

Babcock performs under pressure

Babcock has been awarded a five-year contract to supply high-pressure boiler tubing to a power station as part of future planned maintenance that will be undertaken at the station. Babcock's Alton Naidoo, General Manager for Business Development, explains.



To the lay person, tubing may not be the first thing that comes to mind as an essential part of the thermal power generation process. However, it is the critical component of steam generation plants, which rely on steam boilers made up of hundreds of kilometres of tubing to ultimately create power.

Alton Naidoo, General Manager for Business Development at Babcock, explains that boiler tubes carry superheated steam that is used to feed a series of turbines. The superheated steam is generated by applying thermal energy to the tubes that contain water, thereby changing the phase of the water to produce very high temperature and pressure steam in the tubes.

"Boiler tubing is one of the critical areas in terms of power station availability and reliability. These tubes have to withstand immense cyclic operational conditions and if one of them fails, it brings the entire unit down," says Naidoo. "Therefore, the tubing has to be specified correctly and supplied to a high integrity to keep tube leaks and boiler failures to the minimum."

Babcock has over 130 years of experience in steam generation and industrial plants, and is the original designer of many steam boilers in South Africa and further afield into Africa – in fact, the company has one of the largest boiler installation footprints in Africa. Babcock specialises in the front-end design of steam generation plant and associated equipment, and provides safe, effective solutions for the entire lifecycle of power and industrial plants, from design and build, through operation and maintenance, to decommissioning and site remediation. The company's key focus, however, is on the feasibility of new build options, performance upgrades, efficiency improvements and emissions reductions.

Naidoo says that as an original equipment manufacturer (OEM), Babcock has embarked on a drive to encourage industry to return to the design base to help solve customers' challenges. "It is critical to have a fundamental understanding of OEM designs, and the design intent, to be able to address the issues that our customers face," says Naidoo.

Babcock utilises its OEM expertise to en-

sure that boiler tubing is specified correctly according to the required design codes and norms and that the detailed specifications are well controlled for the end product that is delivered.

"Because of the high temperatures and pressures it is subjected to, specialised material is required for boiler tubing, with specific certifications according to the relevant EN and ASME codes," says Naidoo. "This type of high-alloy material is not commonly available in South Africa and is generally sourced offshore. While it can be obtained from local stockists, there are limitations in terms of availability and quality."

Naidoo says that Babcock sources the tubing directly from an offshore tube mill that produces it according to its customers' unique and regulatory requirements, which allow for more specifications and tolerance according to the EN and ASME standards, customised sizing, a high level of quality control, and better pricing. Furthermore, it allows Babcock to help customers with the planning and scheduling of outages by providing the material in time.

"Through our long-standing partnerships with our suppliers, we can secure availability and ensure predictable lead times for these critical, long-lead items."

He adds the company's cus-

tomers are realising that long-lead items need a specific strategy to secure availability and better pricing, and that it is possible to have tubing specified according to their needs and maintenance plans instead of relying on availability from a stockist.

Naidoo points out that tubing is not used exclusively in power generation, and has application in any industry that requires high quality tubing, including the petrochemical, pulp and paper, sugar and mining industries. Babcock also OEM status in the sugar and paper industries, where the company has an installed base.

"Babcock can provide a competitive tubing offer, strategic planning for critical long-lead items, and specialised OEM knowledge to help customers across a range of sectors operate more effectively," concludes Naidoo.

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