

SFD

SOOTBLOWER FOULING DETECTION SYSTEM

SYSTEM BENEFITS

- Optimize Sootblower Operations
- Reduce Steam Consumption
- Identify Sootblower Mechanical Faults
- Reduce Boiler Tube Erosion
- Identify Steam Leaks

“Cleaning boiler tubes blind is like putting out a house fire by flooding the entire neighborhood.”

– Ryan Matthews, ITM

SFD STANDARD PACKAGE

- NEMA4X SS Enclosures
- NI cRIO Controllers + IO
- Sootblower Sensors
- Hanger Rod Sensors
- SFD Software Package
- Full On-site Installation
- System Integration Support

COMMUNICATION

- PI UFL
- OPC-DA/UA
- ETHERNET/ IP
(ControlLogix Compatible)

For More Information and Pricing Contact:

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For 20 years ITM has provided the power generation and pulp & paper industries with innovative solutions that increase boiler operation efficiency and safety. ITM’s patented Sootblower Fouling Detection (SFD) system identifies the location of fouling in the boiler and provides real-time data for control systems to optimize sootblowing. Integration of SFD into sootblower controls results in immediate savings in steam consumption, prevention of tube erosion in areas with little buildup, and an increase in boiler efficiency in areas with large buildup.

What is SFD and how does it work?

SFD monitors the level of buildup within the boiler in real-time by measuring the Force/Response Energy Transfer between the sootblower jet and the boiler heat exchanger surfaces. Figure 1 displays a boiler top view cross section with fouling buildup around a sootblower path. As the lance passes fouling the vibration at the sootblower increases.

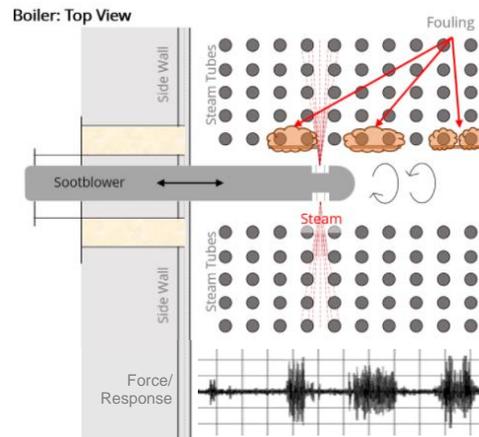


Figure 1: Boiler Cross Section and SFD Output

How does SFD data influence sootblowing?

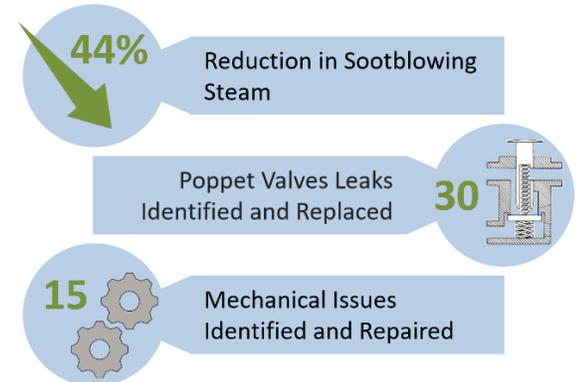
SFD quantifies the fouling around every sootblower and sends a priority value to the sootblower control system. Sootblowers in areas with little to no fouling will have their operations decreased. Sootblowers in areas with high fouling will have their operations increased. SFD integration results in immediate savings due to less steam being used and increased boiler efficiency.

Optimize Boiler Efficiency

~~OR~~ AND

Reduce Sootblowing Steam

Within 6 months of full SFD implementation, boiler operators have achieved:



Sootblower Mechanical Health

Another benefit of SFD is sootblower condition monitoring which identifies:

- ✓ Damaged gears, rollers, and tracks
- ✓ Packing leaks
- ✓ Poppet valve leaks
- ✓ Supply steam issues

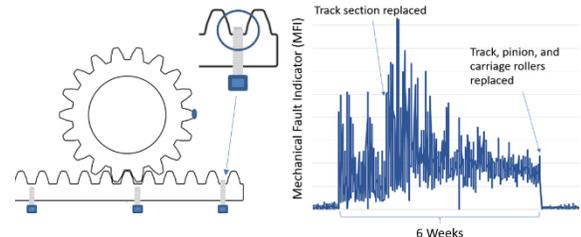


Figure 2: Sootblower Track Damage Example

Mechanical health is expressed in a few key metrics and integrated into boiler maintenance workflow. Incorporating a predictive maintenance tool can:

- ✓ Reduce major sootblower failures
- ✓ Reduce downtime for repairs
- ✓ Reduce steam waste
- ✓ Verify quality of repairs
- ✓ Improve safety around sootblowers



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