

## WMEA Denver May 29, 2015

### Group #7

Rob Marnell – Drives & Controls Services, Inc. – Casper, WY  
Justen Schemmel - ABB  
Casey Whitney - Peabody Energy  
Brian Hopkins - Cloud Peak Energy  
Tom Walker - Cloud Peak Energy  
Ryan Sernecky - Westmoreland – Scherness Mine  
Nate Hillerud - Coteau Freedom Mine  
Corey Skalsky - Coteau Freedom Mine

### Safety:

Rob Marnell - We started our discussion with a safety share regarding the muddy conditions in the mine sites as a result of spring thaw and the recent rainy weather. The muddy haul roads can cover up head and tail lights on service vehicles restricting vehicle illumination as well as visibility. Check and clean light lenses regularly.

Rob Marnell - Safety Acronyms – For instance what is a KPI (Key Performance Indicators) we are getting a lot of safety information full of acronyms which are not always defined, thank goodness for the internet.

KPI Near Miss Incidents

When recording KPIs, it is just as important to measure the incidents that were not actual accidents as the ones that became lost-time accidents, according to the article "Measuring Safety Performance: What are KPIs?" published in the "EHS Journal." A near miss incident is an action that came close to being an accident, but was averted in some way. For near miss accidents, it is helpful to get the standard data, such as time, date and location of the event, along with a description of the near miss and how it was averted. This could be useful in future safety trainings.

KPI Accidents

The most common and useful key performance indicator for tracking a safety program is the number of accidents that have occurred during a predefined time frame, according to "EHS Journal." Use a monthly time frame to keep track of accidents with injuries, accidents without injuries and near misses that could have been accidents but were prevented. The key to any safety program is to reduce accidents, but if you can reduce the number of injury-related accidents then you are making the workplace safer, and that can be a good first step toward improving the company safety record.

Rob Marnell - MSHA – NIOSH (National Institute for Occupational Safety and Health) Coal Workers Health Surveillance Program – a program to identify respiratory problems in coal workers. Program will mandate baseline chest x-ray testing for new employees and testing to be offered to installed base workforce.

Each mine and mining contractor must submit a plan for Health Surveillance to NIOSH for approval and implementation of this program.

Rob Marnell - Browz is a third party company handling mine site and contractor health and safety procedures. If a mine site is using this Browz system to track contractor safety, the system will flag a contractor for higher than normal accident rates. A high accident rate could restrict the contractor from

performing services on the mine site. A mine site review of safety procedures, and a mine manager over-ride is required before the contractor is allowed on site.

One of the contractors triggered the system with two accidents in 2014. One incident was a service rep who injured a finger while working on a dragline swing motor brake which required stitches. The second incident occurred when an employee was watching a dragline boom raising procedure from the ground, and tripped over a pallet of material, receiving a cut on his hand which also required stitches.

Nate Hillerud shared an incident which involved a traffic accident off the mine site on an access road to the mine on a foggy morning. Safety does not stop at the mine site gate. (Several years ago there was a fatality on the same road into the mine site area.)

Casey Whitney - Peabody Energy noted that there have been several incidents lately involving slip, trip and fall, and hand injuries. He also discussed lost time accidents year to date.

### **New Innovations and Technologies – Problems and Solutions:**

Tom Walker – Cloud Peak Energy discussed the problems facing our industry in protecting our computer based data and control systems from outside attack. Attack either from malicious hacking or intentionally directed attacks from a competitor or someone with a different political view of a particular industry.

Casey Whitney - Peabody Energy attended the May 26 presentation on Arc Flash by ESC Engineering. Some of his feedback on the material presented was that while the plant and mill installations were being addressed by the Arc Flash regulations, mobile equipment regulations are not far behind.

Nate Hillerud Corey Skalsky - Coteau Freedom Mine talked about an upcoming project on one of their 2570 draglines in which they will replace the original tubular boom with an new I-Beam style boom. Before the outage later on this year they will be researching LED Boom Lighting Applications.

The group discussed some of the various aspects of the application of LED lighting including choices of lumens, color, light mounting orientation to minimize dust accumulation on the cooling grids.

Tom Walker – Cloud Peak Energy discussed some of the aspects of applying Ethernet cable to different installations. His input was that the installation should determine the proper cable and terminations to be used. He discussed using pre-fabricated cables with metallic shielded RJ-45 connectors as opposed to something you could pick up at Wal-Mart. Tom's take away was that a lot of mysterious communication faults can be avoided by paying closer attention to the material chosen for a particular application.

Ryan Sernecky - Westmoreland – Scherness Mine discussed a company wide program to apply a mining data acquisition system called Pegasus.

Rob Marnell – Drives & Controls Services shared details of an Ignition Data Acquisition application which assisted in determining the root cause of a "ProLock" hoist/drag rope failure. The captured and stored data was used to show that the reason the rope had come off the drum was not an electrical problem. Further investigation by the mechanical staff found that the ProLock unit was not properly installed.

Nate Hillerud talked about some similar problems with the new rope to drum system.

Tom Walker talked about implementing a system in which a dragline or shovel operator may be allowed to set the rope limits on a machine, then the system will send an email type message to management to document the change. This is to insure the limits are being properly applied to the machines.

Nate Hillerud spoke of a program to provide their electrical staff with Tough Book Computers which will allow the electricians to log onto their MESH Wireless Network to reset control faults on equipment from a remote location. This could save his mine site a lot of down time as their equipment is spread out over a very large mine site area.

Casey Whitney - Peabody Energy talked about a PLC application on his site which allows machine operators to reset faults without an electrician being dispatched to the machine. The ability to reset

faults is limited in the subroutine to a number of allowable operator re-sets before the control is locked out and an electrician is required to investigate the fault, then unlock the reset.

We discussed an application several years ago in which a mine site was using a dial up connection to reset substation trips remotely.

Our group discussed the reaction to problems encountered with operators who run mining equipment. It seems that after any incident, the first reaction is to change the control system to prevent further similar incidents, rather than rely on making the operator responsible to ensure the problem does not recur. It was suggested that the solution may not always be changing the system, but in training the operators and making them responsible.

The MSHA question and answer portion of the meeting was well received by members of the discussion group. It was suggested that this would be helpful as a regular agenda item.

It was noted that some of the question and answer topics could have been enhanced by a diagram of the system or circuit in question, projected on the computer screen to assist in the discussions.

We discussed the application by Western Energy of resolver based operator master switch modifications which reduce the moving and contact components in control systems.

Nate Hillerud discussed the design of the 2570 draglines on his mine site in which the hoist and drag motors are mounted on pedestals five or six feet off the machine deck. Small working platforms had been installed by his mine site to allow inspection and service work on the motors. These small platforms have recently been replaced by more substantial working platforms with hand rails to protect service personnel from falling hazards.

Nate's mine has also installed light weight aluminum guards around their dragline motor generator sets which are easy to remove for servicing the motors and generators. Some more typical guarding systems get quite heavy and may include bolted connections to hold them in place. The guarding system can get complicated and heavy very quickly.

Casey Whitney and Nate Hillerud discussed sliding glass doors inside electrical control rooms on mobile equipment. This type of guarding has proven effective in limiting the exposure to electrical equipment in these control rooms. Just as in the case of the MG Sets, guarding in the control rooms can get cumbersome and heavy very quickly.

### **Future Topics:**

More MSHA Question, Answer and Discussion. This participation by MSHA was well received by this discussion group.

LED Lighting as applied to booms on mobile equipment. Feedback from installations including topics such as lumens, color and how the lights are standing up to the mining environment.

### **Future Meeting Sites:**

Upcoming meetings are scheduled for:

Ft. Worth, Texas - Fall 2015

Gillette, Wyoming - Spring 2016

Salt Lake City, UT - Fall 2016

Denver, CO - Spring 2017

San Antonio, TX - Fall 2017

Calgary, AB, Canada - Spring 2018

Reno, NV - Fall 2018

The Ft. Worth, Texas meeting will be held on Wednesday/Thursday instead of Thursday/Friday to allow for more participation on the second day of the meeting without impacting travel arrangements (airline flights)