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## Consortium gearing up for construction of Medupi low-pressure systems

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The LP Services consortium, which won the engineering, procurement and construction contract for the low-pressure services for State-owned power utility Eskom's Medupi project, in Lephalale, Limpopo, reports that it is gearing up for the construction phase of the installation.

The consortium is led by technical resources provider Lesedi Nuclear Services, and includes fabrication and construction company Wetback Contracts and cooling systems provider Industrial Water Cooling (IWC). It was awarded the contract in 2009.

Consortium leader for the Medupi project and Lesedi director of projects **Horst Lakemeier** says there were some interesting challenges encountered during the design phase of the project, most of which have been overcome. The consortium is now well into the procurement phase and has

started construction on a number of systems.

Construction started on Unit 6 first, and will progress to Unit 1. Once the first unit is commissioned, each subsequent unit will follow suit at regular intervals. Lakemeier believes the consortium and its subcontractors are up to the challenge to deliver their part of the project, which will provide the other contractors with essential services for their commissioning and testing activities.

The LP Services contract includes the design, procurement, fabrication, installation and commissioning of 17 low-pressure systems. These include raw, potable and demineralised water supply and distribution, auxiliary cooling, compressed-air supply and distribution, ash conditioning water supply, boiler feed water make-up, clean and dirty drain water distribution and fire water supply and distribution systems.

IWC is undertaking the design and manufacture of the auxiliary cooling towers, while Wetback Contracts is handling the manufacture and installation of piping. Lesedi is responsible for the design and procurement of all equipment and the associated civil work.

The consortium is supported by a number of subcontractors, including black-women-owned (BWO) enterprise Powerstation Engineering Services, as well as Stefanutti Stocks, Trotech, ACE, Rushtail, Fabricated Piping Systems and Control Valve Technology.

### Plant Pipelines

The consortium's main focus area is currently on laying the raw water pipeline from the Mokolo tie-in at the Matimba power station to the water treatment area of the site. This will provide water for the different water consumers at the power station, as well as for the commissioning and testing activities required to bring the plant on stream.

The raw water supply pipeline involves a number of road, rail and fence crossings that will require specialised pipe jacking to avoid disrupting other contractors working in the area.

The raw water pipeline will be constructed in two stages. The first will involve bringing water from the Mokolo tie-in directly to the plant, while the second will include a raw water storage dam to act as a supply buffer. Both stages include above-ground and underground pipelines.

Corrosion protection, including cathodic protection, is being installed on the pipe-lines, particularly where the pipeline runs parallel to high-voltage power lines. Storm water and process water retention dams are being constructed by other contractors, from which water will be used for ash conditioning systems, fly ash conditioning and bulk washing.

### **Pumping Systems**

The LP Services consortium is also responsible for the pumps and the main components of the fire system, although some parts of the ring main were installed by other contractors. Fire water is piped from the ring main to the terminal points of the different end-users and the fire water pump house and a square-panelled fire water storage tank are currently under construction.

While other subcontractors are installing the water treatment plant, the consortium is responsible for distributing the potable water to the terminal points of the end-users.

Lakemeier says one of the biggest challenges on the project was the increased compressed air requirement. This involved the installation of two compressor houses instead of the original requirement for one and larger air compressors. These issues are normal for a project of this nature and have duly been incorporated into the compressed-air system design, he adds.

Regarding where IWC is constructing the first of two auxiliary cooling water plants, Lesedi deputy project manager **Ian Boggon** says each plant consists of four concrete cooling towers and associated pumping and processing equipment. He adds that construction of the south plant is well advanced and the north plant terracing work is now complete.

Toward the end of March, the LP Services consortium received a bronze award from Eskom for achieving 250 000 lost-time-injury-free work hours at the Medupi project, in March. It simultaneously received a project award for achieving 365 days without a lost-time incident and now aims to achieve one-million work hours without an injury being recorded.

### **Localisation, Procurement and Training**

The consortium has also achieved a number of milestones with regard to its Accelerated Skills and Growth Initiative for South Africa commitments to Eskom on the Medupi project. A number of procurement targets set for local content in South Africa and Limpopo province, as well as procurement from large black suppliers, small to medium-sized black suppliers (more than 50% black owned) and BWO organisations, are already being achieved and, in some cases, surpassed. Many of these suppliers are set to benefit going forward. Notably, Lesedi awarded its largest subcontract to Power Station Engineering Services.

From a training perspective, since the start of the project, the consortium has taken on a number of previously disadvantaged individuals, within several disciplines, from Limpopo and its surrounding area, including welders, pipe fitters, semiskilled workers, site erectors and technicians. The consortium believes formal training and project experience for these individuals will benefit them as well as the companies within the consortium.