

2nd Mining Engineering Managers' Safety Seminar

12-13 October 2022, Sofitel Wentworth Sydney

resourcesregulator.nsw.gov.au





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Welcome

Welcome to the NSW Resources Regulators' second Mining Engineering Managers' Safety Seminar.

The first Mining Engineering Managers' Safety Seminar (MEMSS) was held in 2019, however due to the impacts of COVID-19 was not held in 2020 or 2021. This initial seminar provided a means for collective communication, discussion, and consultation of issues faced by mining engineering managers, quarry managers and safety leadership across the entire mining industry in NSW.

The 2022 MEMSS will focus on the long-term future of mining in NSW and the importance for the industry to continue the research, development and implementation of effective long-term work health and safety controls.

Over the past 30 years in NSW we have seen many safety improvements in the mining industry. This has been driven through the experience, skills, and technical knowledge of our people. Looking ahead, our people are our biggest asset and the disruption to our workforce caused by COVID-19 and an ongoing skills shortage is an issue I know many mine operators are dealing with.

As an industry we have moved swiftly and responded effectively to the COVID-19 threat, and I commend those of you who have also dealt with fire and floods over the past few years.

This seminar brings together speakers who will cover a broad range of topics that will assist attendees to improve their understanding and awareness of lessons learnt from past incidents, emerging technologies and the long-term challenges faced.

Thank you for your support of the second MEMSS.

Anthony Margetts
Principal Inspector Mining Engineering
NSW Resources Regulator
Department of Regional NSW

Information

Registration

The registration desk will be open during the following hours:

- Wednesday 12 October: 8:00am-5:00pm
- Thursday 13 October: 8:00am-2:00pm

Please see the seminar staff for any requests regarding sessions and the seminar dinner.

Telephone: 0417 459 327 (Bronwyn Hodges)

Guest parking

Car parking is available at the venue, subject to availability, through Wilson Parking.

Name badges

It would be appreciated if delegates wear their name badges at all times as this identifies them as eligible for catering, seminar access and entry to the seminar dinner.

Seminar dinner

The seminar dinner is available for those delegates who have registered and paid for the dinner.

The dinner is held at the Wentworth Ballroom, Sofitel Sydney Wentworth.

- 6:30pm Pre-dinner drinks
- 7:00pm Conference dinner
- 8:15pm Guest speaker Kerry O’Keeffe
- 10:00pm Close

Dress: smart casual

Mobile phones and pagers

Please ensure your phones and pagers are on silent mode during all seminar presentations.

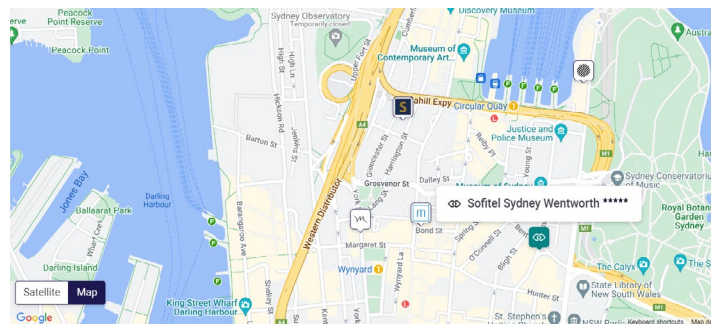
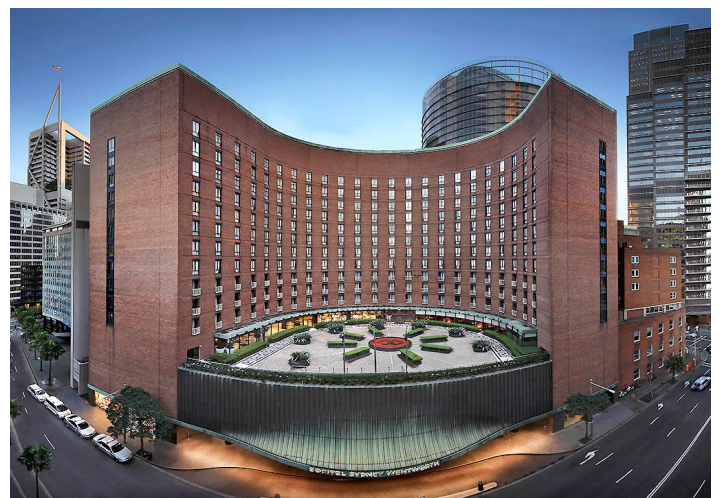
Venue

Sofitel Sydney Wentworth
61-101 Phillip St, Sydney NSW 2000
(02) 9228 9188

Seminar Wifi

Complimentary wifi is available for MEMSS attendees. Please use the details below:

Sofitel Conference
Password: Sofitel2022



Program

Wednesday 12 October 2022

8:00am-9:00am	Registration
9:00am-10:50am	Session 1 Welcome and opening address –Garvin Burns, NSW Resources Regulator NSW mineral deposits –Glen Cathers, Mining, Exploration and Geoscience Regulator update –Anthony Margetts, NSW Resources Regulator Airborne contaminants update –Karen Tripp, NSW Resources Regulator
10:50am-11:25am	Morning tea
11:20am-1:00pm	Session 2 Mechanisation of underground development charging using wireless primers -Ben Taylor, Orica HANZ critical risk control –Fred Adams and Kurt Bridges, Holcim Boral's pedestrian safety journey with artificial intelligence –Martin Guenzl, Strata Worldwide
1:00pm-1:50pm	Lunch
1:50pm-3:15pm	Session 3 R U OK? –Scott Tipping, Hanson Mental health kickstarter –Steve Gamble, Gotcha4Life
3:15pm-3:35pm	Afternoon tea
3:35pm-5:15pm	Session 4 Using multiplayer virtual reality to improve operator awareness –Andrew Clayton, Coal Services The Regulator's incident prevention strategy and compliance and enforcement approach –Garvin Burns, NSW Resources Regulator
5:15pm	End of day 1
6:30pm-10:00pm	Conference dinner with special guest speaker Kerry O'Keefe

Thursday 13 October 2022

8:00am-8:30am	Registration
8:30am-11:15am	Session 1 Where industry is headed – Craig Reed, Newcrest MY Mindset program – Renata Roberts, The Bloomfield Group Implementation of autonomous haulage at Maules Creek – Chris Bedggood, Whitehaven Coal The ANCOLD tailings dam guidelines and the future of tailings dams’ governance – Brett Stephens, Australian Committee on Large Dams (ANCOLD) Industry update – James Barben, NSW Minerals Council
11:15am-12:00pm	Brunch
12:00pm-2:15pm	Session 2 Delivering safer mine haul roads: lessons from site reviews – David McTiernan, ARRB Safety learnings from quantitative airblast risk assessments – Claudia Vejrazka, Resolve Mining Solutions The reality of investigations – Andrew McColm, NSW Resources Regulator Systematic review of work environment impacts that may contribute to fatigue of haul truck operators in open cut coal mines – James Wilcher, JWM Group
2:15pm	End of day 2

*Program may be subject to change

Guest speaker



Kerry O'Keeffe

**Conference dinner
Wednesday 12 October 2022**

Kerry O'Keeffe's wit, wisdom, larger than life personality and penchant for sport have made him one of Australia's favourite sporting personalities.

As a speaker, Kerry is entertaining and motivational. From tales of hilarious sporting yarns, through to passionate addresses on being the best you can be, his unique blend of humour and inspiration delights audiences and delivers a strong message.

A regular on the former ABC TV program The Fat, Kerry's humour, knowledge and interest in all things sport made him a favourite with audiences and fellow panelists.

As a cricketer, Kerry played 24 Test matches, 146 First Class Matches and 80 Matches for NSW. His professional career spanned from 1968 to 1981 and included tours to England, New Zealand and the West Indies.

Kerry O'Keeffe's interest in sport has never waned. He is renowned for his hilarious commentating on ABC Grandstand and as a specialist tutor to aspiring young leg spinners at the AIS Cricket Academy in Adelaide and the young NSW Emerging Blues. He understands all facets of the game and its administration, from performance at the elite level, to its grassroots operations. Kerry's passion for cricket has been spelled out in his ABC publication, According to Skull, and two audio productions, Unplugged and Unstitched.

The inevitable highs and lows throughout his sporting and personal life have given Kerry O'Keeffe a special understanding of being human. His failure to adapt to the setbacks and adversity of his initial cricket after-life forged a strong character with valuable insights into the impact of the sporting spotlight that he shares generously and eloquently with others. He has a firm belief in the value of honest communication and mentoring in the work place and on the sporting field.

Seminar speakers



Garvin Burns

Chief Inspector NSW Resources Regulator

Garvin started his career as an apprentice electrical fitter/mechanic at Shortland County Council in 1983.

Garvin commenced working as an electrical engineer in the underground coal industry in 1996 and was employed in a variety of engineering and management roles in NSW and Queensland surface and underground coal mines prior to joining the NSW Mine Safety Operations in 2013 as an inspector.

Garvin was appointed to the position of deputy chief inspector of mines in 2016, before moving to his current role of chief inspector in 2017.

Welcome and opening address

The Regulator's incident prevention strategy and compliance enforcement approach

This presentation will provide an overview of the Regulator's incident prevention strategy and how the reforms have been implemented, together with an overview of our regulatory approach.



Glen Cathers

Manager Resource Assessment Mining, Exploration and Geoscience

Glen is the Manager of Resource Assessment in the Geological Survey of New South Wales (GSNSW), a division of Mining, Exploration and Geoscience. The role of the GSNSW is to provide high quality geoscientific information and advice to assist decision making and support investment.

Glen is an economic geologist with experience working in both technical fields and people management. He has worked for government and the exploration and mining industry, primarily in mineral systems exploration, resource definition, metallurgy and economic geology. He has worked across a number of commodities, including precious metals, base metals and coal exploration and mining projects throughout Southeast Asia and Australian jurisdictions.

NSW mineral deposits



Anthony Margetts

Principal Inspector Mining Engineering NSW Resources Regulator

Anthony is the principal inspector for mining engineering for the NSW Resources Regulator and has over 20 years' experience in the mining industry. His qualifications include a bachelor of engineering (mining) and a mine managers' certificate of competency.

In his current role, Anthony leads a team that oversee approvals and submissions from the NSW mining industry relating to the NSW work health and safety (WHS) legislation and the NSW explosives legislation.

Previously, Anthony has held multiple roles in the mining industry across Australia, ranging from mining engineering through to senior leadership roles.

Regulator update and interactive session

This presentation will provide an overview of the NSW mining industry's WHS performance for the past 5 years, reviewing key trends and providing insights into the data. The presentation will then focus on 2 key hazards in the industry, vehicle interaction and strata failure and discuss the long-term actions required to keep progressing WHS controls in these areas.

Slido will be used for this presentation - please go to the inside cover of this program to access the app/webpage via your mobile phone.



Karen Tripp

Senior Mine Safety Inspector - Occupational Hygienist NSW Resources Regulator

Karen is an occupational hygienist who has worked with the mine safety inspectorate team at the NSW Resources Regulator for the past 2 years. Her 26-year career was established working as a consultant for industry, mining, government and the private sector after completing degrees in environmental science and occupational hygiene.

Karen's role at the Regulator is to assess mine operator compliance with the legislative requirements for mine worker exposures to airborne, chemical, biological, physical and ergonomic hazards. She also provides technical expertise and advice on these matters to the wider Resources Regulator team in relation to WHS compliance and enforcement at NSW mines.

Airborne contaminants update

This presentation will provide an update from the NSW Resources Regulator about the new regulations in relation to airborne contaminants, exceedance trends and notification of exceedances processes.



Ben Taylor

Manager - New Underground Technology Commercialisation Orica

Ben joined Orica in 2020 after 14 years of mining engineering across multiple commodities in Australia and Africa with Xstrata, Glencore, Byrnes Offshore and CBH Resources.

As a former mining engineering manager, project manager and operational superintendent, Ben has an acute appreciation for the role of technology and innovation in providing the mining industry with meaningful solutions to impact safety and value generation. Development and commercial introduction of digital, wireless and automated blasting technologies lies within Ben's portfolio, including Avatel™ the world's first fully wireless, semi-automated development charging system.

Mechanisation of underground development charging using wireless primers

This presentation will provide a case study on the challenges associated with building useful mechanised solutions as a means to isolate workers from geotechnical hazards at the development face while charging. Additionally an example of how collaboration between OEMs, suppliers and mine operators can deliver meaningful innovations that solve longstanding safety challenges.



Fred Adams

General Manager Holcim

Fred has worked in the construction industry for 40 years, 37 of which have been with Holcim Australia.

He has held positions in a number of business units including commercial, operations and logistics across NSW, ACT, WA and NT; including general manager of Aggregates WA/NT.

In November 2020 Fred was appointed to the position of general manager NSW/ACT aggregates overseeing the aggregate and sand operations of 12 quarries. Fred is the current president of the SSU, a member of the CCAA (Concrete, Cement and Aggregates Australia) and also the Institute of Quarrying Australia.

Fred is co-presenting with Kurt Bridges.

HANZ Critical Risk Control

Holcim Australia and NZ have always managed critical risks and controls as part of their risk management processes. However In 2017, Holcim began specifically focusing on highlighting critical risks in relation to the key critical controls needed for the prevention of fatalities and serious injuries.

This presentation will outline Holcim's approach to critical control management and monitoring, engagement with the workforce and lessons learned from the journey.



Kurt Bridges

Area Manager Aggregates Sydney & ACT Holcim

Kurt has worked in the mining and quarrying industry for 10 years, with cross commodity experience across coal and iron ore operations with BHP and Rio Tinto and quarrying operations with Boral and Holcim.

He has held positions in a number of areas including engineering roles within technical services and mine planning departments as well as frontline operational leadership positions within both the mining and quarrying industry.

In April 2022 Kurt was appointed to the position of area manager SYD/ACT aggregates, overseeing the operation of 4 quarries and a rail distribution centre.

Kurt is co-presenting with Fred Adams.



Martin Guenzl

Product Development Manager Strata Worldwide

Originally a systems engineer, Martin has a focus on the application of disruptive technologies to deliver tangible business outcomes. He has been building and growing innovative ventures over the last twenty years, many of them in industrial and heavy manufacturing environments. These have ranged from garage start-ups through to corporate-sponsored ventures and established businesses.

Most recently, Martin led the successful commercialisation of Bright Path AI at Boral, which was acquired by Strata Worldwide in August. Bright Path AI was developed to prevent interactions between workers on foot and heavy mobile equipment. He is now working with Strata Worldwide to develop and grow the use of this leading-edge AI-vision solution for safety and productivity outcomes across multiple industries, including mining, construction and maritime.

Over the years, Martin has worked for a variety of companies including Boral, Fletcher Building and Boston Consulting Group. He holds a Bachelor of Engineering from the University of Western Australia and a Master of Business Administration from London Business School.

Boral's pedestrian safety journey with artificial intelligence

Bright Path AI is a provider of innovative worksite and safety solutions combining connected AI-enabled field devices and state-of-the-art embedded sensor technology and is a venture between Boral and its tech partner.

The 'Zonee' fixed camera system monitors pedestrian exclusion zones and alerts both the worker on foot and site management of a person-vehicle interaction. This event is logged and the site management must then 'action' the event, for example have a safety discussion. Pedestrians do not need to wear RFID tags or PPE - the system is trained to identify humans using a dataset of ~2M+images.

BPAI is built by a team that brings rigorous safety standards, decades of production experience, and expertise in the implementation of the most advanced AI algorithms. Whilst artificial intelligence is intended to mimic the behaviour of humans, Bright Path AI is leveraging this technology in reverse to change human behaviour and keep workers out of harm's way. Its team has witnessed first-hand how safety compliance can be transformed into a genuine safety commitment and how its technology can rapidly impact safety outcomes and cultures within mining and other industrial applications.



Scott Tipping

Regional General Manager Eastern Region Hanson

Scott Tipping works as a regional general manager with Hanson and is an R U OK? community ambassador.

R U OK? A conversation could change a life

Scott is passionate about spreading the R U OK? message because of his experience managing a work site impacted by suicide.

Scott has been a community ambassador with R U OK? since 2018.



Steve Gamble

Founder of Man Anchor Gotcha4Life

Steve Gamble, founder of Man Anchor, is a trusted program delivery partner for the Gotcha4Life Foundation offering a variety of mental fitness workshops, talks and educational courses. He is a master mental health first aid instructor and resilience coach.

Steve's passion is to increase the mental health literacy level of all Australians and support generational change in the way we address mental health within our community, family units and workplaces. All with the ultimate aim of reducing the suicide rate in both youth and adults.

Gotcha4Life is a not-for-profit foundation with a goal of zero suicides, taking action by delivering mental fitness programs that engage, educate and empower local communities. Our programs create meaningful mateship, build emotional muscle, and strengthen social connection in local communities. We focus on early intervention and the power of prevention through connection because we know we are all stronger, together.

Gotcha4Life Kickstarter

This session will:

- focus on normalising the conversation around mental fitness like we do physical fitness
- cover how a simple conversation can save a life
- provide the knowledge to recognise challenges and stresses and learn the tools to keep yourself on the healthier side of the mental fitness spectrum.



Andrew Clayton

Virtual Reality Technologies Development Manager Coal Services

Andrew's interest in gaming technologies began when studying game engine design as an elective at university in 2011. He joined Coal Services in 2020 where he leads the Virtual Reality Technologies business unit. His team are responsible for creating innovative training solutions for mining and other hazardous industries using virtual reality simulations and animations. The team have developed a portable multiplayer virtual reality training product that delivers immersive training in the classroom.

Prior to Coal Services, Andrew held various roles in the areas of engineering, product innovation, and safety and compliance. He was the Principal Automation Engineer for Hard Rock Mining at Komatsu where he provided technical leadership on the design of the Dynacut continuous hard rock miner. Prior to this he was a TUV certified Functional Safety Engineer for P&H Surface mining products.

Andrew's qualifications include a Bachelor of Engineering (Electrical) and a Master of Business Administration. He is a member of Engineers Australia and a Chartered Professional Engineer.

Using multiplayer virtual reality to improve operator awareness

Coal Services have continued to develop the use of virtual reality technology as a safety tool for the NSW Mining industry. This presentation will provide an update on the evolution of portable multiplayer virtual reality training which allows for the delivery of immersive virtual reality training on mine sites.



Craig Reed

Principal Mining Engineer Newcrest

Craig is a mining engineer with almost 23 years' experience in the mining industry all based in underground metalliferous mines.

He began his career as a graduate with mining contractor Macmahon, at various mine site across Australia. After working for Macmahon for 5 years he moved to Newcrest, working at the Ridgeway Gold Mine, part of their Cadia Valley Operations.

Over the years at Cadia he was the senior project engineer for the construction of Newcrest first block cave operation at Ridgeway Deeps and transitioned to become the development manager for the development and construction of the first two block caves at Cadia East Mine. He currently fills the role of principal mining engineer at Cadia.

Where industry is headed

Our industry has developed over the last 100 years from smaller scale, higher risk, manual operations to the large scale, highly mechanised and ever increasing automated businesses we operate today.

The continuous improvements in technology and practices has significantly increased productivity and reduced the cost of productions.

This talk will explore where the industry might go from here and how we can continue to improve.



Renata Roberts

Chief Corporate Services Officer The Bloomfield Group

Renata has worked in the resources industry for 20 years in a diverse portfolio of functions including HR and capability, safety and health, risk management and audit, industrial relations, communications, community engagement and information technology.

Renata's career, which has seen her operate in roles and projects around Australia and internationally, has recently been recognised when she was awarded in 2020 the NSW Exceptional Woman in Mining Award and then went on to be the first NSW nominee to win the Exceptional Woman in Australian Resources Award for her leadership and work within the industry.

Since July 2012, Renata has worked with The Bloomfield Group and is currently the Chief Corporate Services Officer responsible for the safety and health, HR, industrial relations, contractor administration and audit, and IT.

The privately held Bloomfield Group owns and operates two open cut coal mines producing premium thermal and semi soft coking coals in the Hunter Valley region of Australia. The Group also has a range of active shareholdings in engineering, manufacturing, R&D and processing businesses that service mining as well as other sectors across eastern Australia.

Renata is a Non-Executive Board member for Firstchance, a not-for-profit organisation providing early intervention for children with a disability or development delays.

Renata's commitment to a call to action on diversity and inclusion, and generally building respect to allow people to bring their authentic self to work, has seen Renata involved in a number of projects and events on mental health and women in male-dominated businesses. Renata is the creator of the website "They Who Share Their Stories" offering a platform for stories to be shared and inspire others to take their own journey towards not just workplace diversity, but importantly inclusion as well.

MY Mindset program

The Bloomfield Group was recently announced as a winner in the Health Excellence category at the 2022 NSW Mining, Health Safety Environment and Community (HSEC) Awards for their MY Mindset Program. This presentation will outline how the Bloomfield Group has put mental health on the agenda in their workplaces.



Chris Bedggood

General Manager - Asset Management & Technology Whitehaven Coal

Chris is the general manager -asset management and technology for Whitehaven Coal, supporting operations with asset management processes, systems and governance, and the introduction and implementation of operational technology.

Chris started his career with BHP Steel as a mechanical engineer at the Port Kembla Steelworks and worked in a variety of engineering, maintenance and operations roles over a period of 20 years.

In 2010 Chris joined Whitehaven Coal as the engineering and surface operations manager for the Narrabri underground mine, arriving during the construction phase and remaining in the role until mature operation. In late 2017 he transitioned into the project director role overseeing the implementation of autonomous haulage for the Maules Creek open cut mine where he led a cross functional team of engineers and operations personnel in collaboration with Hitachi Construction Machinery to implement the first deployment of autonomous haulage for Whitehaven, Hitachi and NSW open cut coal mining.

Chris transitioned into his current role at the end of 2021.

Implementation of autonomous haulage at Maules Creek

Autonomous haulage has been widely adopted in the open cut iron ore mines of Western Australia where there is now around a decade or more of experience in application.

For a variety of reasons in NSW there has been minimal operational implementation and as such the guidance material and industry experience in deployment in open cut coal mines is still relatively limited.

In late 2019 Whitehaven Coal presented our plan to deploy autonomous haulage at Maules Creek to this forum. This presentation provides an update regarding progress, challenges and learnings associated with the implementation to date.



Brett Stephens

Convenor Tailings Guidelines Working Group Australian Committee on Large Dams (ANCOLD)

Brett specialises in projects related to mine waste management, specifically tailings dams, filter stacks, waste dumps, water supply dams and associated large-scale civil earthworks.

Over his 30 year career he has been the engineer of record/designer of record for several extreme and high consequence dams and has completed reviews and governance audits for numerous tailings facilities in Australia, Canada, Africa, PNG and South America.

Brett is currently the convenor of ANCOLD's tailings guidelines working group, which aims to update the guidelines on tailings dams.

The ANCOLD tailings dam guidelines and the future of tailings dams' governance

An outcome of recent high-profile failures of tailings dams has been the development of additional guidance documents for tailings dam management by a number of international groups and bodies. This presentation will discuss some of these recent guidelines with respect to the ANCOLD Dam Safety and Tailings Dam Guidelines in Australia. The presentation will provide a summary of evolving best practice and future governance of tailings dams.



James Barben

Director Policy NSW Minerals Council

James has worked in the mining, power and consulting sectors in a variety of roles for more than 15 years. He is currently Director Policy with NSW Minerals Council and has held this role since 2017. In this role James has responsibility for the policy areas of health and safety, careers and skills and runs the Upper Hunter mining dialogue community engagement program.

Since August 2021, James has also served as a non-executive director of Coal Services.

Prior to this James worked in the mining industry for more than 10 years with Glencore, Yancoal and Centennial Coal. James holds a bachelor of environmental science and management from the University of Newcastle.

James is a member of the University of NSW education trust advisory committee and the building, construction, resources and infrastructure industry training advisory body industry advisory committee.

NSW mining industry update

This presentation will provide an update on the NSW mining industry and relevant policy issues.



David McTiernan

National Leader, Transport Safety Australian Road Research Board

David is a Civil Engineer with over 30 years experience in road design, traffic management and road safety engineering. He worked in NSW local government before joining the ARRB in 2007 as team leader road safety and was appointed the national leader, transport safety and infrastructure safety performance in 2019.

His work at ARRB includes road safety research, policy review, the development of technical guidelines for road practitioners and the delivery of knowledge transfer workshops. He has led the review of national best practice guidelines for Austroads, including parts covering road safety audit practice, road design and traffic engineering management.

David is a lead road safety auditor who has applied his road engineering expertise to assist mine operators across Australia and overseas. He has investigated fatal and near miss mine road incidents for operators and government departments, and has undertaken numerous reviews of site traffic management plans as part of road safety audits for clients including BHP, Rio Tinto, Teck Resources, MMG, WGJV, Newcrest, Cristal Mining (formerly Bemax), and others.

He applied his mine site experience with his road engineering expertise to develop a best practice mine haul road design guide that has been adopted by several mine operators in Australian and North and South America.

Delivering safer mine haul roads – lessons from site reviews

Mine haul roads can represent a significant safety risk for drivers and operators, regardless of the vehicles they are working in. While the operating environment of mine haul roads is vastly different to that of public roads, the principles of the Safe System approach that underpin the management of traffic and the design of safer road infrastructure for the community can be readily applied to mine road infrastructure.

ARRB's considerable experience undertaking road safety audits and investigating crashes and near miss incidents at mines across Australia and overseas highlights there are many opportunities for the mining industry to better manage road safety risk on its haul and supporting road networks.

This presentation will outline what the Safe System approach to road safety is, the relevance of it to mine haul roads, and how a change in approach to managing the design, construction and maintenance of haul roads can reduce and even eliminate most road safety risks.



Claudia Vejrazka

Principal Caving and Ventilation Consultant Resolve Mining Solutions

Claudia is a mining engineer with nearly 20 years experience in the German and Australian mining industries with exposure to multiple commodities and mining methods.

She's had an interest in improving quantification of airblast risks since learning about it at Northparkes in 2006. Over the last few years Claudia has worked with Howden Ventsim to include an airblast assessment tool into the ventilation simulation software to allow better assessments throughout the life of an operation.

Safety learnings from quantitative airblast risk assessments

Having conducted air blast risk assessments for different mines for the last 15 years, consistent issues re-emerge across operations that could be avoided with small changes at the planning stages. With more mines considering caving mining methods, this will become more of an issue in the future. This presentation will outline some of the basic considerations when planning for minimising the impact of an airblast and allowing production to be optimised during the cave growth stage. While usually only associated with caving, airblast can be an issue in both stoping operations and coal mines as well and a lot of the suggested strategies are applicable to those mining methods as well. Topics covered will include:

- what happens during an airblast in the mine outside the cave to impact the safety of the mine worker
- what makes the airblast worse (single access, small cross-sectional areas, blast proof regulators in the shortest escape paths, high foot traffic areas in direct escape paths, low stopes with large footprint vs. high stopes with smaller footprint etc.)
- what can be done to protect workers (dedicated air escape ways, blast plug considerations, sacrificial sublevels, monitoring requirements in the cave initiation phase, emergency procedures)
- creating plans that can adapt with changing conditions (what to consider when setting up TARPs, maintaining triggers, understanding assumptions and moving from planning to operation)
- what are the uncertainties and where is more work needed (understanding limitations of modelling, probability of failures vs. likely outcome).



Andrew McColm

Chief Investigator NSW Resources Regulator

Andrew has 30+ years combined regulatory, WHS consulting and investigation experience with authorities, government instrumentalities and businesses across Australia. His previous roles and responsibilities have included:

- NSW police officer and prosecutor
- district court advocate
- SafeWork NSW senior prosecutor
- national WHS consultancy - general manager and principal
- global oil and gas company – principal investigation and learning role
- Deloitte risk advisory – principal WHS and national investigations director.

The reality of investigations

The Regulators' Major Safety Investigations (MSI) unit undertakes investigations into complex, serious and high-risk safety incidents including workplace fatalities and serious injuries. The team also manages escalated enforcement actions such as prosecutions and enforceable undertakings.

This presentation will provide an overview of MSI's structure, the background of its investigators, what it does and how it is done, priorities, governance and decision making and the types of investigations and prosecutions currently underway. It will also highlight the roles and responsibilities of mine operators and mine workers before, during and after a major safety investigation.



James Wilcher

**Director
JWM Group**

James is the director of the JWM Group and has more than 22 years' experience in a variety of roles in the open cut mining industry in NSW and QLD. His previous roles have included multi skilled operator, trainer/assessor, mining supervisor/OCE, mining superintendent and contract manager.

James' qualifications include M. M. Eng., NSW practising certificate open cut examiner, QLD open cut examiner, diploma surface operations management, Cert IV WHS, Cert IV frontline leadership, Cert IV business management and Cert IV training and assessment.

He is currently a member of the Risk Management Institute of Australia (RMIA) and the Australian Institute of Health and Safety (AIHS).

Systematic review of work environment impacts that may contribute to fatigue of haul truck operators in open cut coal mines

This presentation highlights current oversights in the designing, engineering and planning of open cut mining environments, that fail to consider effects and impacts of operator fatigue through omissions of planning and design processes. A recent research thesis was submitted to UNSW by the presenter, and findings and learning from the research will be shared amongst the industries' MEM's. This presentation is aimed at raising awareness of how managers and engineers can influence the design of work environments whilst considering operator fatigue, primarily in haul truck operators. Other influences of work environments discussed in the presentation include;

- temperature and climate including seasonal change
- lighting exposure and its influence on the brain
- air quality
- ergonomics.

Notes

Notes

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