**Comments from Terra-Gen Power, LLC on the California Air Resources Board June 5, 2009 Workshop on GHG Reporting & Verification**

June 24, 2009

Terra-Gen Power, LLC (Terra-Gen) is one of the largest renewable energy companies in the United States, with over 800 megawatts (MW) of renewable generation, including 5 geothermal power projects, 2 solar power plants and 14 wind power plants; the majority of this generation located in California. Additionally, Terra-Gen is the largest renewable energy supplier to Southern California Edison Company. We attended the June 5, 2009 workshop on GHG reporting and verification sponsored by the California Air Resources Board and would like to provide you the following comments:

As you know, on December 6, 2008, the California Air Resources Board (CARB) adopted regulations requiring large facilities in California to report their annual GHG emissions. This is the first step in developing a cap-and-trade greenhouse gas (GHG) reduction program. The new reporting rules cover about 800 separate sources in a variety of different sectors, including electricity generating facilities, electricity retail providers and power marketers; oil refineries; hydrogen plants; cement plants; cogeneration facilities; and industrial sources that emit over 25,000 tons of carbon dioxide each year from on-site stationary source combustions such as large boilers, furnaces, foundries, and colleges and universities. CARB requires mandatory reporting for power plants over 1 MW with emissions at or above 2500 tons per year, which, unfortunately, brings Terra-Gen’s Coso geothermal complex into this new regulatory program. The Coso geothermal complex, located in the Mojave Desert in Inyo County near Inyokern, California, consists of three separate geothermal projects and is one of the highest temperature geothermal resources in the world, producing about 8% of the geothermal power produced in the United States. It has produced up to 270 MW of generation, sufficient energy to supply approximately 270,000 homes.

Geothermal energy is used to produce electricity by drilling wells into the geothermal reservoir and piping the hot water and steam to the power plant where the thermal energy is converted to electricity. As compared to fossil fuel generation, geothermal electricity does not involve direct combustion of the primary energy resource. However, some geothermal power plants such as Coso release naturally occurring gases to the atmosphere incidental to the power conversion process. While the only emission of significance from geothermal plants is steam (water vapor), the geothermal fluids in the reservoir contain small amounts of dissolved gases, including carbon dioxide (CO2), a GHG. Some of the CO2 is released into the atmosphere when the hot water and steam are brought to the surface for electricity generation. The amount of CO2 released is variable depending upon the local geological conditions within the geothermal reservoir, but it is significantly less than the amount released from traditional power plants resulting from combustion of fossil fuels.

**Because there is no fuel combustion and no anthropogenic CO2 released with geothermal energy production, Terra-Gen believes that geothermal power production should be exempt from CARB’s GHG cap-and-trade program requirements.** According to a report recently published by the Geothermal Energy Association, geothermal plants emit about 5% of the CO2 emitted by a coal-fired plant of equal size (Kara Slack, “Geothermal Resources and Climate Emissions,” May 7, 2009). Further, California EPA considers the CO2 emitted incidentally with steam and/or fluid used in geothermal-generating facilities to be a fugitive emission and concedes that there is no standardized methodology available to estimate fugitive CO2 emissions from geothermal facilities.

There is ample precedent for leaving geothermal energy facilities outside of emission reporting and/or reduction regimes. Other states with GHG reporting requirements like Nevada, Oregon and Washington do not mention geothermal emissions at all. Nevada’s requirements state that “units that utilize renewable energy sources are specifically exempted from the reporting requirement.” (Nevada Division of Environmental Protection, “Nevada’s Greenhouse Gas Reporting Requirement for Electrical Generating Units, March 27, 2009). It is also noteworthy that the American Clean Energy and Security Act, the cap-and-trade legislation recently approved by the Energy and Commerce Committee of the U.S. House of Representatives, does not impose reporting requirements or require allowances for CO2 emissions from renewable energy generation facilities.

Terra-Gen is concerned that the requirements of CARB’s emerging cap-and-trade program will unnecessarily inhibit the development of new geothermal energy projects in California. Geothermal power production is considered to be an environmentally friendly, renewable and sustainable source of baseload energy. Geothermal power production will produce significantly less GHG than fossil fuel and therefore, replacing fossil fuel electrical generation with geothermal energy will result in a significant net reduction of GHG emissions. At a time when global concern about climate change is increasing, geothermal energy has great potential for being part of the solution. The Coso geothermal complex is an important contributor to our nation’s goal of achieving energy independence and reducing greenhouse gas (GHG) emissions, having reduced carbon emissions in the southern California region by approximately 27 million tons since it began operations as compared to fossil-fired generation.

We thank you for the opportunity to comment on CARB’s GHG reporting and verification requirements and look forward to working with you on developing an exemption for geothermal resources from California’s cap-and-trade regulations.

Best regards,

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