

Food Processing

Replacing Brick-set Boilers with a State-of-the-art, Ultra Low NOx Package Boiler

Cribari Winery in Fresno, California needed to increase the steam capacity of their boiler to meet the growing demand for process steam. The boiler room contained four brick-set boilers, dating back 50 years or more, and one package boiler. The local air pollution control agency, the San Joaquin Valley Unified Air Pollution Control District, required that the replacement boiler meet the most stringent Federal Environmental Protection Agency emission regulations of 9 ppm NOx and 50 ppm CO at the time.

Replacing the brick set boilers to increase steam capacity involved several significant problems: first, the equipment needed to meet the new 9 ppm or better NOx emission stipulation; second, access to and space within the boiler room were extremely limited making installation a demanding job; and third, Cribari's approaching peak-season dictated a very tight delivery schedule (grapes don't wait).

One 50,000 lb/hr Nationwide Boiler stock package unit was selected to replace three of the brick-set boilers to meet the increased capacity requirement. To combat the first issue of stringent emissions requirements, the boiler selected was retrofitted with an ultra low NOx burner. The advanced technology incorporated in this burner assures that NOx levels will not exceed 9 ppm. This is accomplished using simple controls and no flue-gas recirculation.



50,000 lb/hr package boiler with ultra low NOx burner being lowered into the boiler room.

Customer Profile

- Cribari Winery
- Fresno, CA
- Family-run company dated back five generations
- Bulk wine producer

Supplied Equipment

- 50,000 lb/hr skid-mounted watertube boiler
- 9 ppm ultra low NOx burner

Removing the roof of the boiler room solved the second problem of access and installation. The 30-ton boiler was hoisted with a large hydraulic crane over the boiler room walls and placed on a concrete pad prepared strictly for the boiler. Fuel, water, electric and steam connections were made.

Since Nationwide Boiler had the package boiler in stock, it was delivered to the Cribari Winery site on schedule for their peak-season. Once preparations were complete, the boiler tune-up procedure was accomplished in one day. Subsequent third-party, emission compliance tests demonstrated that NOx levels averaged 5 ppm during three separate 45 minute tests at different loads.

Overall the project was a success. Nationwide Boiler supplied the right equipment on a fast-track basis and provided viable solutions to all problems faced by the customer.