

Southern California Boiler

Received

MAY 10 2010

Permits Srvc
SJVAPCD

May 6, 2010

DR

Mr. Dennis Roberts, PE
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, CA 93726

RE: Best Performance Standard

Dear Mr. Roberts:

I have reviewed your draft on the proposed Best Performance Standard for the San Joaquin Valley Pollution Control District and have the following perspective and particulars to offer you.

As you recall, we discussed several items a few weeks ago on the economizer issues, Low NOx burners, high efficiency boiler, O2 trim options and surface blowdown heat recovery, which are important to take under consideration.

It is my hope that any ruling you decide to endorse will be a voluntary rule as a starting point. This will give time to determine the effect it will have on industrial boiler applications as there will be an increased cost of the higher efficiency equipment and maintenance.

There are three companies that I personally know about who are moving this year out of the State of California. This is due to the South Coast Air Quality Management District NOx emission ruling. It probably amounts to a loss of 300 – 400 jobs and as you know this financial burden will certainly drive other companies from the State of California.

It would be ideal to have each facility evaluated to see if they have the heat transfer requirements that could assist them in achieving the higher efficiencies of this standard. This would also allow time for the SVAPCD to make a comprehensive examination of the impact on companies vs. the environment.

The 95% efficient steam boilers achieved in practice are once through units and have a need of 100% make-up water plus a separate heat load for hot water using 60 – 70° F inlet water through a condensing economizer or a wet economizer. These projects are fairly rare and would only be 1- 2% of the total projects unless the project is a hot water condensing boiler.

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The requirement for <10% FGR and 2% O₂ will probably require a standard 30 or 40 PPM NO_x burner with SCR system, which will add on additional costs to each project. Most of the boilers in your area already have installed Ultra Low NO_x burners with 15-PPM NO_x or less and they all require more than 10% FGR and run higher than 2% O₂. All these burners would need to be modified or replaced and a SCR System added intensifying the costs.

My experience in the field spans over 35 years and in that time I have only seen a few boilers operating at 2% O₂ steadily 24/7. This includes boilers where they only operate at 2% for test operation and have to be readjusted for higher O₂ to be reliable, especially large outdoor boilers.

The requirements for VFD high efficient motors, O₂ trim, combustion control systems (servo control) are what we are promoting on all boilers 16 MMBTU and larger. We are also encouraging installation of servo control systems on all smaller boilers 1 MMBTU to 16 MMBTU so the 9-PPM NO_x requirements can be meet.

You may be interested to know that we are encouraging customers to purchase the high efficient boilers with 4 pass, wet back design, XID type boiler tubes in 2 & 3rd Pass for increased heat transfer and condensing economizers where the application has a heat transfer load for both.

As mentioned above, it is my hope that you will be looking at each project on a case-by-case basis to ensure there is sufficient heat transfer load to achieve higher efficiency in the rate of 88% - 92%. If they cannot meet your requirements, will you allow them to meet a lower efficiency rate based on heat transfer load in their facility?

We have data on projects that we installed high efficiency ultra low NO_x boilers with O₂ trim, VFD, combustion control system, economizers, surface blowdown heat recovery systems operating at 120# steam that have achieved close to 90% efficiency. We have done small projects installing 100 HP Boilers and as large as 800 HP Boilers.

Currently we are installing a 350 HP boiler system with all the above items plus a 2nd stage economizer for both feedwater and process water and surface blowdown heat recovery heating fresh water make-up to deaerator. I will be happy to provide you with details on this project once it is completed within 4 – 6 weeks.

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Southern California Boiler has made a concerted effort to educate our customers on the different options that are available to increase their system efficiency. Nonetheless, the concern they have is the substantial cost to upgrade their facilities. The reality is that all the new rulings mandated by the Air Quality Districts are beginning to take a financial toll on various industries and will soon force a number of companies to leave California.

As you probably know, Southern California Gas Company and the PGE offer incentive programs that provide funds for efficiency improvements. We are working closely with them to promote their programs. Obviously, more of these incentive programs would be extremely helpful.

I appreciate your inviting me to assist in the drafting of the Best Performance Standard, hopefully, I have given you some insight to the other side of the coin regarding a more industry friendly California.

I look forward to hearing from you.

Sincerely,

John Clarkson

**John Clarkson
Vice President**

JC:mp

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