

# MARGIN THAT MATTERS

## EXCEEDING EMISSIONS STANDARDS WITH ECOJET® EDGE+

### The Situation: Meeting a Strict Standard

A major manufacturing facility needed to equip three B&W 200K PPH package boilers to meet stringent emissions requirements. Each boiler was designed for 249 MMBtu/hr firing natural gas, with a contractual NOx limit of 0.05 lb/MMBtu (~40ppm).

**The challenge:** deliver reliable operation and emissions performance well within compliance, without compromise.

### The Stakes: More Than Compliance

For the customer, meeting emissions guarantees meant more than checking a regulatory box. It meant protecting operating flexibility, avoiding costly penalties, and supporting corporate sustainability commitments. The stakes were clear: reliable low-NOx performance to protect operating flexibility, reduce risk of costly penalties, and demonstrate progress toward sustainability commitments. The solution had to deliver value today while proving ready for tomorrow.

### Our Approach: Innovation in Action

Each boiler was designed with a multi-burner windbox and paired with ECOjet® Edge ultra-low NOx burners, complete with igniters, flame scanners, and a common gas header with biasing valves.

Together, we identified opportunities to further lower emissions by applying advanced ECOjet Edge+ burner components.

The upgrades integrated seamlessly, and with careful tuning, the boilers quickly surpassed the original emissions target. The success of this approach resulted in three ECOjet Edge+ installations, all reliably operating today.



## Measurable Outcomes With ECOjet® Edge+

The impact was clear. ECOjet Edge+ not only met requirements but delivered measurable advantages:

- ~26% reduction below the contractual NOx limit → creating a wide compliance margin that reduces regulatory risk and supports reliable operations
- Final emissions of ~0.032 lb/MMBtu (~27 ppm) → among the best in its class, simplifying operation with margin to spare
- Stronger confidence in long-term boiler performance → supporting sustained, efficient operations with reduced operational complexity



## A Collaborative Win

ECOjet Edge+ delivered emissions performance well beyond requirements, providing added compliance margin, reducing the risk of penalties, and supporting sustainability goals. The project also gave the customer greater confidence in reliable boiler operation for years to come.

This success highlights the power of partnership, combining customer commitment with John Zink's combustion expertise to achieve cleaner, more efficient results that create lasting value.



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