

SOLUTIONS

Boiler Division

**ultra low nox
capabilities**

BOILERS | PUMPS | SYSTEMS | SERVICE | PARTS



R.E. MacDonald Co.

your boiler & pump solutions team

~ since 1956

YOUR PREMIER SUPPLIER OF ULTRA LOW NO_x SYSTEMS, PARTS, SERVICE AND SUPPORT

REGULATORY CHANGES

If you haven't heard about the new emission regulations that have been mandated in the Bay Area, San Joaquin and South Coast air districts chances are you will before too long. These new standards for boilers of all sizes are aimed to help the air quality for all of us here in California, where substantial improvements in emission control have made a difference over the last two decades.

SO MANY OPTIONS

When planning your facility compliance there are many factors that come into play. There are extensive options for equipment that can meet the new regulations now and into the future, as well as provide increased efficiency for your facility. But new equipment can be much more complex than previous generations and beyond equipment options there are incentives and rebates from utility companies and other outside sources that can help offset the cost of upgrading.

YOU MAY NEED A PARTNER

R.F. MacDonald Co. offers our hand to yours - in a strong partnership for solving real boiler operator issues facing us today. Our involvement in projects has resulted in increased plant efficiency, reduced downtime and sustained regional compliance. Our team can offer you personalized assistance for your specific boiler room.



THE FOUR STEPS YOU NEED TO TAKE TO MEET COMPLIANCE

- **Determine Your Facility Requirements**
The new regulations are based on the size and age of your equipment with exceptions or extensions for low fuel usage, multiple units and type of equipment. This makes your specific requirements slightly more complicated to calculate. We have an online NO_x Calculator that can possibly help and our representatives are always standing by to assist.
- **Options for Your Specific Equipment**
Based on the level of emissions you need to achieve, you may have options available including boiler or burner retrofit, installation of new equipment or many other options. We have inhouse engineers who can speak with you regarding your specific operation.
- **Plan, Budget, Installation and Testing**
There are many options available and we are prepared to provide budget proposals for equipment, installation and source testing for compliance determination. Once the most appropriate option is selected we can assist in the permitting process with your local Air District.
- **Establish an Ongoing Maintenance Plan**
Initial compliance is only the first step. It is essential that your equipment maintain compliance with scheduled reporting to the air district. We offer many Maintenance Plans to ensure longer life and greater overall efficiency of your equipment.





ULTRA LOW NO_x AND SCR SYSTEMS OUR EXPERIENCE AND QUALIFICATIONS

Your operation may experience complex decisions on the path to your initial compliance and ongoing adherence to the new regulations and our global perspective can help you through the process.

Over the years we have helped many customers achieve and maintain single digit NO_x levels with a wide array of technologies, products and unique solutions for individual applications. We have been very successful applying FGR, ULN burners, SCR and control systems (typically designed for sub 5 ppm) to ensure safe reliable operation. In addition we have improved NO_x performance of existing ULN burners to 7 ppm with control upgrades and field tuning. For peace of mind we can offer single source responsibility including engineering, construction and commissioning.

In addition to meeting low emissions, businesses are also focused on reducing costs and maximizing efficiency of their operation. Our company is experienced in applying a number of solutions to meet this goal. Together we can reach your goal.



MOBILE BOILER ROOMS

If your operation cannot handle down-time, if you have a planned off-line maintenance event or if you need extra capacity for a short period of time our fleet of Mobile Boiler Rooms could be your answer.

Our fleet of transportable equipment includes steam and hot water boilers, deaerators, feed systems and the ancillary equipment to keep you running or get you back on-line as quickly as possible. All equipment is thoroughly checked, tested and equipped to meet California and Nevada boiler and pressure vessel safety requirements. In addition, our fleet has the latest Ultra Low NO_x burners available to meet even the most stringent air quality emission standards.

LET OUR TEAM HELP YOU

Don't wait to get your boiler in compliance. Our team can provide you with the help you need for your specific equipment. Call a local office, send us an email or visit our website for more information.

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Supply, Install, Maintain and Repair

ULTRA LOW NO_x SOLUTIONS

- Regulatory Compliance Guidance
- Ultra Low NO_x Burners
- Combustion Control Upgrades
- Selective Catalytic Reduction Systems
- Economizers
- Compliance and Monitoring
- Continuous Emissions Monitoring
- Options to meet Best Performance Standards



BOILER SALES AND RENTALS

- Firetube and Watertube
- Copper Fin
- Thermal Fluid



SERVICES

- ASME & National Board Certified Welding
- Field Service, Troubleshooting, Diagnosis and Repair
- Installation
- Building Management System Interface
- Oxygen Trim Systems
- Supervisory Control and Data Acquisition
- Skid Mounted Hot Water and Steam
- Boiler Systems
- Feedwater and Condensate Systems
- Boiler Room Upgrades
- Pumps, Heat Exchangers and More



24-HOUR EMERGENCY REPAIR SERVICES

CALL THE NEAREST FACILITY

www.RFMacDonald.com



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WEBSITE FEATURES

- NO_x TALK - an audio program with a wide selection of guest speakers
- NO_x Calculator - find out the ppm target for your boiler
- Regulation Overview Presentations
- Low NO_x and SCR Case Studies
- Boiler Operator Training Courses