

MINERALS INDUSTRY BENEFITS FROM NEW GLOBAL ENERGY ISOLATION RISK MANAGEMENT DECISION SUPPORT PORTAL, ISOLGATE

WWW.MIRMGATE.COM/ISOLGATE

"The ISOLgate project builds on the excellent work conducted in the TYREgate (Tyres and Rims Risk Management Decision Support Portal – www.mirmgate.com/tyregate) project and provides a consolidated body of knowledge for the industry to utilise in improving its systems."

Mr Tony Egan, Xstrata Coal
ACARP Industry Monitor

The Australian minerals industry is now able to develop more effective energy isolation strategies by using a world first, global and free online resource that was officially launched at the Annual NSW Minerals Industry Occupational Health and Safety Conference in May 2010.

ISOLgate: Isolation Risk Management Decision Support Tool is an intelligent storage mechanism of isolation incidents and accidents, and a near real-time analysis and reporting tool. ISOLgate has been developed by Dr Guldidar Kizil* and Mr Tilman Rasche*, and was funded by ACARP.

ISOLgate provides the minerals industry with access to detailed and comprehensive analysis of acts and conditions that have led to isolation-related incidents and accidents across a full range of scenarios and workplaces.

ISOLgate is designed to allow access to incident and accident data by energy type, such as chemical, electrical, mechanical, pressure (stored energy ie hydraulic, pneumatic, gas), gravity, and mine type. Users are quickly able to gain a high level overview of the data by using a largely graphical form and then drill down into a breakdown of root and contributing causes of incidents and accidents. The users can access real-time generated, up-to-date, downloadable 'ISOLgate Checklists'. The checklists provide Australian and global mining industry adopted hazard mitigation practices including technological advancements thereby allowing the users to check their own site's safety and health management system for industry solutions.

ISOLgate is based on publically available Australian and international incident and accident data from the coal and metalliferous sectors. Previously, this information was only available from safety alerts and reports, and had not been merged into a single resource.

Dr Kizil said the researchers used the Incident Cause Analysis Method (ICAM) for their analysis. "ICAM provides logical breakdown towards incident and accident causes, and supports the notion that most incidents are rarely caused by a single act or condition, but rather by a number of factors working together," she said.

Mr Rasche said by using ICAM, researchers were able to categorise the incidents and accidents, and extrapolate relevant statistics. "We were also able to determine the hazards and resultant risks and, most importantly, how to mitigate them," he said.

Background

Over the past 20 years in the Queensland mining industry there have been 32 fatalities related to accidental contact with electricity. Between July 2002 and April 2007, a further 73 electrical incidents were reported that related to lack of isolation, incorrect isolation, and not following Standard Operating Procedures or access permits. In NSW, the Department of Primary Industries reported that "the number of fatal incidents involving electric shock in NSW is between 10 and 20 each year."

In addition, there are many other non-electrical incidents from hydraulic, pneumatic, other stored energy systems where 'Less Than Adequate (LTA)' isolation played a major role in the accident causation.

Isolation-related incidents and accidents continue to occur within the Australian minerals industry. ACARP has supported this research to provide the minerals industry with ready access to reliable incident, accident and risk control data, thereby helping to improve occupational health and safety decision making across the industry.

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Future

The TYREgate and ISOLgate research team has been awarded with new ACARP funding to establish 'COLLISIONgate – a Vehicle Interaction Causal Factors Database and Risk Management Decision Making Tool' during 2010-2011. The COLLISIONgate will be the '3rd Gate' in the series of topic specific Gates development.

The development of TYREgate and ISOLgate has also led to a new ACARP funded Phase One Study for a broader RISKgate Resources System that would provide priority hazard, event and control effectiveness analysis and risk controls for other critical mining hazards across a range of high risk areas.

Similar database approaches have already been adopted by other high risk industries such as the nuclear, aviation and the petrochemical sector, with considerable success. Unlike other high risk industries, the minerals industry currently does not have ready access to reliable incident, accident and risk control information to improve decisions made in OH&S. The 'Gates' will provide this missing link.

* Dr Kizil works for the Minerals Industry Safety and Health Centre (MISHC), Sustainable Minerals Institute (SMI) – The University of Queensland. Mr Rasche works for the Queensland Department of Employment, Economic Development and Innovation (DEEDI).

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