

Low NO_x Burners & Coal Spreaders

Wisconsin Electric Power Valley Generating Station

Plant Specifications

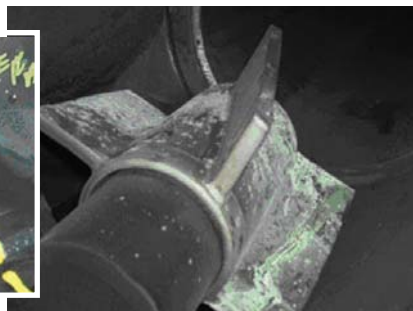
- Largest US cogeneration facility producing electricity and steam
- Generates steam heat to approx 460 customers in downtown Milwaukee
- Supplies 280 MW from two coal fired units
- Utilizes Riley CCV Burner with axial swirl spreaders
- Burner capacity 50-250 MMBtu/hr
- 70% reduction in NO_x emissions — equivalent to 0.068kg/MMBtu

Conforma Clad Solution

- Burner operating conditions 426 degrees C
- Coal velocity 30.48mps
- Ash content 9% — comprised of 80% silicon dioxide and aluminum oxide
- Stellite weld overlay 38mm erosion after 22 months operation
- Silicon carbide ceramic 1.77mm erosion and significant cracking & spalling
- Conforma Clad® WC cladding — 0.177 inches erosion
- Conforma Clad increased service life to 48 months with low NO_x emissions
- **Generation revenue gains - \$3.63m / year**



Silicon carbide spreader



Protected with Conforma Clad® cladding

Dynegy Power Corporation Wood River Generating Station

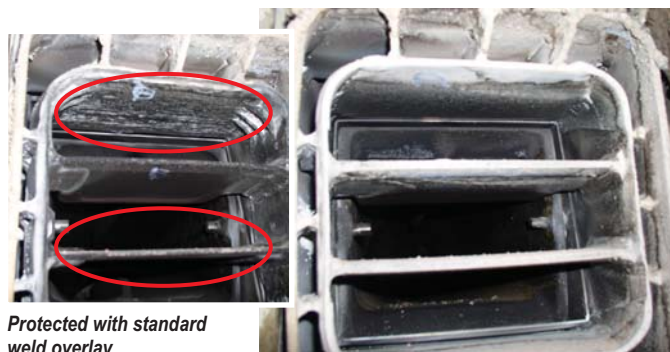
Plant Specifications

- 650 MW boiler
- T-fired boiler with balanced draft
- Powder River Basin coal (low Btu high ash content)
- Burner velocities — 24.3mps

Conforma Clad Solution

- Chrome carbide weld overlay useful service life 8-9 months
- Conforma Clad® WC cladding useful service life 48 months
- Other materials tested using ASTM G73 test*, 73mps particle velocity
 - Stellite 6/31 weld overlay
 - A 532 casting
 - Chromium carbide coating
 - Silicon carbide ceramic tile
- Above materials showed material loss of 1.15g -2.36g
- **Conforma Clad® WC showed material loss of only 0.21g**

* Conducted by EPRI — Electric Power Research Institute



Protected with standard
weld overlay

Protected with Conforma Clad® cladding

**Conforma Clad® WC showed material loss of only 0.21g.
Generation revenue gains — \$3.63m/year.**

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