

## **Babcock Introduces Revolutionary Cleaning Methods For Industrial Obstructions**

Babcock has entered into an exclusive technology partnership agreement with local agent Xstream Cleaning Technologies to introduce two revolutionary cleaning methods for removing obstructions created by industrial processes. These technologies are capable of reducing downtime by as much as 80% compared to traditional cleaning procedures and have broad application across a spectrum of industries wherever there are industrial boilers, kilns or ovens, notably power stations, pulp and paper, metal, glass and cement factories.

The technologies, unique in this region, are now available throughout Southern Africa only through Babcock.

“As soon as we saw these technologies demonstrated, it was obvious that they had the potential to make a real impact on our local industry,” says Babcock’s Cecil Oates, MD of Ntuthuko Generation, a Division of Ntuthuko Engineering (Pty) Ltd, which is a wholly owned by Babcock International Group PLC company. “We jumped at the opportunity to offer them exclusively as a company, not only to the power generation sector, but to several other industries that periodically need to clear obstructions from their plant.”

The first technology is a patented detonative cleaning technique that offers significant benefits in relation to time and safety for various industries, compared to other traditional cleaning methods. Detonative cleaning can be implemented while the boiler or oven remains in full production, at extreme temperatures, and is suitable for both scheduled cleanings and unexpected blockages. It can also be applied offline during a schedule shutdown.

Using a linear approach, this method can be applied using a lance to place explosive charges in the boiler through existing openings. The charges are detonated in a controlled manner, effectively removing slags and deposits. Another detonative cleaning method is to insert compressed carbon dioxide (CO<sub>2</sub>) gas through die-cast tubes into drill holes, after which the CO<sub>2</sub> is electrically induced. This results in a rapid exit and expansion of the gas that instantly loosens the coated materials. The

compressed gas method is used, for instance, in the cement industry, waste processing industry and for other types of obstruction in funnels and silos.

A stick blasting method is used for both offline and online cleaning of a boiler's blank pass and furnace. This method has a high safety factor, because as soon as the boiler is taken out of operation, large burnt deposits are removed from the furnace, allowing maintenance personnel to access the installation safely. Using this approach, the number of obstructions and blockades can be reduced to zero.

Says Deon Coetzee of Xstream Cleaning Technologies: "We're able to determine the most appropriate method of detonative cleaning for each customer through the use of a unique camera system enabling online recordings. Our high-tech camera is able to resist temperatures up to 1600°C while recording the actual status of the problem.

"There are many benefits associated with this cleaning technology – and no disadvantages. These include increased availability of the plant, cost savings through greatly reduced stoppage periods, no additional waste generated, a high level of safety and control and reduced environmental emissions."

### **Liquid CO<sub>2</sub>**

The second technology Babcock has introduced blasts liquid CO<sub>2</sub> inside an oven or kiln under ultra-high pressure, destroying build-up exactly where it occurs, while leaving the brick lining intact. Compared to conventional methods, this system is also quick, efficient and cost-saving. For instance, in just six to eight hours, the system can remove a build-up of 10 m without sending any personnel into the kiln.

"The development of this system was born out of a need for industrial clients to keep their material moving as efficiently as possible," explains Coetzee. "At every stage of their operation, build-up and chokes can shut them down. Changing raw material conditions and the rising amount of secondary fuel components are leading to more unwanted deposits and build-up, with the expensive consequences of productions losses and extended downtime. This innovative system has been specifically engineered to remove build-up during production, requiring little or no shut-down time and feed reduction."

**Complete solution**

To expedite the introduction of these two technologies to local industry, Babcock is offering a complete solution primarily based on service agreements. A dedicated team of engineers, with representation from Xstream Cleaning Services' experts, offers condition monitoring and predictive analysis, as well as planning, supervision and a full cleaning service, including rubble removal.

Oates concludes: "These technologies have arrived at just the right time in our region's industrial climate. Power utilities and industrial plant are hard pressed to reduce costs, sustain productivity and uphold safety of personnel and plant. We're offering an unprecedented solution to these challenges that is already well established and proven in other parts of the world."

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Date:	24 June 2015