



Australian Government

Department of Education, Employment and Workplace Relations

RIIOHS602A Incorporate health and hygiene factors into mine management

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers incorporating health and hygiene factors into coal mine management. It includes: identifying the fundamentals of human disease and injury; incorporating health and hygiene factors into the work environment and mine safety management plans; establishing health and hygiene protection measures for individuals; establishing control measures for operational health and hygiene hazards; and incorporating health and hygiene factors within mine audit and review systems.

Application of the Unit

This unit is appropriate for those working in a management or technical specialist role, within:

- Coal mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the fundamentals of human disease and injury	1.1. Access, interpret and apply compliance documentation relevant to health and hygiene management in coal mines 1.2. Identify the causal chain and focus of common diseases 1.3. Identify the causes, symptoms and impacts of stress on employee health and effectiveness 1.4. Identify the potential impacts of shift work on employee health and effectiveness 1.5. Identify the potential impacts of drug and substance abuse on employee health and effectiveness
2. Incorporate health and hygiene factors into the work environment	2.1. Identify, analyse and use legislative and industry standards as the basis for health and hygiene activities 2.2. Incorporate health and hygiene factors into mine operational planning and management systems
3. Incorporate health and hygiene factors into mine safety management plans	3.1. Establish and resource work injury recording systems 3.2. Establish sanitation and hygiene infrastructure and systems 3.3. Establish chemical and hazardous substances control systems 3.4. Establish atmospheric and dust control measures 3.5. Establish and maintain mine transport networks and rules
4. Establish health and hygiene protection measures for individuals	4.1. Establish, review and update individual medical recruitment and re-appraisal measures 4.2. Establish and resource health and hygiene training systems and programs. 4.3. Establish and resource personal protective equipment systems and measures. 4.4. Establish and resource systems and procedures for manual and assisted handling
5. Establish control measures for	5.1. Analyse health hazards related to mine

operational health and hygiene hazards	lighting and establish systems and procedures 5.2. Analyse health hazards associated with vibration and establish systems and procedures 5.3. Analyse health hazards associated with noise and establish systems and procedures 5.4. Analyse health hazards associated with exposure to extremes of heat/cold and establish systems and procedures 5.5. Analyse health hazards associated with equipment and materials and establish systems and procedures 5.6. Analyse health hazards associated with atmospheric conditions and incorporate control measures and systems into the ventilation/gas management plans 5.7. Analyse health hazards associated with the handling, storage and conveyance of explosives and establish systems and procedures 5.8. Analyse health hazards associated with radiation and radiation sources and establish systems and procedures
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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to incorporate health and hygiene factors into mine management:

- apply legislative, organisation and site requirements and procedures
- access, interpret and apply technical information
- communicate ideas and information
- apply procedures for planning and organising activities
- apply procedures for preparing and documenting policies, plans and procedures
- apply risk management processes and techniques
- apply procedures for conducting enquiries / investigations and preparing reports
- access, evaluate and apply data from monitoring systems and equipment / plant work with others and in teams
- apply review and audit processes and techniques

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to incorporate health and hygiene factors into mine management:

- legislative and industry health and hygiene standards and compliance requirements
- health and hygiene policy requirements
- procedures and techniques for establishing health and hygiene objectives, targets, performance indicators and criteria
- health and hygiene management systems information support requirements and options
- risk management and control theory and processes
- continuous improvement processes and techniques
- fundamentals of human disease and injury
- causes, symptoms and impacts of stress on employees
- potential impacts of drug and substance abuse
- individual medical standards and examination systems
- rehabilitation options, processes and techniques
- personal protective equipment and measures
- manual handling codes and practices
- sanitation and hygiene infrastructure and operational requirements
- mine hazards associated with hazardous substances and the likely impacts on

personnel

- chemical information management systems
- mine hazards associated with atmosphere and the likely impacts on personnel
- atmosphere and dust control and protection systems
- mine hazards associated with mining processes and the likely impacts on personnel
- health hazards associated with exposure to heat/cold conditions
- hazards associated with explosives
- health hazards associated with radiation and radiation sources
- mine hazards associated with equipment and plant and the likely impacts on personnel
- equipment/plant safeguarding options and techniques
- equipment/plant isolation techniques
- health hazards associated with lighting
- health hazards associated with vibration
- health hazards associated with noise
- mine transport network design and planning requirements
- conventional signage techniques
- area isolation techniques
- health and hygiene training requirements and systems

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for the incorporation of health and hygiene requirements into mine management • implementation of procedures and techniques for the safe, effective and efficient incorporation of health and hygiene factors into mine management • the identification of the relevant information and scope of the work required to meet the required outcomes • the identification of viable program options and the selection of programs that best meet the required outcomes • working with others to incorporate health and hygiene requirements into mine management • timely completion of the incorporation of health and hygiene requirements into mine management
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those

	required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in a civil works environment. Selection and use of resources for particular work sites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • identification of the relevant information and scope of the work required • identification of viable options and the selection of options that best meet the required outcomes • consistently achieving the required outcomes • first hand testimonial and documentary evidence of the candidate's: • working with others to incorporate health and hygiene requirements into mine management • consistent and timely gaining of approval of

	health and hygiene requirements in mine management • provision of clear, timely required support and advice on the application of health and hygiene requirements in mine management
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Health and hygiene factors for inclusion in safety systems and plans may include	• policy • accountability • supervision • workforce involvement • physical environment • risk assessment practices • work planning • external information • medical / first-aid • rehabilitation
The causal chain and focus of common disease may include:	• basic cell structure • basic DNA • sites where toxic substances can cause disease • routes of entry • routes of exit • physic injuries • routes of entry for disease, including: • the mechanisms covering inhalation • absorption • ingestion
Common disease may include the fundamental causes and effects of:	• lung disease • chronic bronchitis • emphysema • heart disease • pulmonary oedema

	• pulmonary fibrosis • cancers • hypersensitivity • occupational asthma • alveoli tis • dermatitis • allergic contact dermatitis • skin cancer • poisoning • nervous system disease • circulatory system disease
Common disease related to routes of exit may include:	• liver • kidney • bladder • reproductive systems • cover the latency potential
Stressors (cause of stress) may include:	• environmental factors • bad workplace design • work hazards • job design • job monotony • contractual conditions • esteem values • relationship difficulties • lack of control • physical impairments
Stress effects may include:	• fatigue • anxiety • hypertension • depression • hostility and aggression • psychosomatic complaints • neuroses • They may be associated/linked with: • bronchial asthma • nervous rashes • diabetes • some cancers
Shift work responses are related to circadian rhythms (24 hour rhythms) and may result in:	• disturbed or inadequate sleep • fatigue • depression and neuroses

	• dependence on drugs • susceptibility to sickness • disturbed family and social life
Drugs and substances may include:	• alcohol • nicotine • drugs and prescription • other medicinal drugs • illicit drugs and substances
Work injury recording systems may include:	• definitions (occupational injury, fatal injury, work days lost, employees, time frames) • data management • reporting parameters • reporting • investigation
Sanitation and hygiene infrastructure may include:	• systems for water (potable) and waste water • maintenance of cleanliness and sanitation • toilets • washing facilities • hand basins • crib rooms / dining areas • shower / changing facilities • vermin control and eradication • drainage of stagnant water • waste decaying wood • refuse disposal • sheltered reception areas • regular checking processes
Chemical and hazardous substances in mines may include:	• industrial chemical • diesel • hydraulics • oils • liquefied petroleum gas • polyurethane • asbestos
Chemical and hazardous substance control measures may include:	• elimination • substitution • isolation and protection • engineering controls (ventilation, containment etc) • safe work practices • personal protective equipment and new product management measures (need,

	assessment, controls, surveillance, induction and training)
Dust control measures may include:	• establishment of a dust control program • monitoring and analysis of dust • identification and responses to dust problems • selection and application of appropriate methods to determine dust concentrations
Mine transport networks and rules may include:	• route • speed limits • controls • signage • mine and mine working planning, including: • health and hygiene factors related to historical area region data • mine plans (currency comprehensives, accuracy, surveys, reporting systems (dangerous occurrences, conditions, incidents) • materials handling systems and capacities • hung pass / chutes / bins systems • confined spaces and trenches and similar hazardous constructions
Medical recruitment and re-appraisal measures may include:	• common medical examination requirements • frequency of examinations and hot/cold work replacement assessment • common medical examination coverage including: • medical history • physical characteristics (height, weight, blood pressure, vision, hearing) • physical examination (central nervous system, digestive system, heart and lungs, muscular-skeletal system) • biological measurement (urinalysis, blood tests) • electrocardiograms • stress tests
Personal protection may include those for:	• hearing • eyes (industrial, radiation, ultra-violet, infra-red radiation) • respiratory protective devices • hand (gloves) • head • feet (boots)

	• long hair • protective clothing • safety belts and harnesses
Mine lighting requirements may include:	• general work areas • personal lighting for underground use • machinery mounted lighting systems • visual displays • emergency lighting systems
Vibration hazards may contribute to, or result in:	• bone damage • stomach and digestive problems • heart problems • varicose veins • varicocle • piles • disruption to the nervous system resulting in: • weakness • fatigue • loss of appetite • irritability • headache • insomnia • impotence
Vibration hazard analysis may include:	• extent of damage factors (time of exposure, vibration frequency rate, amplitude of vibration) • types of vibration (whole body vibration, VLF whole body vibration, LF whole body vibration) • hand-arm vibration (vibration white fingers) • vibration controls, including vibration surveys, establishment of vibration limits • establishment of targets for vibration limits • provision of training in vibration measurement • establishment, implementation and monitoring of vehicle/equipment design criteria (operation, seating, mountings, portable machinery)
Noise management controls may include:	• establishment of noise limits • regular measurement and recording of noise • engineering/design of noise controls • establishment of noise protection zones • identification

	• provision and testing of noise protection equipment • adequate training of personnel • appropriate audiometric testing regime
Heat exposure protection may include:	• adequate training of personnel • measurements of heat stress index • monitoring of index and employees • establishment of cool rest areas • provision of cool water • provision of canopies, cabins and approaching clothing
Equipment and materials safety strategies may include:	• selection and acquisition procedures • materials safety data sheets (MSDS) • risk assessment • health and safety audits • work procedures • training requirements for operation • maintenance procedures
Atmosphere and ventilation measures may include:	• identification of air standards (oxygen, impurities, contaminants, dust) • establishment of appropriate evaluation and air quality control systems • assessment of protection needs • authorisation for nominated activities • maintenance of adequate records of air quality levels
Explosive control systems may include:	• legislative requirements • selection and procurement • storage • conveyance • handling • handling of old / deteriorated stock • misfires • entry after blasting • charging • inspections • initiation • storms • electronic risks
Training may include:	• induction • on-the-job discussions • safety meetings

	• OHS committees • circulars • safety training sessions • encouragement incentives • input into developments • health and hygiene inspections
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Unit Sector(s)

Occupational Health and Safety

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.