PROSUM08
Oversee mine roadway development

Overview

This standard is about a mine supervisor being able to co-ordinate all relevant activities involved in roadway development operations in compliance with statutory and organisational requirements and procedures. It involves: ensuring that roadways are correctly driven, monitoring environmental conditions to ensure that gases, hazardous substances, dusts etc. do not exceed statutory/company limits, ensuring that all associated equipment and plant is inspected/maintained in accordance with manufacturer's specifications and organisational requirements, ensuring the correct operational cycle, dealing with equipment and plant failure and ensuring employees safety

This standard is a **four** element standard

1 monitor roadway development
2 maintain environmental conditions in roadway developments
3 confirm inspection and maintenance of plant and equipment
4 supervise the operational cycle

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Performance criteria

Monitor Roadway Development

You must be able to:

P1 enforce organisational requirements for use of general/specific personal protective equipment
P2 check that staff are aware of specific hazards associated with assigned tasks and the procedure in the event of an emergency
P3 ensure the correct interpretation and implementation of support rules
P4 oversee the safe setting of additional supports to overcome geological anomalies without endangering yourself or others in your charge
P5 sight the roadway for true direction, (e.g. square, dip and rise)
P6 identify physical indications of excessive loads on supports (e.g. when rock bolts are used, checks for tell-tale readings and action to take when trigger points have been reached)
P7 carry out inspection of roadway, with particular attention to roof and sides
P8 react positively and safely to excessive physical roof/side wall movement
P9 promptly report suspected incidents of excessive wall movement according to operational procedures
P10 monitor and control staffing levels in the roadway development area
P11 where an explosion risk has been identified, carry out inspection of position and condition of barriers (e.g. of stone dust or water)
P12 where an explosion risk has been identified report and initiate action to reposition/repair barriers according to legislative and organisational requirements
P13 take steps to arrange repair/maintenance of equipment according to operational procedures
P14 confirm repaired/maintained equipment is acceptable for use
P15 ensure any manual handling is minimised and carried out correctly
P16 communicate with staff and management in a clear and appropriate manner
P17 complete reports/forms according to legislative and organisational procedures
P18 locate and use information in relation to roadway development

Maintain environmental conditions in roadway developments

You must be able to:

P19 oversee the implementation of operational policies and procedures for ventilation
P20 ensure ventilation equipment is positioned efficiently and meet legislative and organisational requirements
P21 ensure that filtration equipment fitted to ventilation systems (i.e. scrubber standards, dust socks, etc) are in place and working
P22 take and interpret readings from portable/automated gas detection equipment
P23 follow organisational procedures to implement degassing procedures in

e.gs headings, cavities

P24 initiate action should any shortcomings arise in the ventilation system adversely affecting the quality of air issuing inbye/outbye your area of responsibility

P25 report ventilation deficiencies to relevant people according to operational procedures

P26 oversee maintenance of dust suppression equipment (including where applicable water pressures) to ensure they operate at optimum capacity

P27 complete records according to legislative requirements and organisational procedures

You must be abl;e to:

Confirm inspection and maintenance of plant and equipment

P28 check service pipes/hoses/high tension cables/trailing cables are identified and colour coded, stored correctly and safety devices attached (e.g. whip checks fitted)

P29 ensure fire safety equipment is installed and sited in accordance with statutory and organisational requirements

P30 confirm suspension monorail and catenaries are supported and free moving with sufficient storage to allow roadway safe advance (if applicable)

P31 check cutter picks are sharp and operational and dust suppression jets clear and functioning

P32 ensure girder cradles and integrated working platforms associated with setting supports using development machine power are available and in good order

P33 oversee correct application of the procedures for machine isolation during whole or partial support setting

P34 confirm correct operation of roadway plant/machinery safety devices (e.g. indicator lights)

P35 provide opportstandardies for servicing/maintenance of supports/support installation equipment

P36 complete records/reports in accordance with regulatory/organisational requirements

You must be able to:

Supervise the operational cycle

P37 ensure dimensions of roadway development are within predetermined safety limits

P38 oversee the minimisation of extraction distances to combat poor roof conditions/roof/side wall failure

P39 direct the safe dressing of ground

P40 organise the move up of sufficient supports within a specific transport system in line with transport rules

P41 ensure temporary/permanent supports (e.g. rock bolts, props) are set according to regulatory and organisational requirements

P42 carry out checks to confirm competency of persons assigned to roadway development activities
P43 check staff exposure levels to vibration are within limits
P44 supervise the installation/isolation/operation/maintenance/servicing of loading/emptying and retraction of mineral removal equipment
P45 direct staff to positions appropriate to prevent contact with moving plant/equipment/machine parts
P46 ensure compliance with procedures for safe isolation of services
P47 complete reports to regulatory/organisational requirements

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Knowledge and understanding

You need to know and understand:

Roadway development

K1 operational and legislative requirements for strata support
K2 the activities involved in roadway development
K3 the relevant approved codes of practice and guidance for working safely in development roadways
K4 operational and legislative guidelines for staffing limitations in development roadways
K5 how to keep a development on line with regard to the survey aspect
K6 physical indications of excessive loads on supports (e.g. when rock bolts are used, checks for tell-tale readings and action to take when trigger points have been reached)
K7 the need for cyclic and repetitive operations
K8 legislative and organisational reporting/recording procedures
K9 location and purpose of sources of information
K10 the legislative and organisational requirements for barrier installation and maintenance; positioning in relation to advancing faces and condition
K11 the optimum pneumatic and hydraulic pressures required in a specific roadway development to optimise efficient rock and cable bolt installation (if applicable).
K12 the advantages / limitations of resin / grout (including shelf life) for use in rock-bolt/cable bolted roadways (if applicable).
K13 the principals of bolting patterns (including length, type and diameter of bolts to be installed and associated resins) to be used in area of responsibility (if applicable)
K14 the maximum safe dimensions of specific developments (height/width/length as appropriate)
K15 organisational procedures for installation and transportation of supports/support systems
K16 statutory requirements for support setting
K17 the characteristics of installed support aids (e.g. girders/tie bars/stilts/bolts) in area of responsibility

You must know and understand:

Mine environments

K18 the main principles of health and safety and environmental legislation and regulations relevant to area of responsibility
K19 industrial standards relevant to area of responsibility
K20 hazards associated with roadway development, including geological anomalies
K21 environmental approved codes of practice and guidance for working safely when development roadways
K22 how emergency situations can arise during roadway development in your area of responsibility

K23 responsibilities of self and others and procedures to follow in event of an emergency situation
K24 your duty with regard to ventilation system failure or gas fast situations
K25 the locations within a specific district where gas accumulations may occur
K26 the indications of excessive movement or deterioration in the roadway profile
K27 the physical signs that would indicate the need for additional support
K28 operational policies and procedures for development ventilation
K29 how to check the positioning and operation of ventilation equipment e.g. fans, ducts, filters
K30 legislative/organisational procedures for reporting poor ventilation
K31 policies and procedures in the event of poor ventilation adversely affecting areas inbye/outbye
K32 the requirements for positioning of automated (interlocked) gas detection equipment including their trip levels (if applicable)
K33 the statutory duties should 1.25% or 2% general body readings of methane be detected within your area of responsibility (flame safety mines only)
K34 operational policies and procedures for the maintenance of a safe mine environment e.g. dust suppression, degassing
K35 operational procedures for safe rectification of a ‘hold-fast’ situation (in e.g. armoured/belt conveyor/cutting machine/drilling rod jammed) giving priority to the safe dissipation of stored energy
K36 legislative requirements for coal dust/stone dust ratios (if applicable)
K37 the terms; quantity, flow, pressure, resistance, volume, and cross-sectional area of airways.
K38 organisational requirements and procedures for use of personal protective equipment (in general and for specific operations)

Equipment and tools

You must know and understand:

K39 manufacturers’ and organisational instructions relating to the use of equipment and tools provided for development roadways
K40 manufacturers’ and organisational instructions relating to the inspection and maintenance of equipment and tools provided for development roadways.
K41 manufacturers and organisational instructions and procedures relating to the use of personal protective equipment
K42 legislation and approved codes of practice and guidelines for safe use of gas/dust monitoring and ventilation equipment
K43 the limitations of equipment provided for use when developing roadways
K44 procedures for ensuring communication systems are inspected and maintained
K45 procedures to ensure safety devices are installed/attached, inspected

and maintained

K46 Safe operation of portable/fixed environmental monitoring equipment provided at area of responsibility

K47 Identification and coding systems for equipment in use, e.gs lifting equipment, pipework,

K48 Storage procedures for e.g. tools, equipment, hoses, cables

K49 Requirements for siting and installation of fire safety equipment

K50 Standards for installation of plant and equipment used e.g. suspended monorail/catenary systems, cutting equipment, supports, rock bolting equipment, track support systems, conveyors

K51 Operational standards for plant and equipment used

K52 Organisational policies and procedures for the safe operation of plant and equipment used

K53 Organisational requirements for the use and maintenance of machine safety and warning devices (for fixed and/or mobile plant/machinery)

K54 Maintenance standards for plant and equipment used

K55 Lubricants and fluids for use on plant/machinery in area of responsibility

K56 The risks from vibrating tools, and limits of exposure

K57 Organisational policies and procedures for safe isolation of plant/machinery/services

K58 Organisational procedures for reporting and rectifying defective/unsuitable plant/machinery/tools/equipment/ppe

Working with others

You must know and understand:

K59 Your own responsibility relating to roadway development and the safe installation of roadway supports and the limitations of your responsibility

K60 Allocation of tasks and duties

K61 The importance of effective communications

K62 Communications systems/procedures in area of responsibility

K63 The personal responsibilities/duties of others in respect of roadway development

K64 The importance and advantages of effective team work

K65 The dangers of working in isolation

K66 Organisational requirements for recording/monitoring personnel in your area of responsibility

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