

Press Release

AES: putting the benefit back into ore beneficiation for mines through optimised steam generation

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Efficiency, reliability, maintenance, sustainability, fuel selection and procurement are just some of the challenges facing the mining sector – and, as one of South Africa’s leading operations and maintenance service providers to the steam and boiler sector, Associated Energy Services (AES), is perfectly placed to optimise these.

AES Commercial Director, Dennis Williams, points out that AES has walked a “long and well-trodden path” with many different industries and is currently focusing on growing its footprint in this pivotal sector.

“Our ability to deliver efficient steam generation is based on reliability and the continuity of operation as well as on the cost of production. Any opportunity to improve on production costs through reduced fuel usage will definitely have a positive operational and financial impact,” he says.

Superior energy from steam

Williams says that, although steam is often taken for granted or even relegated to history as having no part in modern industrial processes, it is in fact an important and useful energy carrier. Within the mining context, the energy generated from steam assists with everything from downstream ore beneficiation and specialist mining processes, to on-site cooking and heating for mineworkers’ accommodation.

“Typically, while a mine’s steam plant is operating and supplying steam, there is little concern. However, few mines operate their steam generation facilities with the same care as their core production equipment. Hence, this aspect of their operations and maintenance tends to lag behind the others - and this is where AES can assist,” he says.

AES’s experienced assistance encompasses many aspects, including operational efficiencies and maintenance planning, shut down maintenance or even supplementing the often limited steam boiler operation skills pool available to mines in remote locations.

“How are you managing spare parts procurement? Can you locate a service provider? These are things that are part of our daily planning. Therefore, prospective mining clients can be sure

that, when challenges arise, we are able to turn things around in the shortest possible time,” he adds.

Efficiency and productivity are the key deliverables specified as part of its service level agreements – topped off with a performance guarantee for which the company is well-known. Furthermore, Williams says that AES takes pride in partnering with clients to create bespoke solutions based on their specific operational challenges and objectives.

Mining bespoke solutions

Bespoke solutions often depend on the skills and management that have historically been on site, and the type of plant and equipment in play.

“A key focus would be on areas which the mine finds particularly challenging - as well as on their operational strengths. Potential clients in the mining sector will soon see just how far-reaching taking something like steam generation out of their scope of management - and letting AES look after it - can be. They will also see how the benefits flow from that upstream to their beneficiation process.

If you have reliable, good quality steam, you can optimise your process to the maximum. You no longer have to account for outages or drops in pressure from the steam supply side,” he explains.

AES begins with a careful site analysis, before coming up with proposed technical solutions. In some instances, for example, the plant in use may not be fit for purpose or require changes in how it is used or configured.

“From a skills and efficiency commitment perspective, we certainly can address challenges - whether it is maintenance and reliability or just understanding problems as a result of poor fuel selection or poor operations control. This can even extend to other areas such as sustainability, including carbon footprint reduction and reducing the consumption of water,” he notes.

Remote monitoring, valuable insights

AES's remote monitoring system (RMS) also plays an important role here.

“When we arrive on site and share data through our RMS system, we can make a client more aware of the impacts that their operations have on our ability to supply them with steam efficiently and reliably. Our RMS system is an Internet-based interface, and clients can even set up their own tailored dashboard to provide them with the key metrics that will influence their processes moving forward,” he advises.

Williams adds that AES is also able to assist with potential expansions. “Many mines want to open new reserves and explore new operations - but they are constrained as the national energy utility is not always able to supply them with sufficient power. In this case, AES will recommend and propose standalone power generation solutions to allow mines to develop such opportunities.”

Health, safety and sustainability

AES is acutely aware of very specific issues within the mining sector, starting with stringent health and safety requirements.

“AES can assist by ensuring that South Africa’s mines do not experience unnecessary downtime due to lost time injuries (LTIs). 25 years of experience in working with potentially dangerous pressurised steam and combustion plant means the company has an inherent awareness of - and focus on - safety. Our ISO 9001, 14 001 and 45 001 certification is testament to how the business is managed and how it can contribute to the optimised operations and maintenance in sectors such as mining,” Williams adds.

He points out that another area where mines are under particular pressure is sustainability and environmental impact. Once AES understands a client’s objectives – whether it is reducing costs related to sustainability, mitigating these costs completely or even rebranding their business as the greenest choice in its market – the viable options can be addressed.

He points out that each of these options will have a completely different trajectory. AES can look at the energy requirements on site and how these can be integrated, share information pertaining to the very latest technologies and make solution-, technology- and fuel-agnostic recommendations. An example in this case would be using alternative, less carbon-intensive fuel sources such as biomass.

Most importantly, all of AES’s inputs are made with the unique objectives and geographical location of each mining business in mind: “For example, we make recommendations based on the geographical accessibility of fuels and the cost of transportation; as well as how, if used, they will impact on the operating costs within a reduced carbon footprint scenario.

Then there is the execution strategy. This is where our many years of expertise and experience in the operations and maintenance space – not to mention our performance guarantee – means that mines can look forward to the myriad benefits of smooth, reliable steam generation and energy for ore beneficiation and many other applications,” Williams concludes.

(1096 words)

Note to Editors:

AES is a pioneering, innovative, reliable and experienced steam and boiler operations and maintenance (O & M) service provider. The company has been in existence for over 25 years and is widely regarded as the leading O & M provider in steam and boiler operations and maintenance service in South Africa. Target industry sectors include power generation, chemical, plastics and rubber, timber, pulp and paper, textiles, food and beverage, dairy, poultry and mining.

AES's purpose is to assist industrial plants to optimise their energy production processes, and achieve energy usage best practices, through the following offerings: the mitigation of risk and the reduction of plant downtime; the procurement of efficient fuel combustion; assistance with the care of assets over the plant's lifetime; diversification of the plant's energy resources; improvement in site operations; and a reduction in carbon footprint.

AES subscribes to the highest ethics and operates according to high safety standards, process excellence and product and service innovation, exhibiting a commitment to quality, technology advancement and the development of human capital. AES invests heavily in training and the promotion of talented people on an equal opportunity basis into the industrial operations environment. The company believes that making a positive difference to communities and the environment is the best way to ensure that everyone benefits from good work.

AES is ISO 9001, 14001 and 45001-certified, ensuring that the company maintains a focus on achieving, benchmarking and optimising its processes and activities.

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