

FOR IMMEDIATE PUBLICATION

30<sup>th</sup> September 2008

**ThyssenKrupp Materials Handling's Ash Disposal System at Eskom Majuba  
Walks Away With Top Honours at 2008 Steel Awards**

ThyssenKrupp Materials Handling's Ash Disposal System at Eskom Majuba Power Station was announced overall winner, out of eleven finalists, in the Industrial and Mining category at the 2008 Steel Awards.

The prestigious awards ceremony, held on 4<sup>th</sup> September 2008 at the Vodadome in Midrand, was hosted by the Southern African Institute of Steel Construction (SAISC), together with main sponsor, Macsteel. The ceremony was attended by the who's who in South African mining and industry and SAISC executive director, Dr. Hennie de Clercq, remarked on the quantity and overall quality of this year's entries, stating that "with a 60% increase in entries, the local steel constructing industry is vibrant, healthy and creative".

ThyssenKrupp Materials Handling Managing Director, Klaus Mueller, expressed his pride in walking away with top honours in the Industrial and Mining category: "This is the first time that we have entered the Awards and the timing was perfect. We had just completed the ash system for Eskom's Majuba power station when the Steel Awards called for submissions and we believed that this project would serve as a fine example of excellent steel construction work".

Klaus continued: "I extend sincere appreciation and congratulations to the entire TKMH project team for outstanding project management and structural engineering". He added that TKMH is also particularly proud of the positive impact that the cost of ownership of this project will have on Eskom's bottom line. Klaus thanked and congratulated Steelwork Contractor, Turnmill Proquip, for a sterling job on the steel construction of the ash spreaders.

The growing global demand for bulk materials handling is placing increasing pressure on manufacturers to supply more efficient systems and Eskom Majuba Power Station's current 640 tons of ash per hour will continue to increase as demand on the national power grid grows. As an environmentally conscious electricity producer, Eskom was determined to find the most efficient ash disposal system.

*The Specifications*

Eskom specifications called for a mechanised ash handling system capable of handling boiler bottom and fly ash at a rate of 1 200 tons per hour, building a 70 m high, 1 250 m wide ash dump, extending 3 000 m in a southerly direction from the starting platform. The design of the spreaders had to allow for operation on continuously changing, unsteady underfoot conditions.

2/...TKMH Wins 2008 Steel Awards - Industrial & Mining  
Category

2/...TKMH Wins 2008 Steel Awards - Industrial & Mining Category

### *The Solution*

Each ash spreader constantly delivers ash from the power station, through a series of conveyor belts to specified disposal points on the dumps. This system offers environmental as well as safety solutions: The elimination of truck on- and off-loading leads to significant reductions in dust and noise pollution as well as exhaust emissions; the electric drives on the conveyors were selected for low noise levels; the spreader's 35m cantilever boom enables trucks to away from unstable dump edges.

According to TKMH, the spreading system is expected to deliver a massive saving, in excess of 90%, in the operating input energy requirement, when compared to a conventional trucking system. This lower operating cost should directly impact on the overall production costs of electricity at Majuba. The load-bearing structure of the spreader system is constructed from approximately 1 300 tons of 100% locally supplied and manufactured steel. The system has to function optimally in a harsh operating environment including unstable underfoot conditions, gradients of up to 1:20, travel speeds of up to 8 m/min and wind speeds of up to 150 km/h.

### *The Judges Comment*

The judges were unanimous in their opinion that bulk materials handling equipment specialist, ThyssenKrupp Materials Handling not only stood out for the engineering ingenuity of their two ash spreading systems but also for the quality of their presentation. According to the panel the TKMH presentation was "probably the best ever quality of submission and if there was an award for excellence of presentation, it would have taken the award".

The judges considered the stacking system, with its rear-loading end that not only moves front to back, but also rotates in plan and in elevation to accommodate the undulations, to be the pièce de resistance of the design saying that "all of this literally at the touch of a button in the control room conveniently situated near the discharge end of the stacker. This allows the operator to have sight of how the ash dump advances as some 600 tons of ash every hour relentlessly builds up the dump." They added that good practice is to be seen "all over this project". "Some examples are the weight saving devices employed to keep the cantilevered stacker as light as possible, safety screening in all high risk places, an emergency braking system to prevent belt runaway, belt cleaning devices and minimal spillage."

In summary, the judges said, "This project's excellent use of steel, outstanding design combined with welding of an exceptionally high standard to support the all-round quality of fabrication, erection and alignment leaves one in no doubt that the ash handling plant at Eskom's Majuba power station is truly deserving of the mining and industrial category award."

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3/...TKMH Wins 2008 Steel Awards - Industrial & Mining  
Category

**Caption** to Steel Awards Pic attached herewith:

**Seated from left to right:**

Willie Agenbag and Jim Hoy (ThyssenKrupp Materials Handling), Hennie van Eeden (ESKOM)

**Back row standing from left to right:**

Hannes Maritz, Matthias Goeing, Michael Herzog, Grant Stott, Carel van der Merwe, and Klaus Mueller (ThyssenKrupp Materials Handling), Carel Pienaar (Turnmill Proquip)

ISSUED ON BEHALF OF: KRUPP MATERIALS HANDLING

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