



Separating people and risk – a new strategy in South Africa

Separating people and risk is one of the seven pillars of AngloGold Ashanti's safety strategy. Initially rolled out at the South African operations, the concept, according to project champion Nigel Trevarthen, has the potential to be extended across the company.

The concept was born at the region's safety workshop held in early 2007. "It's a simple idea," says Trevarthen. "Risk identification and classification is a well-established process at AngloGold Ashanti: this involves taking it one stage further and looking at ways to minimise the points of contact between risk and the employee."

Trevarthen and fellow team members head of metallurgy Ian Smit and head of engineering Iain Menzies, representing the three core technical disciplines of rock breaking, transportation and processing respectively, are spearheading the process.

"We're adopting a two-tiered approach: 'quick wins' in the short term, and developing and implementing a medium to long-term strategy." Trevarthen stresses that, at least initially, the focus is not on research and development, but on reviewing what is already in place and then sourcing – or adapting – technologies already in use in the mining industry.

The first step – completed by the second quarter of 2007 – involved a systematic analysis of the causes of injury over the preceding 12 months to enable the business units and the steering committee to identify short-term focus areas.

Each South African business unit has included the SPAR principle in its strategic plans. “Working conditions and job factors differ, so each business unit has determined its own process and degree of implementation,” says Trevarthen.

Trevarthen explains that some useful work has already been done. “For example, the new era locomotive (featuring enclosed loco cabins which offer increased protection to the driver) that has been phased in at most of the mines over the past few years, is now being modified to allow bigger trains to operate underground. The larger train allows fewer drivers to be exposed to risk; fewer units underground also reduce the risk to pedestrians. Some trains can be driven from both ends thus allowing better vision of the tracks as the driver always drives from the front of the train.”

“Collision avoidance systems have been around for some time and we are looking to introduce appropriate systems at our business units. We have, however, seen an opportunity to enhance this technology and have seen the emergence of the so-called ‘smart cable’. The main objective of this smart cable is to create a two level proximity detection system giving, firstly, a warning and then an alarm if a person gets too close to the hazard. The cable allows the creation of a longitudinal flexible barrier in the stopes if each employee is fitted with a transponder in their cap lamp. (A transponder is a wireless communications or monitoring device that picks up and automatically responds to an incoming signal.) This would alert equipment operators when people came within a predetermined distance of moving machinery, enabling them to stop the units if required. Future additional spin-offs could include man tracking and search and rescue operations. TauTona and Moab Khotsong have been selected to pilot this intervention.

Within the metallurgical plants, the following issues are under consideration:

- implementation plan for the installation of remote switching of low/medium voltage units and field isolators for isolation and lockout of critical units;
- plan for the separation of employees and hazardous chemicals, e.g. remote starting of cyanide pumps and flange covers on pipe flanges, to ensure spills are contained; and
- automated relining of small mills.

“In the longer-term strategy,” says Trevarthen, “the challenge set by Executive Vice President: Africa Robbie Lazare to remove people from high-risk areas has been embraced by all the South African business units. In December 2007 the rock breaking sector commissioned a project (with a budgeted cost of approximately R20 million) aimed at making remote-controlled stoping (no person on the stope face) a cost-effective reality. This project will be run in collaboration with industry suppliers and, while still in the early stages, indicates real action in line with the SPAR principles may well be possible in the near future.”