

Power Industry

CASE STUDY

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Key Facts

Sector Power Industry

Category Investigation of Economizer Upper Bank Tube in Supercritical Boiler

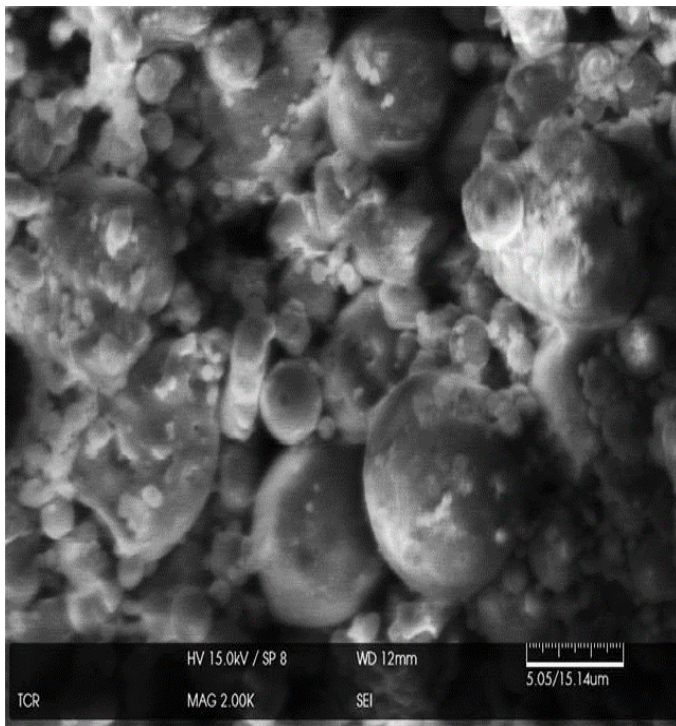
Problem

- Economizer tube from upper bank in of a 660MW supercritical boiler failed during service. The tube was in service for 30,000 hours (approx. 3.4 years).
- The failure of the tube was noticed by steam leakage sound that was heard from the subject region.
- MOC of the tube is as per SA210 Grade C



Diagnosis

- The tube failure is because of flue gas erosion that has promoted thinning from outer surface.



Solution/Recommendations

- The tube metallurgy in terms of MOC, microstructure and hardness is satisfactory.
- Metal wastage leading to thinning is from OD nearby the failure location.
- Presence of embedded fly ash particles are seen on OD surface.
- Process design expert may be consulted to reduce the particle velocity / shape and size to suppress erosive nature of flue gas by controlling the coal quality and combustion aspect.
- The nearby / adjacent tubes need to be checked for thinning by suitable NDT.

Contact Us

If you are interested to learn more about TCR Advanced,
please send an email to: sohel@tcradvanced.com

Mr. Sohel Vaidya

Business Development Manager