

P R E S S R E L E A S E

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THYSSENKRUPP MATERIALS HANDLING DELIVERS CLASS ENGINEERING, REFURBISHMENT AND SERVICE EXCELLENCE AT PLATINUM MINE

Northam Platinum Mine commissioned an original equipment circular Stacker / Reclaimer from ThyssenKrupp in 1991. During 2009 problems with the slew bearings on the stacker became evident and ThyssenKrupp Materials Handling (TKMH) was requested to conduct an onsite inspection of the equipment with specific reference to the conditions of the slew bearings.

The inspection concluded, TKMH Product Support staff and Northam Mine Management entered into discussions and deliberations around the refurbishment project in order to finalise various issues including final scope of work as well as a feasible schedule for the execution of the work. TKMH secured the order in December 2009.

When the circular stacker was originally installed and commissioned, ThyssenKrupp recommended that critical spares, such as slew bearings with a long delivery lead time, be kept in stock to reduce downtime to a minimum and at the same time limit the high cost of alternative interim material handling options. With replacement bearings in stock, construction work commenced at the start of the second week in January 2010.

The circular stacker weighs in at 168 tonnes and the two slew bearings with diameters of 1.70m and 2.00m at 300kg and 650kg respectively.

“Before our construction team could proceed with the removal of the slew bearings, we had to engineer and manufacture special jacking trestles to jack and support the machine centre column”, explains Dietmar Pratz, the TKMH Product Support Engineer who was appointed as the responsible Project Manager for the Contract from bid preparation, scope clarification, final pricing, site construction up to final hot commissioning and handover. “The jacking process is crucial as the slightest imbalance can cause the machine to topple over,” continues Pratz. Accurate load calculations and pressure readings on the calibrated jacks were essential to ensure even lifting. The slew bearings were rigged out on to special steel support frames constructed by TKMH”.

With the slew bearings removed, structural damage and corrosion fatigue on the boom structure as well as the centre column became evident which is to be expected after nearly two decades of trouble free service. While critical repairs were recommended for the centre column in situ, TKMH engineers suggested that the boom structure be transported to a workshop for a more in-depth evaluation and possible repairs under controlled conditions.

Platinum Mine

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Sandblasting revealed the full extent of the damage to the boom structure and after deliberations and discussions between TKMH and Mine Management, it was agreed that repair was not a viable option; it was decided to manufacture a complete new boom while repair work to the centre column would continue on site.

Based on price and commitment to the shortest delivery time, the mine gave consent and the order for the new boom was finalised and manufacturing went ahead. "With the original design drawings available from our archives, the boom construction was completed in accordance with TKMH's specifications and was delivered to site, after release by our Quality Control Department, within a record time of ten weeks, which was two weeks ahead of schedule" says TKMH Product Support Manager, Sybrand Visagie.

Visagie says that the skills, experience and dedication of the entire Northam Platinum Concentration Plant engineering team - fitters, boilermakers, electricians and technicians, with Engineering Supervisor, Willie Stevens leading them, committed many long hours of dedication, skill and experience to the safe and successful conclusion of the project. According to Stevens, Len Slippers' Noordwes Engineering, responsible for most of the hydraulic systems, also played a major role in a massive team effort that required diverse skills and total commitment to complete the project within the required timeframe despite very wet and extremely unpleasant weather conditions.

Visagie states that from TKMH's perspective, Northam has a highly skilled and dedicated engineering team in place. "This latest project is a fine example of a giant and very successful team effort that required professionalism, commitment and cooperation to ensure that the project could be finalised without incident and according to schedule" comments Visagie.

Northam Platinum Mine expressed appreciation and gratitude for the exceptional service and support that TKMH brought to the table. "TKMH's engineering expertise, long hours and commitment to delivering quality products and services, made it possible for us to bring this refurbishing project to its safe and incident free final conclusion," says Stevens.

Discussing the merits of an Original Equipment Manufacturer, Visagie says, "The original supplier and specifically international organisations have up-to-date product knowledge, experience over a wide front and can offer fit-for-purpose parts and components without having to reinvent the wheel which are all benefits that an independent service company cannot offer".

It is TKMH's policy to undertake work on its own Original Equipment Installations but will consider working on other installations provided the client can obtain consent from other OEM's and can provide the original design considerations as well as detail design drawings. On a cautionary note Visagie says that embarking on large refurbishment projects without access to the original design considerations, increases the end user's risk in many ways and the all important safety as well as equipment reliability can be compromised.

In conclusion, Visagie highlights the expansion over time of Product Support Service by TKMH, a division of ThyssenKrupp PDNA Engineering (Pty) Ltd:

- Maintenance audits followed by maintenance reports;
- The execution of maintenance tasks and refurbishment projects;
- Technical support in respect of analysing and engineering out of repetitive failures backed by global experience;
- Improvement projects against global benchmarking;
- Full time on-site support with the emphasis on the training of operating and maintenance staff as well as the development of best practice maintenance procedures.

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