OVERVIEW

Riley Power Inc., a Babcock Power Inc.® company, has been providing fuel firing systems for steam generators since 1911. Today, Riley Power offers a wide range of combustion services and parts for tangentially fired boilers, providing utility and industrial boiler owners with a competitive price and superior technical solutions to those offered by the OEM. Our firing systems experience includes the supply of low NOx firing equipment for some of the world’s largest coal fired utility boilers, and our technological advancements put us at the forefront of our industry. Riley Power’s leadership role in the supply of advanced combustion and post combustion equipment for NOx emissions control makes us uniquely qualified to provide complete systems, as well as spare parts and services.

The Riley Power low NOx combustion system is a simple approach that was developed from years of NOx emissions reduction knowledge and experience. Our NOx reduction approach diverts secondary airflow from the main windbox to an optimal point above the main burner zone. Yawable air tips can also be provided for CO control. This in-furnace solution is proven to be the most cost effective way to reduce NOx and control CO. Our firing systems experience combined with our knowledge of coal chemistry allows us to understand the effects that specific coals have on combustion and to produce a simple but optimized design that provides flame stability and reliability. Each Riley Power T-firing system, including each individual part, is custom designed to meet the customer’s needs. Extensive design automation is used to allow a quick response to inquiries while design tools, such as CFD modeling, assures both technical compliance and optimal performance. To further enhance reliability, Riley Power uses special materials, such as cladding or abrasion resistant coatings, to provide long-term protection against coal erosion.

CAPABILITIES/BENEFITS

Riley Power can provide complete low NOx modifications or individual replacement/spare parts consisting of the following:

Experience
- Riley has been designing and manufacturing boilers and firing systems for a wide variety of fuels for almost 100 years
- Performing low NOx burner retrofits for over 20 years on many different OEMs’ steam generators
- In-house capability to reverse engineer any component for any OEM’s firing system

Alternate source to OEM
- Competitive pricing
- Innovative solutions based upon extensive experience from working on other OEM’s equipment
CAPABILITIES/BENEFITS (CONT.)

Alternate source to OEM
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Separated OFA
- Optimize air distribution between separated
- OFA and main windbox
- In-house CFD modeling capability
  - Furnace modeling
  - Analyze furnace gas temperature, CO and $\text{O}_2$ profiles resulting from retrofit work
  - Minimize time and cost required during commissioning

Upgrades and replacement parts – burners
- Auxiliary air and coal nozzle tip upgrades
- Damper optimization and upgrades
- Adjustable coal nozzle tip and stationary coal nozzle replacement parts
- Fixed or yawable auxiliary air and overfire air nozzle tip replacement parts
- Modular tilt upgrades to improve mechanical reliability
- Wear resistant coatings to increase component life

Upgrades and replacement parts – other systems
- Replacement tube panels
- Windbox replacement and stabilization

On-site services
- Qualified performance and field service engineers available for installation and start-up

Warranty
- Standard commercial warranty available