

**San Joaquin Valley  
Unified Air Pollution Control District  
Best Performance Standard (BPS) x.x.xx**

| Class  | Gaseous Fuel-Fired Boilers  |
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| Category   | Gaseous Fuel-Fired Boilers with Rated Steam Pressure 75 psig and Greater  |
| <b>Best Performance Standard</b>   | <p>1. The boiler shall have a minimum thermal efficiency of 95% at the maximum firing rate or, alternatively, shall be 1) equipped with an economizer designed at maximum firing rate which will either reduce the temperature of the economizer flue gas outlet to a value no greater than 20 °F above the temperature of the inlet water to the economizer or will heat the water to a temperature which is 30 °F less than the steam temperature at the steam drum, or 2) shall be equipped with other economizer and/or heat recovery options which will collectively provide an equivalent energy recovery from the boiler, and</p>  |
|  | <p>2. For boilers with a rated firing duty of 20 MMBtu/hr or greater, when the boiler feedwater is to be deaerated or otherwise preheated with steam and the temperature of the water supply to the deaerator or steam heater is equal to or less than 160 °F (combined makeup and recovered condensate), the boiler shall include a 2nd stage economizer to heat the feedwater flowing to the deaerator/heater or shall incorporate other economizer/heat recovery options which will collectively provide an equivalent energy recovery from the boiler. The second stage economizer design shall be based on reducing the temperature of the 2<sup>nd</sup> stage economizer flue gas outlet to a value no greater than 20 °F above the temperature of the inlet water to the 2<sup>nd</sup> stage economizer when the boiler is operating at the maximum firing rate, and</p> |
|  | <p>3. Electric motors driving combustion air fans, induced draft fans and boiler feedwater pumps 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 frequency speed control or equivalent for control of flow through the fan or pump, and</p>  |
|  | <p>4. For boilers with rated fired duty in excess of 20 MMBtu/hr and a rated steam pressure of 125 psig or greater, the boiler shall be 1) equipped with an O<sub>2</sub> trim system which will control oxygen content of the stack gases to a maximum of 2 volume % dry basis at maximum firing and 2) shall limit the recirculation of flue gas to a value not exceeding 10 percent of total flue gas volume.</p>  |
| <b>Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions</b> | 7.0%  |

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| <b>District Project Number</b>      | C-1100388            |
| <b>Evaluating Engineer</b>          | Dennis Roberts, P.E. |
| <b>Lead Engineer</b>                | Martin Keast         |
| <b>Initial Public Notice Date</b>   | April 8, 2010        |
| <b>Final Public Notice Date</b>     | April 30, 2010       |
| <b>Determination Effective Date</b> | TBD                  |