

You can keep your boiler operating at top efficiency by cleaning buildup faster, at lower cost, and with less damage with ecomagination certified Powerwave+ sonic impulse cleaning, like these utilities did.

Prevent ash build-up on boiler surfaces

Coal fired plant in Ohio

Challenge: This 220 MW unit uses 100% PRB coal. The T-fired boiler had heavy ash build up in the backpass. The low temperature superheat (LTSH) section was fitted with an in-line tube arrangement that had ash platenization in some areas and pluggage in others. Piling and ash accumulation were also a challenge in the lower economizer section. Traditional sootblowers provided limited cleaning and used valuable steam that caused corrosion and weakened boiler surfaces. The unit required an annual cleaning outage in order to operate until the major scheduled outage.

Solution: Following a thorough evaluation, GE recommended the installation of six Powerwave+ systems to clean the entire backpass of the boiler.

Results: Since the installation of the Powerwave+ systems in early 2007, the plant has not required an unplanned outage for boiler cleaning and repair. Other benefits include:

- 33°F improvement in economizer outlet gas temperature
- >25°F improvement in air preheater outlet temperature
- 30% improvement in air preheater

Extend time between outages

Power generation plant in Missouri

Challenge: The 96 MW PRB coal-fired boiler was experiencing severe ash accumulation in its reheat section. The plant had to take a major outage every year to clean the boiler in an effort to keep ash build up in check. The primary goal for the plant was to

keep this area as clean as possible and prevent costly structural damage.

Solution: Powerwave+ technology delivers online high-energy impulse cleaning that cleans transfer surfaces improving efficiency of coal-fired boilers.

Results: After over a year of using Powerwave+ systems the plant has been able to maintain boiler temperatures and pressures at desired levels. Additionally, sootblowers were eliminated in two locations and the time between scheduled cleaning outages has been extended by **50% (from 12 to 18 months)** due to the ongoing cleanliness of the boiler.

Improve heat rate transfer

Power station in Illinois

Challenge: The combination of PRB coal and a tight fin design in the economizer was causing pluggage in the boiler backpass. The existing cleaning methods for this 70 MW unit were inadequate and the plant would become rate limited due to pressure and heat transfer efficiency loss.

Solution: Originally developed for jet propulsion, Powerwave+ technology can increase energy output while reducing overall maintenance time and costs.

Results: Shortly after two Powerwave+ systems were installed, the plant experienced over a 70°F drop in flue glass temperature across the economizer and a 15°F drop across the air preheater. The boiler gained a **0.5% improvement in heat transfer rate** following the Powerwave+ systems start up.



For more information call us at 1-800-821-2222 or visit www.ge-energy.com/powerwaveplus