CGPL
Coastal Gujarat Power Limited

Date : 6th Feb 2020

TO WHOM SO EVER IT MAY CONCERN

We at CGPL are using THERMACT combustion catalyst, regularly in all our 830 MW Super Critical Boilers manufactured by Doosan Heavy Industries, Korea, for last 7 yeas since 2013.

THERMACT is directly injected into the furnace through corner peepholes at various elevations, with the help of screw feeder assembly, at the rate of about 1 Kg per 20 tons of coal. Ratio may change from 1 Kg 20 tons to 1 Kg 25 tons of coal, based on slagging intensity at furnace and coal blend ratio.

Observations and Benefits with Usage of THERMACT

- Reduction of Slagging & Clinkering on Boiler water wall, Super heater & Reheater Zone due to clinker becoming porous and removed easily during soot blowing .
- Elimination of issues of heavy Clinker mass falling down in bottom ash hopper and its further disposal of the Bottom Hopper getting choked.
- Reduction in time required for Bottom ash evacuation.
- Reduction in soot blowing frequency and requirement of steam for soot blowing.
- Clearing of the heating surface helps in better heat transfer leading to reduction in Flue gas exit temperature
- Maintaining SH & RH spray.
- Better control over metal temperature at full operating load conditions.
- Operational freedom for Blending of Different types of coal in different blend ratio.
- Regular Thermal mapping analysis shows that temperatures near the Windboxes have increased, however temperatures at the Gooseneck area and temperatures near the Rear Arch (63 mtrs) have decreased.
- The Scanning Electron Microscopic Study on both Bottom Ash Clinker & Fly Ash particles confirms that usage of THERMACT helps in selective burning of Carbon particles at the micro level in the Slag & Clinker, which prevents its adherence to various Boiler Tube areas.
- Enlarged images of Fly Ash particles confirm that usage of THERMACT helps in reducing the average particle size of the Fly Ash particles and making the individual Fly Ash particle round. This, in long run, has helped in reducing the wear of the Boiler Tubes.
- THERMACT usage has also helped in running the Boilers at the full capacity.
- Another most important advantage of THERMACT usage has been the ability of maintaining the furnace temperature and controlling the Flue Gas Exit Temperature during full load conditions.
- During Overhauling of Units during the past seven years , we have observed that there is no adverse impact or effect on the metallurgy of the tubes that can be attributed to THERMACT.
- Cleaner Boiler Furnace surfaces, resulting into improvement in availability of units and improvement in the Boiler Efficiency and Overall Unit Heat Rate.

For Coastal Gujarat Power Limited

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