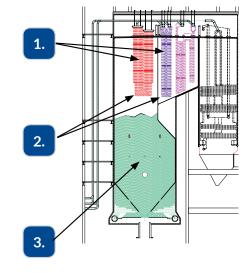
## Boiler Tube Company of America

## **TYPICAL UTILITY AND RECOVERY BOILER**

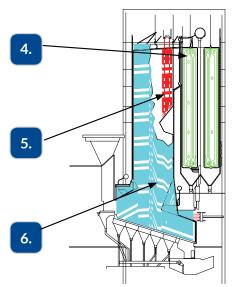








## TYPICAL WASTE TO ENERGY APPLICATIONS



Excessive erosion and/or corrosion in specific areas of the boiler are some of the primary causes of unscheduled outages. Even when well identified, maintaining these areas can consume significant outage time and maintenance expenditure resources.

- 1. The leading edge tubes of super-heater and reheater sections are often in high velocity areas – particularly if fly ash plugs at the nose arch. Tube shields often fall off and have to be replaced each outage. Overlaid tubes can last many years.
- 2. Lower superheater loops are often exposed to very high velocities and temperatures. Upgrading materials and/ or adding shields is not always effective. When replacing superheaters, overlaying the lower loops can greatly extend life.
- 3. Utility boiler waterwalls can experience accelerated corrosion. This is particularly true after some low NOx conversions.
- High erosion areas of tubes and headers that are exposed to the gas pass in a WTE boiler are overlaid with alloy 625.
- 5. Generating tubes often experience erosion from high gas velocities from the furnace and in sootblower lanes. New replacement tubes within these areas that are shop overlaid with the appropriate material can dramatically increase the life of these tubes.
- Replacement waterwall sections are fabricated from tubing overlaid 360 degrees. This reduces distortion and the resulting stress cracking inherent in one-sided overlay. Plus, the overlay provides cold side corrosion protection.

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