

Western Suppliers Association Newsletter

July-August Safety Topic– Incident Reduction Program

The Incident Reduction (IR) Program offered by MSHA Technical Support, Applied Engineering Division (AED) began in late 2002 to assist in the reduction of mining accidents.

The program is voluntary i.e. the operator asks the district for assistance and in turn, the district requests AED assistance. The effort begins with an initial meeting with the district, mine operator and AED; at this meeting AED explains the process and the operator decides to request the program or not.

The effort is a one year program and consists of interviews with employees, consultation with the district and the operator's managers, review of statistics and accidents, review of the mine's safety culture and program, observance of work habits and mining process, and a written report of findings and recommendations by AED.

Quarterly follow-up continues during the annual effort and consists of visits and quarterly update reports of company response/action to the initial report.

To date, over 20 coal mines, preparation plants or contractors have received assistance as part of this program with average results being a 44 percent reduction in the NFDL rate for the participating mines by the end of the year long effort.

Collision Avoidance & Proximity Detection

Collision incidents involving mining machines and other vehicles, objects, or persons result in fatalities, serious injuries, equipment replacement/repair expense, and lost production.

It is generally understood that with the increasing size of mining machines, large areas are outside the normal view of the operator. This has been especially evident at surface mines with incidents involving large haul trucks and at underground mines with incidents involving remote control continuous miners.



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Collision Avoidance & Proximity Detection

According to an NIOSH study, on average 40 incidents with 5 to 6 fatalities involving powered haulage equipment occur each year at surface mining operations.

A large percentage of these incidents are due to inadequate visibility for the operator and result in collisions with other equipment and vehicles, pedestrian workers, or stationary objects. Backing over the edge of dump points is another result of the inadequate visibility.

Several technologies have been studied and are commercially available. Those related to collision avoidance include the following:

- **Radar Systems**
- **Radio Frequency Signal Detection (RFID)**
- **Global Positioning Satellite (GPS) Based Collision Warning Systems**
- **Video Cameras**
- **Ultrasonic Systems**

NIOSH and MSHA have completed a number of independent studies and field tests at various surface mining operations and continue to support development of new technologies.

The results have shown that all the technologies listed above have various strengths and weaknesses along with differing costs. A combination of technologies (i.e., cameras and sensors) has been found to be the best solution with operators trained to know the limitations of the technologies

Collision incidents involving mining equipment have tragic results. The operator's inability to see or recognize the potential for a collision is usually the primary cause or a contributing factor of the incident.

Technologies are currently available or being developed that can greatly reduce collision incidents. Presently there are not any specific laws or regulations that require these technologies be used at mining operations.

MSHA strongly encourages mine operators to research available collision avoidance and proximity protection technologies and utilize those that will provide the greatest protection for their employee and equipment investments.



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