

BUSINESS ENVIRONMENT

Energy now one of top three risks facing mining and metals sector

DAVID OLIVEIRA
CREAMER MEDIA SENIOR STAFF WRITER

ENGINEERING and science consultancy SRK Consulting held its 360° Mining Perspective event last month in Johannesburg, where some of the company's leading engineers and scientists discussed some of the challenges facing the global mining industry.

One of the most significant challenges facing the industry, particularly in Africa, has been the supply of electricity. SRK principal mining engineer **Noddy McGeorge** highlighted that energy supply was one of the top three risks in multinational professional services firm EY's 'Business risks facing mining and metals 2016–2017' report.

Energy supply was not among the top ten risks

identified by the same report in 2011.

McGeorge stated that the three biggest concerns for mining operations in relation to energy was security, price and quality of supply, and advised that there were a number of ways in which to respond to these challenges. It was possible to “engineer against” supply issues at mines, such as designing alternative power generation systems within the system, he noted.

Engineers should redesign the power systems at mines to better suit the energy consumption requirements for the various power needs at a mine, especially those processes that required high energy consumption, McGeorge suggested. As an example, he noted that it was possible for mines to achieve significant savings by varying the speeds at which fans operated underground during periods of high and low demand.

McGeorge stated that addressing the energy concerns at mines required a change in design philosophy, which considered the various energy requirements throughout a mine. He highlighted

the importance of estimating peak load requirements for the various production processes and establishing the potential variability output of equipment, and then incorporating that variability into equipment and conducting production planning around total energy use at a mine.

He added that mines should also consider securing energy alternatives based on cost effectiveness and systems to recover energy losses from the various processes. Mines should also improve the design of equipment that uses high fuel consumption. McGeorge pointed out that about 70% of the diesel used at a mine was used to elevate waste material out of shafts, representing a significant opportunity for fuel savings through innovative designs.

McGeorge concluded that the energy challenges facing mines “can be countered by changing the philosophy of new mine designs and adapting existing mines to retrofit designs; it requires that we plan for a more innovative world”. ■■