Reduction of DPM in the Underground Coal Environment

BMA Gregory Crinum

Initiative
The primary objective of this project was to control the exposure of underground coal mine workers to the products of diesel exhausts to levels that are within industry standard and as low as reasonably achievable (ALARA).

Solution
- Purchase device for measuring the Exhaust Emissions.
- Built MS Access database to capture and analyze test results.
- Implementation of MST equipment tracking system.
- Linked the Emissions database to the tracking system.
- Testing and validating for correct operation.
- Personal exposure testing carried out.
- Training and communication to the work force.
- Risk assessment and develop procedure.
- Change management.

Benefits / Effects
- Reduction of exposure to DPM and exhaust gases to mine workers.
- Efficient use of available ventilation.
- Improved and proactive maintenance of diesel fleet.

Transferability
- System can be installed in any UG coal mine requiring access of mobile diesel equipment to ventilation controlled areas.

Innovation
- Live, automated feedback to machine operators of ventilation capacity of specified underground working areas before they access the area in a diesel machine.
- Ability for live tracking of individual machine's locations underground
- Ability of an automated system to identify and record non-compliance by individuals to the underground panel ventilation access requirements.