbine compartment doors closed, HRSG motor operated isolation valves closed, HRSG isolated and no blowdown, draining or other release of internal energy has been occurred, as well as other procedures and conditions in accordance with Seller's recommendations.
3. All normal pre-start conditions and procedures are satisfied in accordance with Seller's recommendations prior to initiation of normal start-up sequence. Pre-start conditions include, but are not limited to:
 - Auxiliary Boiler is operating and auxiliary system piping is pre-warmed, drained
 - Steam turbine is rotating at turning gear speed
 - Steam turbine seal steam system is operating normally and condenser pressure is below alarm value.
 - Steam turbine seals have warmed the steam turbine to the minimum metal temperature required for startup. This typically requires one hour seal operation for a completely cooled steam turbine
 - The steam system is ready to generate steam with pumps running, electrical equipment energized, drum and hotwell levels at startup level and controls in auto.
4. Combined Cycle Unit is started using Rapid Response start-up sequence in accordance with Seller's recommendations.
5. Turbine insulation and enclosures installed per GE acceptance of drawings and instructions.
6. Design, manufacture, construction and commissioning of equipment outside GE's scope of supply, have satisfactorily met GE requirements.

If you have any questions regarding this information, please feel free to contact me

Sincerely,

Pete Bukunt

Cc: J McLucas, Radback
C Matis, GE