

Colleges & Universities

Duke University Relies on Temporary Boiler During Major Fuel Conversion Project

Built in 1929, Duke University's West Campus steam plant produced as much as 1.3 billion pounds of steam a year. The plant was fueled from a mountain of 4,000 to 6,000 tons of coal on Coal Pile Drive. On April 12, 2011, Duke burned the last of its remaining stock of coal and began renovations to convert the plant from a coal to natural gas burning plant, similar to the East campus steam plant. This is all part of Duke's Climate Action Plan and the University's goal to become carbon neutral by 2024.

A local engineering firm working with Duke on the project contacted Nationwide Boiler to provide an 82,500 lb/hr trailer-mounted rental boiler with an economizer to supplement steam as a result of the plant retrofit. A long-term rental boiler was required that was readily available and would operate reliably during the fabrication of three new high capacity natural-gas fired package boilers the University purchased.

Nationwide Boiler supplied the University with a nearly-new Nebraska mobile trailer-mounted rental boiler. The unit met their requirements and was available for immediate shipment from Nationwide Boiler's storage yard in Bessemer, AL (ADCO Companies Ltd.). The boiler was thoroughly inspected, tested and checked before it was shipped to the end-user. In addition, Nationwide Boiler mounted Duke University's famous Blue Devil logo on each side of the boiler, proudly promoting the University during its transit from Alabama to Durham, NC.

The trailer-mounted boiler was delivered, made its way up Coal Pile Drive and was installed in the obsolete coal handling building. Nationwide Boiler performed boiler start-up and operator training to ensure proper operation and maintenance of the equipment. Based on the success of the first rental, Nationwide Boiler again supplied



Customer Profile

- Duke University
- Durham, North Carolina
- West campus steam plant built in 1929
- Produced as much as 1.3 billion pounds of steam per year
- Goal to be carbon neutral by 2024

Supplied Equipment

- 82,500 lb/hr trailer-mounted rental boiler
- EconoStak economizer



an 82,500 lb/hr trailer-mounted boiler to support the final phase of the coal-to-gas construction project, while C&C Boiler Sales & Service, Inc., Nationwide's local representative, provided start-up services.

Overall, the conversion of Duke's steam plants have helped the University take a significant step towards its goal of becoming carbon neutral by 2024. Avoiding the use of coal has reduced greenhouse gas emissions by 40% and reduces the campuses overall emissions by 15%.