TIFI Bio™

Improve biomass unit performance and efficiency with the flexibility to switch fuels

Extend operating campaign life while blending opportunity fuels and maintain unit cleanliness

In today's environment, biomass unit operators frequently must consider the use of alternative fuels to meet plant profitability requirements. The impacts of slagging, fouling and corrosion on such units burning opportunity biomass waste fuel streams can be detrimental to unit performance as it relates to restricting gas flow paths, reductions in heat transfer efficiency, corrosion and boiler cleaning safety.

Fuel Tech has over 20 years of industry experience successfully treating biomass burning units, enabling our customers to increase unit efficiency and meet scheduled campaign run times while keeping units clean with lower corrosion potential. All of this is possible while increasing fuel flexibility options.

TIFI Bio™ offers significant operating cleanliness and lower corrosion advantages while firing a greater variety of biomass waste fuels, including:

- Yard Waste
- Demo Waste
- Logging & Mill Residue
- Wood Chips
- Switch Grass
- Forest Residue

Normal Conditions

After TIFI Bio

Advantages

- Targeted towards problem areas and proper reaction chemistry
- Increase time between cleaning cycles
- Increased unit efficiency
- Fuel flexibility
- Safest process to control slag and fouling
- Co-firing applications
- Sophisticated CFD modeling
- Experienced on-site technical support available
- Shorten boiler cleaning time

FUEL TECH
Technologies for clean air & pure water

TIFI Bio™

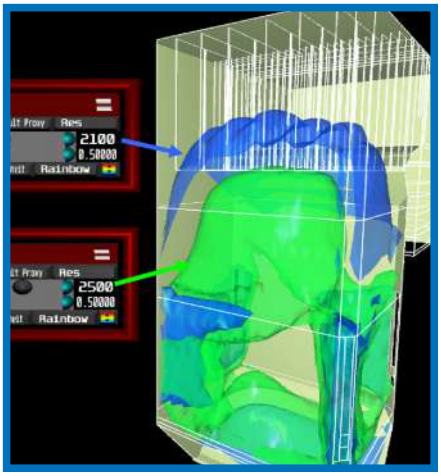
Program Results

TIFI Bio Treatment (2016)	Reduction in Downtime of 40%	Brand X Treatment (2015)
180 Hours of Annual Maintenance		300 Hours of Annual Maintenance

Solution Approach

Conventional fuel treatment programs attempt to control slagging and fouling by applying liquid and/or dry chemicals onto the fuel or randomly into the boiler without regard for ensuring proper chemical reactions and the avoidance of interfering chemical reactions. This frequently leads to increased slag and fouling or no improvement to operating life at all. By failing to address the problem areas or the chemistry issues directly, these non-specific programs rarely meet customer performance expectations.

Our process begins with the development of a TIFI Bio™ for each unique boiler application and circumstance. Computation fluid dynamics and/or chemical kinetics modeling are employed as required to develop a program for each individual application's circumstances.



One or more chemicals are either applied to the fuel, or injected into the furnace to target the problem areas and the correct chemical reactions. Unlike other chemical treatment programs, TIFI Bio™ creates no adverse effects or operational problems to overall unit operations.

Benefits

- Removes thick and stubborn slag deposits better than traditional cleaning methods alone
- Improves the results of sootblowing
- Enhances long-term operability
- Program addresses slagging, fouling, and corrosion due to potassium, sodium and chlorides

FUEL TECH
Technologies for clean air & pure water
www.ftek.com | info@ftek.com | +630.845.4500 | 27601 Bella Vista Parkway Warrenville, IL 60555