

## WMEA DENVER May 29-31, 2013

### Group 1... Leader Monte Wilke

1 Monte Wilke	Western Energy Co.	Colstrip, Montana
2 Eddie Virgil	Cloud Peak Energy,	Gillette, Wyoming
3 Will Allmendinger	Coteau Properties,	Beulah, North Dakota
4 Dean Jeffrey	Prairie Mines,	Alberta, Canada... ehh
5 Mark Perkins	Helwig Carbon	Wright, Wyoming
6 Adam Detillieux	Littelfuse- Startco	Saskatoon, Saskatchewan, Canada
7 Tracey Fetter	Drives & Controls Services	Alberta, Canada

Nearly half of our group is Canadian! (And the rest of us probably wish we were....)

Comment to Lionel's presentation....

For those of us who do not speak fluent Canadian.... "Wrapper" = MCC (Motor Control Center) Bucket

### Safety Items:

Mark Perkins: While driving to Colstrip, Montana he encountered road construction near Broadus, Montana. The road bed was made up of large gravel and small boulders or at least heavy river rock...

A large rock was kicked up and struck his windshield, just on the drivers' side of center and in the lower ¼ of the windshield. Broken glass scattered inside the vehicle all over the dash... and he felt glass hit his face. Mark is certain that had he not been wearing sunglasses, he would have gotten glass in his eyes.

Safety Point.... Consider wearing safety eyewear off the job as well.... You never know when you will be glad you did.... The eye sight you save, may be your own... Especially in Montana during road construction season...

Dean Jeffrey: This actually happened at their mine....

Their mine in Canada is on a Peak Shaving (Power) program with the utility company.... It turns out that recently they had to shut down their dragline and park it at 10:00 am.... the machine was not allowed to go back to work until 6:00 pm.

The operator had parked his pick-up close to the dragline during the shift (because it wasn't going to run anyway) apparently forgot where he parked. At 6 pm, he started the machine and began to swing.... Yea you get the picture.... Wiped out the pickup he parked next to the machine....

Yes, it was against Company Policy.... And No, I don't know the rest of the story....

### New Innovations and Technology:

Dean Jeffrey: An intern has been assigned the project involving Vibration Monitoring on the slow rotating bearings such as Hoist & Drag Drums on a dragline.... This would be continuous monitoring.... (How About SPM ) This works in Colstrip, Montana...

Also; Production & Machine Monitor (Pegasis?)... History.. Accurate machine monitoring.... Some operators felt it was just another big brother watching.... Most have accepted the accuracy the monitor provides... Great ability to diagnose faults.... Great Investigative tool if events leading up to an issue are needed to be discovered....

Monte Wilke: (New to us) Installed Digital Inclinometers on 4 Draglines at Colstrip... Alarms operators who dig at > 2 degrees and walk steeper than 6 degrees....

### **Problems and Solutions:**

Eddie Virgil: ( Mark Perkins) Arc Flash... Cloud Peak Energy.... All employees (all 1000 of them) wear FR clothing provided by the Company.... This represents a huge commitment by the Company!

Sleep deprivation Detection: Vibrates seat if it detects onset of sleep in operators... works very well! Also sends a warning to dispatch... (Operators Do Not Like...)

Westinghouse 1045 kW generator... commutation after rebuild became inconsistent.... OK when set, but then failed to commutate after operation.... Stopped and checked neutrals etc.... changed things to work OK only to have commutation fail again after running....

Determined the problem was incorrect shim stacking order under commutating poles....

Magnetic vs. non-magnetic shims not placed in the same order they were removed....

### Some Things MSHA Electrical Inspectors in the US are looking at....

Undervoltage trip of portable & mobile equipment.... It just so happened that during a recent inspection... power tripped to a pump sub that the inspector was about to examine. When power was restored, the pump sub energized it's load ... then tripped... a citation... it should have stayed off until reset. 1979 design.... Just didn't realize it until it happened with the inspector present.... Has been fixed.

Electrical Inspector is checking over current settings, proper CT ratios, Relay settings...  
Chad Simpson does not like to be reminded that Doug Liller let us do it this way.... He is not Doug Liller...

Monte Wilke: How close to ANFO or Ammonium Nitrate do you place 480v three phase motors, distribution and controls????

CVT's Constant voltage transformers, if short circuited on their secondary... may not develop enough current to blow fuses.... But, may instead simply collapse the voltage to 0. CVT's must be rated to provide enough current for fuse blowing... they do not supply high currents momentarily like a machine tool transformer will...

### **Future Meeting Topics:**

**More Topics where Mines have done an upgrade.... Lionel did great!!!**

**Arc Flash....** Show steps taken to complete the Arc Flash study... Show some typical mine calculations for dragline MCC's etc.... Shop MCC's.... Switchgear and substations....

How the one-line was obtained....

Surprises or other results....

We talk about what must be done.... We see movies of Arc Flash in action.... We have heard survivor stories.... We have been told over and over again what is in 70-e.... We have been told MSHA wants us to use Arc Flash (but it isn't in the 1977 law)

We know where to buy FR clothing.....

I would like to see the steps someone had to take to perform the study.... Start to Finish....

**Constant Voltage Ferro-Resonant Transformers...** Theory and Practice... How to use,,, and what to watch out for....

**Surge Arrestors:** A presentation for those arrestors designed to be mounted in 120/240 & 480v panels.... How they work and real examples of the kinds of equipment they have been known to protect.... How to size??