TUBE PLUGGING FIRE TUBE BOILERS

Joel T. Amato

NBIC Part 3, 3.3.4.9,

- When the replacement of a defective tube is not practicable
- Concurrence of the Owner, Inspector, and where required the Jurisdiction, the tube may be plugged
- Mechanical or welded plug shall be evaluated by the “R” Certificate Holder and reviewed with the inspector, and Jurisdiction when required

NBIC Part 3, 3.3.4.9,

- If welded, the strength calculations for the size of the weld shall be in accordance with the original code of construction
- Welds can be:
  - Plug to tube
  - Plug to tube sheet
  - Or a combination of both

NBIC Part 3, 3.3.4.9

- Tube plugging is an alternative to replacement and may be further limited by the number of tubes plugged and the area in which the tubes are plugged
- The operational effects on the waterside pressure boundary and the effects on the combustion process should be considered prior to plugging
- Once the tubes are plugged and a successful hydro static test is completed (4.4.1), the boiler may be returned to service for a period of time agreed upon by the owner, the inspector, and when required the jurisdiction

NBIC Part 3, 3.3.4.9

- The R-1 form shall be completed and must identify the means of plug retention, mechanical or welded.