WMEA Denver May 29, 2015

Group #5 Summary:

Dave Whitt – Becker Mining
David Kimball – Peabody
Bruce Reeves –Dykman Electrical
Brandon Bridges – Hilti Inc.
Dee Brossoit –Ground Probe
Sonny Grimes- Luminant
Caleb Veer – Falkirk mine
Luis Contreras- AME Power
Juan Munoz- AME Power

Safety Items:

According to Mr Grimes from the company Luminant, One of the main challenge the electricians are facing on the Open-pit mines, is the constant failures on the medium voltage cables which power the shovels.
Each cable failure cause revenue disruption of 4 hours and in the Luminant case, just during this year, they had sent already 20 times cables to be repaired.
This situation seems to be increasing, and although there could be several reasons, there are a few conditions that may be affecting such increase:

A) Aging on the cables, some of them has been on service for up to 30 years.

B) The numbers of previous repairs, there are some cases where these cables have been repaired up to 40 times.

C) The number of experienced electricians that are retiring, and the lack of proper training on new the new generation of electricians.

The idea to have some type of equipment that helps to prevent cable failures and somehow measure the healthiness on them, was discussed. Although, no one in our group had experience on that field, the concept of possible measuring the impedance on the cable tru a hipot device was discussed.
After the meeting ended, I did some small online search on this matter. And according to a publication from IEEE there are 6 different types of methodologies to test Medium and High Voltage Cables (see http://www.emersonnetworkpower.com/documentation/en-us/services/ers/documents/eim%20paper%20vahlstrom%202009.pdf)
There are several service companies using some these methodologies, who could be hired to conduct periodically analysis on MV and HV cables to prevent failures.
Also there are several companies that manufacture Cable testing equipment, however one of the most specialized on this field seems to be a company called High Voltage Inc. That offers on-the-field equipment using 3 of IEEE suggested methodologies. (Please see link below for more information.)
http://www.hvinc.com/downloads/Cable_Testing_Products.pdf

Innovations:

There is a company called CPG that makes Cable Harness, and their solution is performing much better than the ones from the OEMs.

Future location:

A) No Texas please B) Hawaii

Future discussions:

MSHA and new laws enforced should be a must.