

Lowering a mine's power costs with O&M

by Stefano Borsarelli, Area Sales Manager,
Wärtsilä Operations & Maintenance



Outsourcing of non-core operations is commonplace in manufacturing industries today as companies seek to optimize profitability by focusing on their vital business interests. The same trend is becoming increasingly evident in the power sector where mines, for example, are optimizing performance by reducing operation and maintenance costs. Antam in Indonesia, through a comprehensive O&M contract with Wärtsilä, aptly illustrates this trend.

PT Antam Tbk (Antam) has given Wärtsilä responsibility for operating and maintaining its power production operation at its Pomalaa mine and smelter facility in East Sulawesi, Indonesia. Signed in June 2004, the contract frees Antam to concentrate on its core business and reduce operating costs.

The eleven-year contract in fact covers two power plants. The first, a new decentralized 102 MW power plant owned by Antam, is being built by Wärtsilä and due for completion in 2005. The second is the mine's existing 50 MW power plant.

The new power plant consists of six Wärtsilä 18V46 generating sets which will initially run on heavy fuel oil. These sets will each produce 17 MW of power. They also have the capability to be converted to run on natural gas at a later stage, an important factor in the decision to award the contract to Wärtsilä.

Securing power for third smelter

The power plant is part of a major expansion project at the Pomalaa site. Antam currently operates two ferronickel smelters and work has recently started on building a third smelter to reach an overall production capacity of 26,000 tons of nickel.

The first three generators are due to be handed over at the beginning of 2005, and the other three four months later, so the power plant will be fully commissioned in the first half of 2005. This will coincide with the scheduled load ramp-up of the smelters.

The mobilization started right after the O&M contract was signed to ensure that all logistics, spare parts, warehouses, workshops, personnel and training were in place when the first three generating sets are handed over. Particular care is being taken during this phase to harmonize power plant construction and O&M mobilization with construction of the new smelter.

Large fluctuations in hourly load

The Pomalaa facility is not connected to a power transmission grid system. The power plant therefore independently supplies power for all the facility's mining and smelter needs.



The smelters will require roughly 95 MW in peak load, while normal operation is planned to be around 90 MW, almost half of which will be required for the new smelter. After the new 102 MW plant comes on stream, the mine's existing 50 MW power plant will be used only for standby and peaking purposes.

Load fluctuations are a critical factor in this kind of application. The ability of the Wärtsilä power plant to withstand large load cycles and fluctuations at the site – up to 20 MW in two-minute periods with high hourly frequency – played a major role in Antam's choice of supplier.

The O&M contract is comprehensive in scope. It gives Wärtsilä 24/365 responsibility for the plant's operation and predictive maintenance and spare parts for the generators, as well as performance guarantees covering availability, power output, fuel consumption and environmental control. The high levels of skills and service expected by Antam will be provided by the experienced personnel at Wärtsilä Indonesia in Jakarta, with the support of the Wärtsilä Operation & Maintenance organization.

Efficient asset management through partnership

An O&M contract on this scale justifies calling the relationship between Antam and Wärtsilä a warm business partnership that serves the long-term interests of both parties. In a move that further enhances the relationship, certain Antam employees will be integrated into Wärtsilä's organization on site, to optimize the deployment of human resources within the facility.

There are several important reasons for this transfer, which is covered by a separate agreement running concurrently with the O&M contract. Obviously, it will cut Antam's operating costs.

But equally important is the social aspect of the agreement. The site is located in a fairly remote area where employment security is fundamental to the local community. Integration of these employees will ensure that the requirements of operation and maintenance outsourcing are met while maintaining local employment.

It also contributes significantly to building a 'single family' in which each party, bringing its own knowledge, personality and way of working, will grow hand in hand with the other party to achieve the common goal of optimum power plant and smelter performance. At the end of the O&M contract, the operating personnel will return to Antam, thus ensuring continuity of employment and smooth and reliable power plant operation in the future.

All in all, the O&M contract gives Antam a business solution for controlling of the power plant's performance through efficient asset management. Wärtsilä will not only maintain Antam's asset but ensure that the plant operates at its optimum levels of performance, thus producing energy at the lowest possible cost for the owner.

The award of the O&M contract to Wärtsilä complies with Antam's general strategy of managing costs and encouraging growth. The company achieves this by establishing strategic alliances and joint ventures with world-class companies to access technologies and services that

enhance its competitiveness and accelerate its business development. In this way Antam is able to concentrate its resources on the business of mining.

Best state-owned enterprise

With over three decade's experience as a competitive cost producer, Antam is a limited liability state corporation that is vertically integrated to undertake all stages of the mining process from exploration through to marketing. In November 1997, Antam was partially privatized and listed its shares on the domestic stock markets. In 1999, Antam listed its shares on the Australian Stock Exchange and in July 2002 augmented its listing status to the more stringent ASX Listing.

Antam makes the distinction between being a state-run company and a state-held company. While 65% of its shares are held by the Indonesian government, the company's main goal is to create shareholder value by lowering costs while profitably expanding operations in a sustainable manner. Antam also recognizes that good corporate governance is the key to ensuring long-term, sustainable and profitable operations. Antam is strongly committed to operating ethically and transparently and in a way that is accountable, proof of which Antam was granted the award of Best State-Owned Enterprise in Good Corporate Governance Implementation for two years in a row, 2002 & 2003. ■