
30th Mechanical Engineering Safety Seminar

10-11 August 2022, Sofitel Wentworth Sydney

resourcesregulator.nsw.gov.au





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Please use Slido for any questions for our presenters or to provide feedback to event staff throughout the seminar.

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Welcome

Welcome to the NSW Resources Regulators' 30th Mechanical Engineering Safety Seminar.

MESS first commenced in 1991 and initially focused on mechanical issues in underground coal mines. The seminar provided a means for collective communication, discussion, and consultation of issues faced by colliery mechanical engineers.

Fast forward to today and MESS is now an established and respected forum for mechanical engineers across the mining community. The forum focuses on mechanical engineering activities for all mining stakeholders and is attended by designers, manufacturers, suppliers, contractors, hirers, and mine operators. Over the last 30 years the seminar has focused on everything from specific mechanical engineering safety issues in mines, to general safety concepts, to personal health and wellbeing issues, and has brought in examples from outside the mining industry to broaden our knowledge. Many of you have been part of this journey and although our 30th event has been delayed for the last 2 years due to the ongoing threat of COVID-19, I am excited that we get to be here today to share our experiences and insights.

Fundamentally, mechanical engineering hazards in the mining industry have not changed over the years. However, our understanding of those hazards, legislation, technology, and available information has changed at a rapid rate. It is crucial we keep abreast of those changes to ensure that safety in our workplaces continually improves.

Over the past 30 years in NSW we have seen many safety improvements in the mining industry. This has been driven through engineering standards and 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. 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 challenges faced along with the management of plant over its lifecycle.

Lastly, I wish to thank Leo Roberts, former senior inspector of mechanical engineering, who initiated the first seminar in 1991, together with all of the presenters, mechanical inspectors, and the many people who have assisted with the running of this seminar over the years. Without these people, events like this would not occur.

Thank you for your support of the 30th Mechanical Engineering Safety Seminar.

Dwaine Jones
Principal Inspector Mechanical Engineering
NSW Resources Regulator
Department of Regional NSW

Information

Registration

The registration desk will be open during the following hours:

- Wednesday 9 August: 8:00am-5:00pm
- Thursday 10 August: 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 Tahir Balgic
- 10:00pm Close

Dress: smart casual

Mobile phones and pagers

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

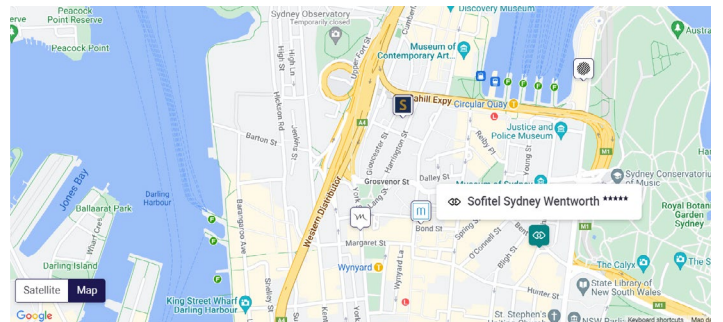
Venue

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

Seminar Wifi

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

Sofitel Conference
Password: Sofitel2022



Program

Wednesday 10 August 2022

8:00am-9:00am	Registration
9:00am-10:25am	Session 1 Welcome and opening address –Garvin Burns, NSW Resources Regulator Where industry is headed –Craig Reed, Newcrest Mechanical engineering update and interactive session –Dwayne Jones, NSW Resources Regulator
10:25am-10:55am	Morning tea
10:55am-12:10pm	Session 2 Earth Moving Equipment Safety Round Table (EMERST) mobile plant fires –Toy Egan, EMERST Person retrieval pod -LW06 end of block escape strategy at Glencore Ulan West Mine – Clinton Maynard, Glencore Ulan West
12:10pm-1:10pm	Lunch
1:10pm-3:25pm	Session 3 Implementation of autonomous haulage at Maules Creek –Greg Fenton, Whitehaven Coal Introducing battery electric vehicles to underground mining safely –Martin Kime, 3ME Technology Mental health kickstarter –Steve Gamble, Gotcha4Life
3:25pm-3:55pm	Afternoon tea
3:55pm-5:00pm	Session 4 The Regulator’s incident prevention strategy and compliance and enforcement approach –Garvin Burns, NSW Resources Regulator
5:00pm-6:30pm	End of day 1
6:30pm-10:00pm	Conference dinner with special guest speaker Tahir Bilgic

Thursday 11 August 2022

8:00am - 8:30am	Registration
8:30am - 11:10am	<p>Session 1</p> <p>NSW Resources Regulator investigation and outcome: Crush injury caused by the tilting cab of a Volvo wheel loader –Liz Anderson and Ross Stutchbury, NSW Resources Regulator</p> <p>Do we train or do we educate? –Mark Fogarty, Safe For Engineering</p> <p>Dana axle spindle failure analysis and ongoing management –Shayne Gillett, Centennial Coal and Cindy Liu, Bureau Veritas AIRS</p> <p>Practical guidance on structural and maintenance welding management -Simon Krismer, Welding Quality Management Systems</p> <p>Towing chain attachment failure at Springvale Mine -Greg Gleeson, Centennial Coal</p>
11:10am - 11:50am	Brunch
11:50am - 2:50pm	<p>Session 2</p> <p>SIL beyond the numbers –Keerthy Mysore, Shakti Corp Pty Ltd</p> <p>Analysis of mobile plant fires on Australian mine sites –Jodi Goodall, Brady Heywood and Michael Johnston, HSE Mining</p> <p>Santos Narrabri Gas Project and our industry recognised safe driving campaign -Todd Dunn, Santos</p> <p>Demolition: end of equipment life –Daniel Healy and Aaron Gatt, CMA Contracting</p> <p>Closing address –Dwayne Jones, NSW Resources Regulator</p>
3:00pm	End of day 2

*Program may be subject to change

Guest speaker



Tahir Bilgic

Conference dinner Wednesday 10 August 2022

Tahir is one of the funniest and busiest comedians around and, he claims, the country's only Turkish stand-up comedian. He took Sydney's stage by storm when he debuted in the 1995 Triple J Comedy Contest and won a final place. He went on to win 1st place at the famous Harold Park Hotel as Comic of the Year and he's never looked back.

Since then, he's become a familiar face on television with appearances on The Footy Show, Rove Live, Thank God You're Here, Hey Hey It's Saturday, Laughing Stock, Recovery, Fox Comedy Channel and the SBS documentary series, Aussie Jokers.

He has also performed his engaging style of comedy for corporate clients such as Qantas, Samsung, Audi Australia, Fisher & Paykel and Nestle, to name but a few.

Tahir has been involved in several highly successful screen productions. He is best known for his role as the loveable, hilarious drug-dealing Habib on the hit SBS comedy series Fat Pizza. In 2002, he played the same character in the 40-week sellout national tour of Pizza Live on Stage.

Tahir was a star in the hit movie FAT PIZZA and played to sellout audiences in the show he wrote, directed and played in, Habib on Parole.

In 2003 Tahir appeared in the show, Lord of the Kebabs, a runaway success which eventually played to over 20,000 people in over 100 shows right around the country. His production Lord of the Kebabs, the Fellowship of the Hommous, an adaptation of Habib on Parole, also inspired sellout success at the Enmore in 2008.

Tahir hosted the smash hit comedy stand-up production Show Us Your Roots and appeared in Hollywood Kebabs and Live and Circumcised. In 2008, he staged his own show, Tahir Unexplained, which toured Sydney and Melbourne.

A seasoned comedian and entertainer, Tahir really has performed everywhere and worked with the who's who of the industry. He was the Qantas in-flight comedian for 12 months and performed overseas in New Caledonia where he was the Club Med comedian for two seasons.

Tahir has appeared at countless private and corporate function, sports nights, auctions and Celebrity Theatresports. He's also in demand as an entertainer at weddings. He skillfully uses props, magic and music as well as performing straight stand-up.

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



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.



Dwaine Jones

Principal Inspector Mechanical Engineering NSW Resources Regulator

Dwaine has worked for the NSW Resources Regulator for over 4 years, joining in the role of Inspector, Mechanical Engineering, for the small mines team before joining the coal team and is currently the Principal Inspector for the Mechanical Engineering team.

Dwaine started his career as a motor mechanic in the family business before he commenced working as a contract fitter in underground coal in the Hunter Valley in 2004.

Dwaine worked at several underground coal mines holding various positions from supervisor to project manager before taking a permanent position with Austar as a fitter where he completed his studies in mechanical engineering in 2011. In 2011 Dwaine commenced as mechanical engineer for a contract company at BHP Mt Arthur Coal overseeing the build of earth moving equipment as part of their expansion project before moving to a field engineer in 2013. During this time Dwaine gained his certificate of competence and then spent 4 years as the Principal Statutory Mechanical Engineer.

Mechanical engineering update and interactive session

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.



Martin Kime

Chief Operations Officer 3ME Technology

Martin joined 3ME Technology in 2018. As the COO he manages the engineering and workshop divisions as well as quality-control and WHS systems. Martin's role involves developing and establishing systems, processes and procedures to support business administration and growth whilst also playing an active role in the company's scale-up, which has grown from 5 employees to over 50 in 4 years.

Marty holds an advanced diploma of electrical engineering (distinction), a diploma in project management, functional safety engineer certification for machinery and the process industry, and is a qualified electrical fitter mechanic as well as having completed numerous industry and business qualifications or education.

Introducing battery electric vehicles to underground mining safely

Battery Electric Vehicles (BEV) are coming/arrived at your underground mine. This presentation will explore mechanical engineering safety when introducing plant to an underground operation and what risks need to be considered/assessed and controlled during the life cycle of the platform.



Clinton Maynard

Senior Mechanical Engineer Glencore Ulan West

Clint began work as a mechanical apprentice at the Lithgow Small Arms Factory and Invincible Colliery with Austin and Butta.

Clint has worked at the Ulan complex for 34 years commencing as a mechanical trade and working in a variety of supervisory roles before obtaining engineering and mechanical engineering manager qualifications. Clint currently holds the mechanical engineering manager position at Glencore's Ulan West Operations in Mudgee, NSW.

Person retrieval pod - LW06 end of block escape strategy at Glencore Ulan West Mine

Ulan West underground mine plan includes longwall block lengths which have an extended single entry requirement. Due to known risk factors in the restricted access zone, an alternate means of escape was identified as an additional control to manage the risk of workers being trapped if an event that restricted egress was realised.

Greg Fenton

Statutory Mechanical Engineer Whitehaven Coal

Greg is the statutory mechanical engineer for Whitehaven Coal. His career spans 30+ years in the industry and includes:

- 20 years working for Powercoal/Centennial Coal in various operational roles around Lake Macquarie, 4 “winters” of which were spent working at Angus Place underground coal mine at Lithgow
- 3 years working for Port Waratah Coal Services at the Carrington and Kooragang Coal Terminals
- 4 years as a mechanical engineering consultant working in and around the Hunter Valley coal mines
- last 5 years working for Whitehaven Coal at Maules Creek as the statutory mechanical engineering for both the mine and CHPP.

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.

This presentation provides a brief introduction to Whitehaven Coal and its flagship, the Maules Creek Coal Mine. A simple overview of autonomous haulage is provided along with further details regarding the introduction, operation and learnings associated with the implementation at Maules Creek.

Tony Egan

Founder EMESRT - Earth Moving Equipment Safety Round Table

Tony's career commenced in heavy power systems in 1978 and transitioned to mining in 1990 encompassing roles for both mining equipment manufacturers and major mining companies, working around the globe in a diverse range of operational, technical and development roles.

Tony joined Glencore in 2000 and his current role involves governance of major projects, business development and research. Tony's also holds industry roles with Australian Coal Association Research Projects as Co-Chair of the Opencut and Research committees and Deputy Chairman of the Australian Coal Research board.

Tony was the founding member of Earth Moving Equipment Safety Round Table in 2005 and continues to play a lead role in the current focus on vehicle interaction technology design. He has led the Glencore Coal Australia project on Vehicle Interaction Controls since 2015. An approach from EMESRT to ICMM led to Tony being a founding steering committee member of the International Council of Mining and Metals Initiative for Cleaner Safer Vehicles that is collaborating directly with OEMs to improve equipment design for GHG, DPM and VI.

EMERST Mobile plant fires

Established in 2006, EMESRT is a global initiative involving major mining companies. EMESRT engages with key mining industry Original Equipment Manufacturers to advance the design of equipment to improve safe operability and maintainability beyond standards.

Despite ongoing improvements, hazards still create exposure for mobile equipment fires in both surface and underground mining if not well controlled through adequate designs and management practices.

Following extensive industry consultation –with mining company representatives, OEMs, regulators, fire detection and suppression system providers, fire system designers, academics and researchers –EMESRT launched Performance Requirement 4 (PR-4) – Mobile Equipment Fires Management in December 2021.

PR-4 provides structured and comprehensive information that can be applied to reduce the number and consequences of mobile equipment fires in earth moving equipment. It is relevant for designers and OEMs, suppliers of fire detection and suppression systems, and mining users.

It used the EMESRT Control Framework (CFw) approach aligned with failure modes and effects analysis, human factors, and the 'new control' definition elements of the ICMM Critical Control Methodology. The CFw approach allows real-world inputs and experience to be mapped to the safe and productive operating states required to deliver business purpose.



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 and look at simple skills we can use to deal with challenges at every age and stage of life
- cover how a simple conversation can save a life and how to have that conversation
- provide the knowledge to recognise challenges and stresses and learn the tools to keep yourself on the healthier side of the mental fitness spectrum.



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.

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.



Liz Anderson

Senior Investigator NSW Resources Regulator

Liz works as a senior investigator for the major safety investigations team at the NSW Resources Regulator, where she investigates fatalities and serious injuries in the mining industry. Her 20-year career has involved conducting investigations for both private industry and government departments including the United States and Western Australian governments.

Liz earned her master of forensic sciences degree from the George Washington University in Washington, DC.

Liz is co-presenting with Ross Stutchbury.

NSW Resources Regulator investigation and outcome: Crush injury caused by the tilting cab of a Volvo wheel loader

On 30 November 2020, a contract field service technician was conducting maintenance on a Volvo L220H wheel loader in the service bay of Attunga Limestone Mine. Ignoring warnings in the service manual, the worker entered under the tilted cab of the loader when it was supported by only a hydraulic cylinder. The cab then fell onto the worker, causing minor crush injuries, although it was later determined the outcome could have been fatal.

This presentation describes the incident investigation by the NSW Resources Regulator and the outcome for the worker, his employer and the plant supplier



Ross Stutchbury

Inspector of Mines Mechanical NSW Resources Regulator

Ross is an inspector who works with the NSW Resources Regulator to exercise regulatory functions relating to health and safety.

After years of broad mechanical engineering experience, Ross knows the importance that design plays in the ability of plant to function safely.

Ross is a chartered professional engineer with a background in design, manufacturing and commissioning.

Ross is co-presenting with Liz Anderson.



Mark Fogarty

Director/Senior Mechanical Engineer Safe For Engineering

Since beginning in the Industry as a naive apprentice plant mechanic, Mark has been willing to learn from any and all who were prepared to educate.

He spent several years honing his skills as a tradesman and gaining an invaluable insight into the surface operation aspects of the mining industry. Along the way he picked up on how to do things the right way, the wrong way and most other ways in between.

In the September of 1998, after leaving the surface and heading underground, his passion for mining was unlocked. Mark was home. Combined with the honour and privilege of working for and alongside some of the industry's most unique characters, working underground provided Mark with an education that no institution can provide. People have the ability to make a lasting impression on others. The engineer he is today is a direct result of the interaction of the people he had the pleasure of working with over the years.

Having worked at over 20 underground and surface operations in the coal and metalliferous sectors, holding positions ranging from fitter/operator through to senior mechanical engineer, Mark has received a diverse education in the industry. He has also had the unique opportunity of being actively involved in the commencement of not one but 2 underground mines.

After 29 years, after starting out as an apprentice, then going from a tradesman to a supervisor, to obtaining an advanced diploma in mechanical engineering and certificate of competence to senior engineer, Mark is honoured with the privilege of being in a position to educate the next generation of mine engineers.

Do we train or do we educate?

Do we simply teach our teams what we need them to know or do we take the time to impart our knowledge on what and why we are teaching them?

We as engineers, know why hazard control measures are in place and rather than just teach what these control measures are, we should educate as to why they are in place.

But why stop at our own teams? Do we, as engineers, take the time to educate our mining brothers on why we do what we do? Why be frustrated with how little they understand, when we can pose scenarios as a learning based exercise to better understand not just what we do, but why we do it.

This presentation aims to challenge engineers on whether or not they are educators based on how well we convey our knowledge to the workforce. History has provided us with an endless number of learning opportunities. We shouldn't waste them.



Shayne Gillett

Engineering Manager Centennial Coal Mandalong

Shayne has held a variety of positions since joining Centennial Coal in 2002 including manager of mechanical engineering and services superintendent at Mandalong, engineering manager at Myuna Colliery, engineering manager at Newstan Mine and group mechanical maintenance superintendent at Fassifern. He is currently the Engineering Manager at Mandalong Mine.

He has a fitting and machining trade certificate, associate diploma in mechanical engineering, mechanical certificate of competency and a masters of business administration (MBA). He is also a mechanical examiner for the NSW mechanical certificate of competence.

Shayne is co-presenting with Cindy Liu.



Cindy Liu

Principal Consultant Bureau Veritas AIRS

Cindy Liu has been working as a consulting metallurgist at Bureau Veritas for 15 years. One of her main contributions to the mining industry is undertaking root cause analysis investigations to identify component failure modes.

She has specialised in underground coal mining equipment, in particular the longwall system, in which she has become an authority recognised by underground mining companies in Australia and overseas as well as mining equipment manufacturers around the world.

Cindy is co-presenting with Shayne Gillett.

Dana axle spindle failure analysis and ongoing management



Simon Krismer

Managing Director Welding Quality Management Systems Pty Ltd

Prior to founding WQMS, Simon had 20 years experience providing metallurgy and root cause failure analysis consulting experience to the coal mining industry in the Hunter Valley and Bowen Basin coal mining regions. Having completed more than 1000 failure analyses over this period, Simon developed a deep understanding of why and how equipment fails, and what asset managers need to do to keep their equipment running safely. During this period, Simon also gained extensive first-hand experience of equipment structural inspections and NDT methods, and the many challenges asset managers have in applying this information for risk and repair management - particularly for weld repairs. The existing training and assessment tools and standards used for fabrication just don't work for maintenance welding, and don't address the significant skills gap for maintenance welding.

Rising to the challenge to provide a solution for the resources sector, WQMS was founded in 2018. After years of industry consultation, product development and refinement, WQMS now proudly provides a complete maintenance welding management solution package that is industry focussed, sustainable and simple to implement. It consists of the Crack Data System, AICARM Framework, and the Mining Welder Competency program.

Practical guidance on structural and maintenance welding management

Management of structural and maintenance welding is something that can be very challenging. It is necessary to take into account risk and safety management, functional and potential compliance requirements, as well the technical aspects that need to be managed to deliver the desired outcomes.

The *TRG Hot Work (Cutting and Welding)* provides excellent guidance regarding welding safety, but does not cover all the technical and compliance aspects that are also needed in an MECP. There is often a strong dependence on welding contractors, with significant variation in skill level of welders, as well as technical expertise. It is further complicated by the fact that welding standards are designed for fabrication, not maintenance. Attempting to apply standard based compliance is inappropriate (or even impossible) for many maintenance welding tasks, but they are often the only tool available.

Therefore, it is essential to give proper consideration to what is necessary, what is relevant, and what is possible when specifying welding management requirements to meet safety and risk management requirements via a MECP, that also meet technical performance objectives.

In this presentation, a number of case studies will be used to provide practical guidance for structural welding management for some common scenarios on a typical mine site.



Greg Gleeson

Mechanical Engineering Manager Centennial Coal - Springvale Colliery

Greg is currently the mechanical engineering manager at Centennial Coal - Springvale Colliery.

He has 33 years' experience working in the NSW and Qld coal industry in a range of underground and open cut operations in senior management roles such as engineering and maintenance manager, operations manager, project manager and mechanical engineering manager roles.

Towing chain attachment failure at Springvale Mine

This presentation will provide an overview of the Springvale Colliery enforceable undertaking. On 5 February 2019 a mine worker suffered serious lower leg injuries when hit by a bow shackle after a RUD link failed during a towing operation on LW 425.

The presentation will:

- share learnings from the incident about slinging and towing hazards
- share experiences from the WHS EU process
- share benefits of the EU for workers, industry and the community
- provide an update on status and effectiveness.



Keerthy Mysore

Principal Shakti Corp Pty Ltd

Keerthy has over 30 years' experience in drives, automation and power and has been working with the mining industry in Australia and Eastern Europe for over 13 years in the field of functional safety.

Keerthy is a functional safety engineer (FSEng-TÜV Rheinland) and an ISA/IEC 62443 industrial cybersecurity specialist.

SIL beyond the numbers

Functional safety has been talked about in the industry for more than a couple of decades now. Acronyms such as SIL and PL are part of everyday lingo in the industry. However, almost all emphasis is still being laid on achieving the numbers quantitatively with little importance being paid to the qualitative aspects of safety integrity. The industry is rife with wrong beliefs and misinformation such as claiming the superiority of a SIL 3 emergency stop circuit over a SIL 2 circuit, when in reality, the human operator is going to bring down both levels to SIL 1 at best. Also, in debate are issues such as, if consumables like brake pads can be covered by quantitative random integrity or should they be treated qualitatively by maintenance processes?

This presentation attempts to dispel commonly held myths, shows the importance of separating random from systematic failures and illustrates how the latter depends on good functional safety management.



Jodi Goodall

Head of Organisational Reliability Brady Heywood

Jodi works with boards and senior leaders in high hazard industries to prevent major accidents. She brings 20 years' operational experience in mining, heavy manufacturing, munitions, chemical process plants and logistics. Her approach is based on the theory and practice of high reliability organisations. She is currently the head of organisational reliability at Brady Heywood, in Brisbane.

Jodi is co-presenting with Michael Johnston.

Analysis of mobile plant fires on Australian mine sites

This presentation provides an overview of the learnings from a recent analysis of the combined HPI data of Qld, NSW and WA mobile plant fires.



Michael Johnston

Engineering Manager HSE Mining

Michael is a mechanical engineer with 18 years' in the coal industry primarily in Qld. The last 10 years has been with HSE Mining in a number of engineering and maintenance roles.

Michael is co-presenting with Jodi Goodall.



Todd Dunn

Development Manager NSW/NT Santos

Todd joined Santos in 2011 and took up the role of development manager NSW/NT in January 2022 having previously held the role of project manager Narrabri since 2019, with primary responsibility for the delivery of the Narrabri Gas Project.

With over 15 years' experience in engineering, operational and leadership roles within the oil and gas sector, Todd has gained extensive experience both within Australia and internationally. Within Santos he has held various positions including NSW operations manager and operations engineering team leader and holds a bachelor of chemical engineering (Hons), bachelor of business management and is a chartered engineer.

In addition to his role in delivering the Narrabri Gas Project, Todd is also a non-executive director of Summit Community Services which provide housing and disability services within the Narrabri region.

Santos' Narrabri Gas Project and our industry recognised safe driving campaign

Santos is one of Australia's biggest domestic gas suppliers and has been working to provide energy to homes and businesses across Australia and Asia for more than 65 years. During this time, Santos has been working in partnership with local communities, providing

Australian jobs and business opportunities, safely and sustainably developing Australia's natural gas resources, and powering Australian industries and households.

Santos' Narrabri gas project has the potential to supply around 150 terajoules of natural gas per day, which is sufficient gas to meet up to half of NSW's natural gas demand, with all of the gas produced from the Narrabri Gas Project being made available for the domestic market.

At Santos, we empower our people, regardless of position, to "Stop the Job" whenever needed to prevent harm to themselves, others or the environment. Santos' industry recognised safe driving campaign has focused on making a step change in our approach to driving risk through elimination, safe vehicles, safe journey and safe drivers.

Our people drive in some of the most remote parts of Australia where road conditions vary from unimproved tracks to bitumen highways on a total of 44,000kms of roads. In order to assist with keeping our people safe during their journey's, Santos has continued to improve the in-vehicle monitoring system as well as fleet and driving standards. This continuous improvement has included the introduction of in-vehicle monitoring technology to detect microsleeps and driver distraction, the trial of flood entry detection systems and initiatives focused on proactive improvements in driving performance across all field teams.



Daniel Healy

Engineering Manager CMA Contracting

Daniel is a chartered structural engineer and shotfirer that specialises in the induced collapse of complex industrial structures via both explosive and non-explosive techniques.

He is a highly regarded subject matter expert who has been instrumental in the successful execution of some of Australia's most significant industrial closure projects to date, such as Hazelwood Power Station, Energy Brix Power Station, Verve Energy Power Station and the Hydro Kurri Kurri Aluminium Smelter.

Daniel is co-presenting with Aaron Gatt.

Demolition: end of equipment life



Aaron Gatt

New Projects Manager CMA Contracting

Aaron is a highly experienced demolition and civil engineer with extensive experience in project delivery across industrial sites, heavy commercial sites, high-rise demolition and decommissioning.

He has worked as a new projects manager for CMA in NSW, WA (Pilbara region), Qld, Vic and SA on remote and urban landscapes. Aaron was involved extensively as in the planning and delivery phase of the Bulga dragline demolition project.

Aaron is co-presenting with Daniel Healy.

Notes

Notes

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