San Joaquin Valley
Unified Air Pollution Control District

Best Performance Standard (BPS) x.x.xx

Class	Gaseous Fuel-Fired Boilers
Category	***New Boilers with Rated Steam Pressure Less Than 75 psig, Fired Exclusively on Natural Gas or LPG***
Best Performance Standard	*Applicability Note: Boilers with operating steam pressure less than 75 psig but fired with gaseous fuels other than natural gas or LPG (either exclusively or mixed with natural gas or LPG) and which meet the following standards shall be considered to meet BPS for their respective category.* Boilers meeting this Best Performance Standard must comply with all three elements of this BPS (items 1, 2 and 3 listed below) where applicable: **1.** The boiler shall be either equipped with an economizer system meeting the following design criteria or shall be equipped with an approved alternate heat recovery system which will collectively provide heat recovery from the boiler flue gas which is equivalent. Equivalent heat recovery systems may utilize recovered heat for purposes other than steam generation provided such uses offset other fuel usage which would otherwise be required. A. Except for boilers subject to the requirements of items B or C below, the economizer system shall be designed at maximum boiler firing rate to either 1) reduce the temperature of the economizer flue gas outlet to a value no greater than 20^{o}F above the temperature of the boiler feed water at maximum firing rate, or 2) reduce the final temperature of the boiler's flue gas to a temperature no greater than 200^{o}F. *Note: For purposes of this BPS, feedwater temperature is defined as the temperature of the water stream delivered to the boiler from the deaerator or feedwater tank.* B. For boilers with a water supply temperature of 170^{o}F or greater, the boiler shall be designed, in lieu of the requirements of item A above, to achieve a flue gas temperature no greater than the sum of the steam saturation temperature (^{o}F at the steam drum operating pressure) plus 100^{o}F. C. For boilers with rated capacity in excess of 20 MMBtu/hr which have a average water supply temperature which is equal to or less than 150^{o}F, the boiler shall equipped with an economizer designed to reduce the temperature of the flue gas outlet to a value no greater than 50^{o}F above the water supply temperature when the boiler is operating at maximum firing rate. *Note: For purposes of this BPS, water supply temperature is defined as the weighted average temperature of the combined makeup water and the recovered condensate delivered to the boiler upstream of any deaerator or other feedwater preheater but after benefit of any other heat recovery operations which recover waste heat from the boiler by transfer to the boiler water supply (such as boiler blowdown heat recovery).*

	2. Electric motors driving combustion air fans or induced draft fans shall have an efficiency meeting the standards of the National Electrical Manufacturer's Association (NEMA) for "premium efficiency" motors and shall each be operated with a variable speed control or equivalent for control of flow through the fan. **3.** For boilers with rated fired duty in excess of 20 MMBtu/hr and a boiler blowdown rate exceeding 8 % of steam production, the boiler shall be equipped with 1) an automatic boiler blowdown control system which will minimize boiler blowdown while controlling dissolved solids in the boiler water at an optimum level and 2) a flash steam recovery system which will recover flash steam from the blowdown pressure reduction and utilize it for feedwater heating in the deaerator or feedwater heater.

Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions	**4.8%**

District Project Number	C-1100388
Evaluating Engineer	Dennis Roberts, P.E.
Lead Engineer	Martin Keast
Initial Public Notice Date	October 14, 2010
Final Public Notice Date	November 12, 2010
Determination Effective Date	January 19, 2011