FOR IMMEDIATE RELEASE

BOOYCO ENGINEERING SECURES TRANSNET AC MAINTENANCE CONTRACT

Transnet has awarded a two-year multi-million rand contract to Booyco Engineering to provide scheduled on-site maintenance and repairs to the custom designed air conditioning systems the company engineered for installation on various Transnet locomotives.

The maintenance contract, which came into effect in March this year, covers a variety of air conditioning systems for different locomotive classes — 39, 19E, 43, 15E and 8E — and has two components, the first of which covers the permanent deployment of Booyco Engineering technicians at central Transnet depots in South Africa. These are Saldanha, Richards Bay, Ermelo and Sentrarand. The second component of the contract covers breakdowns and repairs.

“Permanently placed technicians will conduct scheduled maintenance at these depots and within a radius of the depots,” Kobus van der Merwe, Booyco Engineering’s field service manager, says. “In addition, we will also provide scheduled maintenance services at other Transnet sites through our team of travelling technicians.

“Although this contract has only been in place for a short period, we’ve already seen a significant decrease in the number of air conditioning system breakdowns, while reliability of these units and consequent availability of locomotives has increased enormously. This increased availability is making a robust contribution to the consistency of Transnet’s services.”

Van der Merwe adds that an important element of the contract is a directive to establish a spare parts stockholding at the central depots, which will also play an important part in maintaining high levels of locomotive availability.

“Having the necessary spares to hand has already cut down repair downtime drastically — in some cases, where components needed replacing, the repair was executed within 45 minutes,” he says.

Booyco Engineering's 19E, 15E and Class 43 units are the current flagship locomotive driver's cab air conditioners. As packaged units, they are easily installed and removed, in keeping with Transnet's fit-on-fit-off maintenance strategy. Class 43 is the highest capacity unit ever designed by Booyco Engineering for a railway locomotive driver's cab and, at the same time, it has the lowest ever noise levels. The equipment is robustly designed to offer optimal reliability and availability.

The air conditioning units for the 19E locomotives, which are 1.7 metres high, 1.5 metres deep and 550 mm wide, use a refrigerant with low ozone depletion potential and low global warming potential. In addition to being environmentally friendly, the high performance refrigerant also allows for a compact and efficient hardware configuration.

Booyco Engineering's air conditioning system for the Class 43 is designed to establish and maintain a comfortable environment inside the operator's cabin. The air HVAC unit is capable of producing 12 kW of cooling in a maximum ambient temperature of 45°C dry-bulb at an altitude of 1800 metres above sea level. Utilising R407C refrigerant, the unit is also capable of producing 5 kW of heating. The HVAC unit is an integrated heating, ventilation and cooling unit with automatic climate control and is housed in the nose of the locomotive, interfacing with the locomotive cabin ducts.

The air conditioning system for the Class 39 loco employs a mechanically driven compressor and a split system. The condenser is mounted in the machine compartment and the evaporator in the driver's cab. A free standing DC powered electric heater is also supplied. The 8E locomotive driver's cab air conditioner is a high performance 380 V, 3 phase unit designed as a retrofit for a fleet of in-service shunter locomotives.

There are currently more than 350 Booyco Engineering manufactured air-conditioning units operating on Transnet Freight Rail locomotives in the field.

Quality management

Booyco Engineering's Quality Management System conforms to ISO 9001. The accreditation agency is BVQi and the company carries UKAS (United Kingdom Accreditation Service) and ANAB (ANSI-ASQ National Accreditation Board) certification. The company's procedures are audited from time to time by companies such as Denel, GE and Transnet. All large contracts are controlled by a Quality Plan.

Each new design is performance tested in a climate chamber to establish that the design parameters are being met. Additional testing, analysis or verification is conducted in accordance with the test plan to ensure that all aspects of the specification are met.

Apart from “type testing” of the first unit of each new design, each subsequent unit is run and key parameters are recorded, ensuring that each unit is commissioned to the same specification as the test unit. The routine test certificates serve as quality records that can be made available to a client on request. On installation, the first unit is subject to tests to verify the performance of the air conditioner *in situ*. Each subsequent unit is given a functional test only.

TRANSNET MAINTENANCE PIC 01 : Booyco Engineering has secured a contract to provide scheduled maintenance on various Transnet locomotives including the 19E. The air conditioning system on this locomotive slides out for ease of maintenance.

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