

2018 IMI Annual Meeting  
Technical Sessions Program

First Session – Wednesday, August 8: 9:30am-12:00pm

9:30-9:55 Arthur M. Wolfson, Attorney, Jackson Kelly, PLLC  
“The Evolution of Marijuana Laws and its Impact on Workplace Drug and Alcohol Policies”

9:55-10:20 Rick Kim, Chief Operating Officer, Paringa Resources, Limited  
“The Illinois Basin’s Newest Producer Nears Production”

10:20-10:45 Gary Hartsog, President, Alpha Engineering Services, Inc.  
“Cumulative Effect of Policy Changes on 2<sup>nd</sup> Mining Bleeder Designs”

10:45-11:10 Jeff Taylor, President, Sauls Seismic  
“Risk Management for Blasting Operations”

11:10-11:35 Tim Burgess, Vice President of Engineering, J.H. Fletcher & Co.  
“Fletcher Roof Bolter Drilling and Bolting Parameters”

11:35-12:00 Blair M. Gardner, Attorney, Jackson Kelly, PLLC  
“Changes Proposed to Nationwide Permits in Response to Executive Order 13783: Elections Have Consequences”

Second Session – Wednesday, August 8: 12:30-3:00pm

12:30-12:55 Gary Hartsog, President, Alpha Engineering Services, Inc.  
“Use, Abuse, and Cautions for Using VFDs on Main Mine Fans”

12:55-1:20 Jon Brown, Marketing Manager Mining - NA, Quaker Chemical  
“Improving Mine Site Safety with Fire Resistant Lubricants”

1:20-1:45 Matthew A. Masterson, District Sales Manager, Sumitomo Drive Technologies and Hansen Industrial Transmissions  
“Speed Reducer/Gearbox Maintenance”

1:45-2:10 Steve Young, Adhesives and Sealants Specialist and Territory Sales Engineer, Henkel (Loctite)  
“Proactive Maintenance Solutions throughout the Coal Mining Process”

2:10-2:35 Henry Neicamp, Technical Business Consultant, POLARIS Laboratories, LLC  
“Driving Compliance in an Oil Analysis Program”

2:35-3:00 Joseph Hirschi, Productivity Analyst, Komatsu Smart Solutions  
“Using Data Analytics to Optimize the Performance of Your Capital Investment in Underground Soft Rock Mining Equipment”

## Abstracts for 2018 IMI Technical Program in Program Order

1. Arthur M. Wolfson, Attorney, Jackson Kelly, PLLC (awolfson@jacksonkelly.com)  
“The Evolution of Marijuana Laws and its Impact on Workplace Drug and Alcohol Policies”  
The past five years have shown an evolution of laws involving the use of medical and recreational marijuana. Over half of all states now permit some form of marijuana usage. Many mine operators maintain strict company policies regarding employee drug use or the presence of individuals under the influence on mine property. This presentation will review the changing legal landscape on marijuana, its potential impact on mine operators, and offer suggestions for best practices going forward. It will consider topics such as drug and alcohol policies, drug testing, and MSHA-specific issues such as compliance with regulatory standards and the impact of drug testing and policies on whistleblower complaints.
2. Rick Kim, Chief Operating Officer, Paringa Resources, Limited (rkim@paringaresources.com)  
“The Illinois Basin’s Newest Producer Nears Production”  
Beginning with its formation in 2012, Paringa Resources has worked to develop the Buck Creek Mining Project located in western Kentucky. For almost five years, the company worked to lease, permit, engineer, and finance two underground mining operations all while navigating through a challenging coal market. In August 2017, Paringa began construction on its Poplar Grove Mine. After completion of construction in late 2018, the underground mining operation will ramp up to 2.8 million tons per year to serve domestic and international utility customers. This presentation will provide an overview of the company’s history, an insight into the financing process through the Australian public equities market, a glimpse of the design and engineering of the mine, and a summary of construction of the mine, preparation plant, and river dock.
3. Gary Hartsog, President, Alpha Engineering Services, Inc. (ghartsog@alphaengineer.com)  
“Cumulative Effect of Policy Changes on 2<sup>nd</sup> Mining Bleeder Designs”  
On December 31, 2013, MSHA released their new bleeder policy in the form of PROGRAM POLICY LETTER NO. P13-V-12: “Examination, Evaluation, and Effectiveness of Bleeder Systems.” This rewrite of the MSHA Bleeder Policy has had effect on the design and operation of bleeder systems for longwalls, perimeter and room and pillar mining systems. Starting with the definition of terms such as “rubble zone” and “pillared area,” the policy impacts the over-all approach to the design of bleeder systems. In this presentation, we will discuss the results and effects of the changes in policy without changing the 30CFR Part 75 regulations, the use of terms, the application of other parts of 30CFR Part 75 to bleeder systems, and methods to work toward compliance with this policy and its evolving interpretations. We will also discuss alternative methods for addressing compliance and operational issues in a safe manner including monitoring and sampling of atmospheres. Finally, we will discuss Ventilation Plan issues and the presentation of information and data to the District Manager for Plan approval.

4. Jeff Taylor, President, Sauls Seismic ([jtaylor@saulsseismic.com](mailto:jtaylor@saulsseismic.com))

“Risk Management for Blasting Operations”

Blasting is considered an “ultra-hazardous” activity from a legal perspective. Mistakes made in blasting operations are regrettably often the best catalyst for improving risk management and thereby reducing accidents, liability, and the inherent safety and financial tolls involved. This presentation provides a summary of common blasting mistakes that have led to fatalities, serious injury, or endangerment of workers and the public; as well as procedural errors that commonly lead to lost or settled frivolous damage lawsuits. Recommendations are offered for the pro-active measures that blasting operations should incorporate into standard operating procedures, which have proven to improve safety and reduce liability in the mining industry.

5. Tim Burgess, Vice President of Engineering, J.H. Fletcher & Co. ([tburgess@jhfletcher.com](mailto:tburgess@jhfletcher.com))  
“Fletcher Roof Bolter Drilling and Bolting Parameters”

J. H. Fletcher and Co designs and supplies roof bolters for underground mines all over the world. In the United States, underground coal mining industry it is difficult to find a mine not using a Fletcher roof bolter. Very commonly, users of the machine incorrectly think that they can speed up the roof bolting process by adjusting the machine hydraulic pressures for feed or rotation beyond factory recommended limits. As pointed out in Fletcher’s Information Bulletin 122, this is not true and doing so can create hazards to the operator, specifically from a bent and rotating drill steel or roof bolt. This presentation will explain factory recommended machine adjustments along with methods already developed and being developed to mitigate the rotation hazards associated with man in place roof bolters.

6. Blair M. Gardner, Attorney, Jackson Kelly, PLLC ([bgardner@jacksonkelly.com](mailto:bgardner@jacksonkelly.com))

“Changes Proposed to Nationwide Permits in Response to Executive Order 13783: Elections Have Consequences”

In March 2017, the Trump Administration issued Executive Order 13783 and required the Corps of Engineers to review its existing nationwide permits and suggest changes to remove potential burdens to domestically produced energy resources. The Corps published a report in September 2017 in response to the order. This presentation will review the Corps comments to NWP 21 and NWP 50, applicable to surface and underground mines, respectively, as well as changes to the Corps’ general conditions pertaining to mitigation and preconstruction notifications applicable to those permits. The changes proposed will do little to boost coal production. They do, however, offer some minimal benefits in the Corps’ processing of the NWPs. More substantive changes will have to await the Corps’ revisions to the “waters of the United States” rule now pending in the courts and before the EPA.

7. Gary Hartsog, President, Alpha Engineering Services, Inc. (ghartsog@alphaengineer.com)  
“Use, Abuse, and Cautions for Using VFDs on Main Mine Fans”

For the past 20 years or so, variable frequency drives (VFDs) have been phased into use on several devices in mining, especially conveyors and main mine fans. The use of VFDs on the main mine fan presents some unique and potentially catastrophic issues for the design and operation of the fans both physically and legally. Some of these issues are easily addressed such as measures to prevent VFD changes during operating shifts that could result in a major air change as defined by 30CFR Part 75. Other issues such as the stability of the operating point on the fan curve and mechanical harmonics are less obvious but can have more physically catastrophic results. In this presentation, we will discuss an overview of the design and operation of the VFD on main mine fans in mining from the fan’s viewpoint. Several of these points will be illustrated by case studies.

8. Jon Brown, Marketing Manager Mining - NA, Quaker Chemical (brownj@quakerchem.com)  
“Improving Mine Site Safety with Fire Resistant Lubricants”

In today’s business environment, it is critical to operate safer, more efficiently, and with a greater focus on the environment around us. In a mining operation a fire can have disastrous consequences, but at minimum, the risk of personal injuries, as well as a likelihood of loss in both capital and production. These losses include not only damage to the infrastructure and equipment, but also encompass interruptions in production that can idle operations for days, or even months. While most materials underground are required to be fire resistant, one major cause of fires can be from mineral oil hydraulic fluids and greases. Though traditional products are flammable by nature, there are several classes of fire resistant hydraulic fluids that can be used in place to reduce risk of fire or ignition. This presentation will briefly touch on the various classes of fire resistant hydraulic fluids, their grease derivatives and the pros and cons for the various lubricants.

9. Matthew A. Masterson, District Sales Manager, Sumitomo Drive Technologies/Hansen Industrial Transmissions (matthew.masterson@shi-g.com)  
“Speed Reducer/Gearbox Maintenance”

The presentation will feature generic information on gearbox troubleshooting and maintenance tips. Installation practices, lubrication, service factors/duty cycles, overhung load information and mounting considerations will all be addressed.

10. Steve Young, Adhesives and Sealants Specialist and Territory Sales Engineer, Henkel (Loctite) (steve.young@henkel.com)

“Proactive Maintenance Solutions throughout the Coal Mining Process”

Our presentation would focus on solutions to maintain, repair, rebuild, and protect various areas throughout a typical coal mining process, when it comes to preventable mechanical failures, along with abrasion, and corrosion issues. We discuss extending the meantime between failure of equipment and focus on continuous improvement to minimize and/or eliminate unnecessary & redundant tasks with proactive solutions. We would highlight typical mechanical failures related to issues such as fastener loosening due to vibration, leaks from threaded fittings, bearing and keyway fits, and leaky flanges due to improper

gasketing. Regarding abrasion and corrosion issues, we highlight areas through the plant that can be exposed to corrosion and abrasion and show various solutions to meet those needs. We highlight independent study information showing the process improvement and cost savings that will be shown throughout the training. Finally, the overall goal of the presentation would be to help plants improve their efficiency, increase equipment reliability, strengthen their safety, all while reducing costs.

11. Henry Neicamp, Technical Business Consultant, POLARIS Laboratories, LLC  
(hneicamp@polarislabs.com)

“Driving Compliance in an Oil Analysis Program”

Fluid analysis programs come in all shapes and sizes in order to meet the needs of the maintenance team. However, just because you have a customized program does not mean it is able to deliver the impact, uptime, and savings you desire. Exploring the performance and structure of your program will help you evaluate past results, redesign it to fit your goals, and help drive your program to excellence. This presentation discusses how to calculate the effects of oil analysis on the bottom line and how to maximize the benefits of oil analysis.

12. Joseph Hirschi, Productivity Analyst, Komatsu Smart Solutions  
(joseph.hirschi@mining.komatsu)

“Using Data Analytics to Optimize the Performance of Your Capital Investment in Underground Soft Rock Mining Equipment”

The mining industry is changing rapidly due to the need to improve efficiency, reduce costs, and increase safety. With these challenges in mind, we are helping bring mining performance to the next level. Through Smart Solutions, we help solve our customer’s toughest challenges using data-driven intelligence, collaboration through partnership and experienced-based service execution. It is a solutions-based offering designed to help reduce costs and increase productivity for customers, while helping them achieve or exceed their operating and financial goals. The program integrates:

- Data and analytics as well as operator training
- Direct engagement with the customer, focused on helping the customer achieve value through our direct service
- Engagement with the equipment designers; the customer is just one call away from the person who designed the machine

Smart, connected products deliver data to our experts, who collaborate with customers through our direct service network. The analytics produced allow us to provide direction, anticipating service needs and optimizing machine productivity to drive results and move the needle in mine performance. In fact, some coal producers have increased equipment utilization from below 50% to as high as 70%.