



The Southern African Institute of Mining and Metallurgy

Founded in 1894



South African National Committee on Tunnelling

Report for ITA World Tunnel Congress 2013, February 2013

The South African National Committee on Tunnelling (SANCOT) remains active in promoting tunnelling and the use of underground space. SANCOT functions as a committee within the Southern African Institute of Mining and Metallurgy (SAIMM).

On 3 December 2012 SANCOT held a one day seminar entitled 'South African Tunnelling 2012 – Lessons Learnt on Major Projects' followed by a half day visit to the Ingula Pumped Storage Project the following day.

This is the largest tunnelling project under construction in South Africa, hence the decision to have a seminar focused on the design and construction experience gained. The presentations covered the purpose and overview of the scheme, some of the construction challenges, the design of the underground works and concrete liners, and a comparison of the anticipated and actual rock behaviour as measured by the instrumentation. In addition presentations on other projects: the Kabompo Gorge Hydroelectric Project in Zambia, the eThekweni Micro Tunnel Sewer Extension, and planning for the Lesotho Highlands Water Project Phase 2 were made. A report on the World Tunnel Congress in Bangkok and the South African delegates' activities there was also given. The site visit, on St. Barbara's day with site work stopped for the day, was well received by the delegates.

The excavation of the Ingula scheme is substantially complete, with only the last third of the surge chambers remaining to be excavated and two shafts that were raise bored still requiring support. The first spiral case has been installed in the machine hall and is being prepared for pressure testing and concrete embedment.

SANCOT's proposed initiative to improve safety in shaft sinking practices has been endorsed by the ITA,

and SANCOT has created a Steering Committee with a working sub-group for this purpose. Liaison has been established with ITA WG 5 'Health & Safety in Works' who are keen to see the principles applied internationally. The expected outcome of this initiative will be a 'Handbook of Shaft Sinking Best Practice'. It is expected that the sub-groups will continue as subject matter experts investigating new solutions to issues relating to safety and performance. It is particularly pleasing that the Steering Committee has support and representation from the major mining companies, engineering consultancies, equipment manufacturers, and all of the principal shaft sinking and construction companies.

Phase 2 of the Lesotho Highlands Water Project is expected to get under way in the near future, with bids having been called in 2012 for the Project Management Unit of the scheme. It is anticipated that the Project Management Unit will be appointed in 2013 and bids for the engineering design will be sought later this year.

There are a number of other tunnelling projects in the offing, including the fitting out of the second bore of the Huguenot road tunnel in the Western Cape.

South Africa (SANCOT) continues to be represented in the ITA WGs 2 (Research), 3 (Contractual Practice), and 12 (Use of Sprayed Concrete).



The Machine Hall of the Ingula Pumped Storage Scheme under construction

A. Wilson