



Department of Industry and Resources

Safety and Health Division

Significant incident report No. 131

Drill rig fire — self-rescuer failed

Incident

Recently an underground drill rig caught fire and was put out by the operator who shut the engine down and activated the fire suppression system, extinguishing the fire. The operator then realised the drive had filled with smoke and reached for his oxygen self rescuer (MSA SSR 30/100). However he was unable to release the clamp. The self-rescuer was removed from his belt and opened. In the process of opening the unit and removing the mouthpiece plug, the mouthpiece plug cord and nose clip cord tangled. The operator tugged the cord and in doing so the nose clip cord tightened around the breathing tube closing it off. With the self-rescuer inoperable the operator put a rag over his face and ran 150 – 200 m through smoke to fresh air. MSA is undertaking a detailed investigation of the circumstances involved, including a detailed design review.

Contributing factors

- The self-rescuer was being worn in a position on the operator's belt such that it could not be easily accessed.
- The self-rescuer was not deployed from the belt as per manufacturer's recommendations, which allowed the nose clip cord to be fouled by the mouthpiece plug cord.
- The nose clip cord was able to act like a slipknot around the breathing hose when tugged strongly. This resulted in the breathing hose becoming totally restricted.

Comment and preventative action

Oxygen self-rescuers are a very important item of safety equipment and are sometimes treated poorly. Employers should keep in mind the following comments when purchasing, using, maintaining and discarding self-rescuers and training employees in their use.

- Self-rescuers should be purchased to meet the site's needs with due consideration for their use by employees and conditions underground.
- Employees must be adequately trained in the use of self-rescuers based on the manufacturer's recommendations. This should include the opportunity to utilise a training unit and regular refresher training.
- Employers must ensure that each unit is maintained according to manufacturer's recommendations. This should include the recording of each unit in a database, and regular checks and maintenance to ensure that it is in a usable condition at all times. Criteria should be established for units to be tested, removed from service and/or discarded.
- Self-rescuers should be worn correctly on the miner's belt and checked daily for serviceability by each employee. Care should be taken to protect the self-rescuer from heavy knocks and any substances such as shotcrete and adhesives, which could potentially restrict opening of the unit in an emergency.

- The life of an oxygen self-rescuer is limited. Managers must ensure that out-of-date units are removed from service based on manufacturer's recommendations. Oxygen self-rescuer life varies from 5 to 10 years. Out-of-date units have been identified at some sites.

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