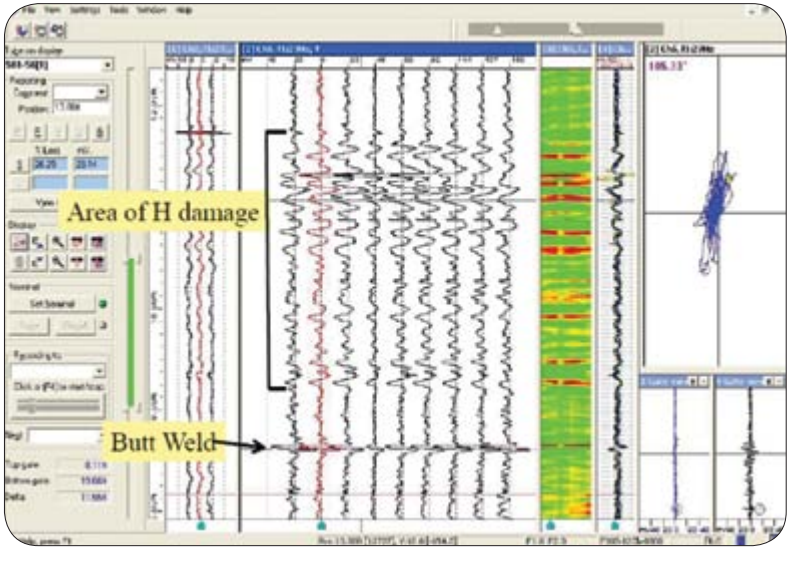
Vertiscan Rapid inspection system for Boiler water wall tubes

The inspection method employed was an adapted RFT (Remote Field Technology) which is a low frequency AC (electromagnetic) technique similar to remote field eddy current. In this technique a signal is sent from an exciter coil(s) to 15 detector coils (VeriScan) or 12 detector coils (E-PIT). The signal passes through the tube wall at the crown of the tube near the exciter(s) and returns through the wall again near the detectors. The time of flight of this signal is directly related to the wall thickness of the tube near both the exciter(s) and detectors.



Features:

- RFT-VertiScan System detects virtually all defects on flame side
- Rapid scan speed
- Up to 6000 samples/meter
- Up to 5 tubes inspected simultaneously
  - 4 man team: crawler, safety man, Ferroscope operator, data analyst
  - Inspection speed: >3m/min
  - Measures both gradual loss and small local pits

detectable defects using Vertiscan technique includes:

1- Hydrogen damage
2- Thermal fatigue cracks on crown of tubes
3- Pitting and pin holes leakage
4- Flame erosion