Solar® Turbines

A Caterpillar Company

Solar Turbines Incorporated

9330 Sky Park Court
San Diego, CA 92123
Tel: (858) 694-1616

Submitted Electronically

February 4, 2008

Comments to Draft R.C.S.A. 22a-174-31a. Greenhouse Gas Emission Offset Projects

To: Michele Totten
Department of Environmental Protection
Bureau of Air Management
79 Elm Street
Hartford, CT 06106
Michele.Totten@po.state.ct.us.

From: Solar Turbines, Incorporated
Contact: Anthony Pocengal
9330 Sky Park Court
MZ: SP3-Q
San Diego, CA 92123-5398
Phone: 858.505.8554
Fax: 858.694.6715
pocengal_anthony@solarturbines.com

Solar Turbines Incorporated (Solar) appreciates the opportunity to comment on the proposed revisions to Section 22a-174-31a – Greenhouse Gas Emission Offset Projects. Please contact Solar with any comments or questions you may have.

Solar is a manufacturer of industrial combustion turbines (1-22 MW). Solar's fleet includes over 12,000 combustion turbines in over 90 countries. Our domestic fleet consists of approximately 6,000 combustion turbines.

Our comments are directed to offset project definitions and eligibility in the above rule with respect to gas turbines and combined heat and power (CHP) applications.

Comment 1: 22a-174-31a(g) - Reduced or Avoided CO_2 Emissions Due to End-Use Energy Efficiency

Solar would like to request that re-powering projects employing gas turbines in Combined Heat and Power (CHP) applications be included in Section (g)(1) as an additional Energy Conservation Measure (ECM). Combustion turbines are often used in CHP applications to increase the overall efficiency of the plant by capturing the otherwise wasted heat from combustion to make steam for

additional electricity generation or heating/cooling demand. Such applications are popular where stand-alone power generation is desired such as hospitals or universities. For example, in 2005 the University of Connecticut at Storrs replaced their boiler steam plant on campus with a gas-fired CHP system employing Solar Turbines. Solar would like to submit that similar CHP projects should qualify for offset eligibility per the language in Section (g)(1):

> (1) Eligibility. An offset project that reduces CO_2 emissions by reducing on-site combustion of natural gas, oil, or propane for end-use in an existing or new commercial or residential building by improving the energy efficiency of fuel usage and the energy-efficient delivery of energy services…

Comment 2: Section 22a-174-31a(g)(3)(A) – Combustion Equipment

Solar recommends that gas turbine CHP systems be included in this section along with commercial boilers. Compared to stand-alone gas turbine efficiency, when a heat recovery steam generating (HRSG) system is installed to capture the waste heat of the turbine, peak efficiency gains on the order of 40-50% can be realized. Overall efficiencies of turbine CHP systems are generally in the range of 60% and higher measured on an **ANNUAL AVERAGE** basis. Solar further recommends that a table similar to Table 31-2a be included for turbine CHP systems with qualifying efficiencies of 60% on an **ANNUAL AVERAGE** basis.

Comment 3: Section 22a-174-31a(g)(3)(A) – Combustion Equipment

In Table 31-2a there is no measurement basis referenced to the boiler efficiency percentages. It is assumed these are peak efficiencies. Solar recommends that efficiencies based on an **ANNUAL AVERAGE** be used rather than peak efficiencies as building heating and cooling loads fluctuate seasonally.