

December 2, 2010  
Project No. 29-23586A

Mr. Gerardo Rios  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, California 94105

Subject: Response to Additional Information Request – Draft  
Sierra Pacific Industries Biomass-Fired Cogeneration Project  
Anderson, California

Dear Mr. Rios:

This letter is intended to provide additional information requested by the U.S. Environmental Protection Agency, Region 9 (USEPA) in an e-mail received from Omer Shalev on November 1, 2010. Responses are organized in the same order as that of the e-mail, and the information requests are restated as an italicized introduction to each response.

**Emissions:**

*Do the block emissions daily averages in the application also include periods that contain instances of startup and shutdown?*

The daily block average emission rates proposed in the permit application are based on the best available control technology (BACT) analysis, and do not include startups or shutdowns.

*Would the source be willing to take alternate shorter averaging time emissions limits that will apply only during periods of normal operation? If so, what are those limits and averaging times?*

We would be willing to accept eight-hour block averaging periods for the emission limits proposed as BACT for normal operation. Shorter averaging periods could result in compliance issues due to the lingering effects of occasional fuel feed (e.g., plugging) and fuel variability (e.g., excess moisture) issues.

**Operations:**

*What is the definition of a "shutdown" at the facility and for this new piece of equipment.*

Shutdown begins when the fuel feed is curtailed, and the unit begins cooling. Shutdown ends when the recorded temperature at the superheater outlet reaches 150 °F and remains so for at least one hour, or 24-hours has elapsed since the shutdown process began. Also, a shutdown differs from normal operational variations in that the generator is separated from the electrical grid.

Startup begins when fuel of any type is feed to the unit, and ends when the hourly average furnace temperature reaches the normal operating temperature specified by the manufacturer, or the hourly average steam flow is equal to the manufacturer's maximum continuous rating, or 24 hours has elapsed since the startup process began, whichever occurs first.

*If SPI proposes to limit the number of startups and shutdowns, what is the maximum number of startup and shutdown events (the application states an average number of 2 shutdowns per year) that are to occur in a year and their duration (the application describes the cold start of 24 hours)? What are the elevated maximum level of emissions for each criteria pollutant per event in this case? If the block averages from Emissions 1. above includes periods that may contain startup and shutdown events, then this point may be of less significance.*

Under normal conditions, there will be two planned shutdowns per year for maintenance. Shutdowns can occur for other reasons, such as system upsets and other circumstances outside of SPI's control. In the event of a shutdown necessitated by the grid, the unit would be restarted the following day.

Emission rates during startup are difficult to predict, but increased carbon monoxide (CO) and volatile organic compound (VOC) emissions are to be expected. It is important that any emission limits imposed on startup and shutdown not be based on exhaust gas concentrations, and particularly not concentrations corrected to a particular oxygen or carbon dioxide level because the fractions of those gases present in the exhaust gases during startup and shutdown differ considerably from those during normal operation.

*What is the actual steam limit to be imposed on the new boiler?*

We believe that a reasonable steam production limit would be 10 percent above the boiler's rated capacity, which would be 275,000 pounds of steam per hour.

General Criteria:

*What types of fuel are currently permitted at the facility and what additional fuels may be burned in the future?*

The current permit limits the fuel to wood waste, and specifically excludes chemically treated wood. SPI proposes that the facility be permitted to combust "biomass" as defined by Section 40106 of the California Public Resources Code:

(a) "Biomass conversion" means the controlled combustion, when separated from other solid waste and used for producing electricity or heat, of the following materials:

- (1) Agricultural crop residues.
- (2) Bark, lawn, yard, and garden clippings.
- (3) Leaves, silvicultural residue, and tree and brush pruning.

(4) Wood, wood chips, and wood waste.

(5) Nonrecyclable pulp or nonrecyclable paper materials.

(b) "Biomass conversion" does not include the controlled combustion of recyclable pulp or recyclable paper materials, or materials that contain sewage sludge, industrial sludge, medical waste, hazardous waste, or either high-level or low-level radioactive waste.

(c) For purposes of this section, "nonrecyclable pulp or nonrecyclable paper materials" means either of the following, as determined by the board:

(1) Paper products or fibrous materials that cannot be technically, feasibly, or legally recycled because of the manner in which the product or material has been manufactured, treated, coated, or constructed.

(2) Paper products or fibrous materials that have become soiled or contaminated and as a result cannot be technically, feasibly, or legally recycled.

*Are there any restrictions on the amount of natural gas or other fuel to be burned at the facility? This will influence some fuel handling and perhaps source test requirements.*

During normal operation, only wood fuel will be combusted in the boiler. Natural gas will be fired during startup and to counteract upset conditions caused by fuel variability (e.g., wet fuel). The permit application stated that the natural gas capacity factor would be ten percent or less to avoid the requirements of NSPS Subpart Db.

We believe that the information provided in this letter addresses the information requested by USEPA, and should be considered to amend the submitted PSD permit application. Please let me know if USEPA requires any additional information to finalize the draft permit. If you or your staff has any additional questions or need additional information, please do not hesitate to contact me at 425.412.1804.

Sincerely yours,  
ENVIRON INTERNATIONAL, INC.



Eric Albright  
Senior Manager

Enclosures

cc: Omer Shalev, USEPA, Region 9  
Shane Young, Sierra Pacific Industries  
Dave Brown, Sierra Pacific Industries  
Cedric Twight, Sierra Pacific Industries