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COAL MINE HEALTH AND SAFETY REGULATORY AND ENFORCEMENT APPROACH, NEW SOUTH WALES, AUSTRALIA

Rob Regan

INTRODUCTION

The approach of the New South Wales (NSW) Mine Safety Operations Branch (the Inspectorate) is based on achieving safe work outcomes by controlling the physical work environment in mines through:

- competent people
- fit for purpose plant and equipment, and
- safe systems of work

The Inspectorate's aim is to ensure that the mining industry operates at best practice in engineering safety and health standards. It is the expectation that industry operators will take responsibility for leading safety efforts by implementing and continuously improving safe systems of work. It is expected that mine workers will take on responsibility for contributing to improvements in safety and health and for complying with the safe systems of work.

This is achieved using:

- a comprehensive regulatory framework that requires consultation and collaboration between mine operators, employees, employee unions and the regulator
- strong proactive powers for inspectors
- specific regulations that address the technical engineering requirements to control the electrical, mechanical and mining engineering necessary for safe mining
- codes of practice that recommend the best known ways and greater detail to control the hazards and risks of mining
- mining design guidelines for controlling critical risks
- Australian and international Standards for detailed engineering and procedures necessary for controlling these risks
- legislated requirements for the competency of managers and supervisors of electrical, mechanical and mining engineering and management of mines
- legislated requirements for employers to ensure their employees are competent to undertake the tasks required by the employer
- legislated requirements for the competency of electrical, mechanical and mining inspectors
- continuous training of inspectors to ensure the technical and practical knowledge and experience for a strong capability to advise mine operators in management of risks, and
- a problem solving approach by the Inspectorate to risks arising at mines

HISTORY

Coal was first discovered in Australia in NSW in 1791 and the early exploitation of resources was achieved with convict labour.

The abolition of the convict system resulted in a reduction of convicts in the industry so that by 1847 there were only a few in NSW mines.

Miners were employed from Great Britain to fill the need for non-convict labour. These miners had used industrial action to improve conditions in Britain. They carried on action in NSW. This led in 1854 to the passing in NSW of the first Act for the regulation of coal mines.

British mining acts and associated regulations and the progressive amendments which were made became models for the legislative control of mining in Australia and New Zealand.

The amendment, repeal and replacement of coal mining Acts has occurred progressively. The stimulus for change has arisen in a number of ways including development of mining technology, a better understanding of the inherent risks of mining, industrial action for improved working conditions and implementation of recommendations of inquiries into mining disasters.

From the introduction of the first Act for the "Registration and Inspection of Coal Mines in the Colony of NSW", in November 1854, successive legislation was introduced to prescribe controls required to improve safety in mines (Regan and kininmonth, 2009).

The critical activities requiring improved technology and management were;

- Mine ventilation by fans instead of furnace fires.
- Regular inspections for detection of methane.
- Watering of dry and dusty places, stone dusting including explosion suppression with stone dust and water barriers.
- Use of explosives including prohibition of gunpowder and the introduction of permitted explosives for gassy and dusty mines.
- Use of electricity in coal mines.
- Competency certification of managers, mining supervisors, electricians and winding engine drivers.
- Appointment of a certified manager to every mine employing more than twenty employees.
- The issue of a summary of the Act to all employees.
- Appointment of Coal Mine Inspectors in 1875 followed by an Electrical Inspectors in 1908.
- Appointment of a Chief Inspector in 1897.

Since the 1912 Coal Mines Regulation Act, improvements have upgraded these same basic mining engineering safety requirements and added;

- Systematic timbering rules,
- Use of cutting and welding apparatus.
- Water reticulation to the mining place,
- Installation and use of belt conveyors in mines.
- Fire precautions and fire fighting organisation,
- Gas monitoring, and
- Preparation of rules and schemes for prescribed activities specific to an individual coal mine

In 1999 the Coal Mining (General, Underground and Open Cut) Regulations (NSW government, 1999) established the concepts of duty of care and risk management into coal mining legislation.

The revised Occupational Health and Safety Act 2000 (NSW Gov, 2000) was passed. This replaced the 1983 Act and reinforced the duty of care and risk management responsibilities for coal mining employers. This was updated to the NSW Work Health and Safety Act and Regulation (NSW Gov, 2011). The Coal Mine Health and Safety Act 2002 further strengthened the requirements for duty of care and risk management.

NSW has recently updated the coal, metalliferous and quarrying safety legislation to a nationally consistent act and regulation, the Work Health and Safety (Mines) Act 2013 and Regulation 2014. It makes provisions for all mining in NSW and maintains the health and safety standards of the previous legislation. This legislation commenced on 1 February 2015.

NSW MINE SAFETY OPERATIONS

Mine Safety Operations has nine regional offices and a Technology Centre. The main office is at Maitland in the Hunter Valley. The Mine Safety Technology Centre is at Thornton, east of Maitland. Mine Safety Operations is responsible for supporting and encouraging health and safety compliance to meet community expectations for some 2000 mining operations, 6,000 mineral claims and 700 exploration licences in NSW.

There is a huge diversity of mining techniques, people, procedures, locations and working conditions.

The bulk of the mineral claims are for opal mining which have different needs from the mining operations.

The mining operations range from heavy mineral sands, through a range of open cut clay, gold, copper and other mineral mines, extensive coal mines in the Hunter and Illawarra, to large underground gold and base metal mines in central and far western NSW.

Mine Safety Operations is independently funded by a levy imposed on the owners of mining operations in all sectors in NSW. The levy is controlled by the Mine Safety (Cost Recovery) Levy Act of December 2005. The levy is to be set to be no greater than 1% of the value of wages and salaries paid by employers to their employees including contracting companies and their employees. The monies are collected via the workers compensation insurance systems that cover the mining, onshore petroleum and exploration sectors in NSW. The monies must be used only for the administration and enforcement of mine safety in NSW. The levy has been set between 0.85% and 0.95% of wages and salaries resulting from budgets ranging from \$23 to \$27million per annum.

There are 108 positions including 55 full-time field officers, eight senior inspectors, one chief inspector, 10 specialist technical inspectors, 19 technical service officers and 15 administrative officers.

The NSW Coal Mining industry has some 35 underground coal mines and 34 open cut coal mines. There are nine coalmining inspectors and 5 mine safety officers dedicated to coal mines. In addition seven mechanical and seven electrical inspectors and mine safety officers have responsibility for all types of mines

CONTROLLING THE WORK ENVIRONMENT

Relationship of NSW WHS Acts and Regulations, Codes and Standards and guidelines

In NSW the WHS Act 2011 and Regulation provide the minimum health and safety requirements that all employers must meet. The WHS (Mines) Act and Regulation require specific provisions as stated in the objectives. These are additional to the WHS Act. Failure to comply with the provisions of the Acts and Regulations is subject to enforcement action including advice, improvement notices, prohibition notices or prosecution.

Due to the technical detail required to ensure safety in certain high risk work places including mines and particularly underground coal mines, Codes of Practice have been developed to establish electrical, mechanical and mining engineering requirements.

The Codes of Practice provide information about the best known ways to achieve satisfactory safety standards for the particular hazard that they deal with.

A Code of Practice is not mandatory, however a mine operator that does not follow the code must show that it is applying an equal or better practice to control the risk associated with the hazard. If an inspector forms the reasonable opinion that the mine operator is not following a practice that is up to the standard of the code, the inspector is able to require the mine operator to follow the code or be in breach of the notice that is served on the mine operator.

Objectives of NSW Health and Safety Legislation

Should there be a short lead in saying how or what means the mines safety operations group was formed . See last page of this paper in Page 21.

The Mine Safety Operations unit of the Trade and Investment, Regional Infrastructure and Resources has the opportunity and responsibility to maintain the mining industry's corporate technical and practical knowledge. This is what the Inspectorate will continue to work on this to assist the unions and mine operators to protect workers.

Mine Safety Operations undertakes the regulatory function for health and safety Acts for mining, explosives and onshore petroleum activities, and works to ensure that the industry satisfies community and government expectations for safety, health, mine subsidence and resource extraction. These Acts are the Work Health and Safety Act 2011 (WHS Act), the Work Health and Safety (Mines) Act 2013, the Explosives Act 2003 and the Petroleum (Onshore) Act 1991 (POA).

There are six objectives of the key health and safety legislation in NSW that Mine Safety Operations has been established for and provided with powers and functions to enforce achievement of:

- a balanced and nationally consistent framework to secure the health and safety of workers and workplaces
- securing the objectives of the Work Health and Safety Act at mines, including securing and promoting the health and safety of people at work at mines or related places
- to protect workers at mines and other persons against harm to their health and safety through the elimination or minimisation of risks arising from work or from specific types of substances or plant
- to ensure that effective provisions for emergencies are developed and maintained at mines
- to establish a scheme for ensuring that persons exercising certain functions at mines are competent to do so
- to establish the Mine Safety Advisory Council
- to provide for worker safety and health representatives in coal mines
- to facilitate interstate regulatory co-operation
- to establish Boards of Inquiry
- to provide for enforcement powers that are in addition to those in the Work Health and Safety Act 2011.
- Mine Safety Operations is provided with powers and functions to secure these objectives and
- provide for fair and effective workplace representation, consultation, co-operation and issue resolution in relation to work health and safety
- encourage unions and employer organisations to take a constructive role to promote improvements in work health and safety practices, and assisting persons conducting businesses or undertakings and workers to achieve a healthier and safer working environment
- promote the provision of advice, information, education and training in relation to work health and safety
- secure compliance with the Acts through effective and appropriate compliance and enforcement measures
- ensure appropriate scrutiny and review of actions taken by persons exercising powers and performing functions under the Acts
- provide a framework for continuous improvement and progressively higher standards of work health and safety, and
- maintain and strengthen the national harmonisation of laws relating to work health and safety and to facilitate a consistent national approach to work health and safety in NSW.

To further ensure the achievement of the objectives of the legislation, Mine Safety Operations, duty holders, officers, workers and other persons must have regard to the principle that workers and other persons should be given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work or from specified types of substances or plant as is reasonably practicable.

As the regulator's delegates Mine Safety Operations also has through its inspectors the following legislated functions:

- to advise and make recommendations to the Minister and report on the operation and effectiveness of the Work Health and Safety Act (the Act)
- to monitor and enforce compliance with the Act
- to provide advice and information on work health and safety to duty holders under the Act and to the community
- to collect, analyse and publish statistics relating to work health and safety
- to foster a co-operative, consultative relationship between duty holders and the persons to whom they owe duties and their representatives in relation to work health and safety matters
- to promote and support education and training on matters relating to work health and safety
- to engage in, promote and coordinate the sharing of information
- to achieve the objective of the Act, including the sharing of information with a corresponding regulator
- to conduct and defend proceedings under the Act before a court or tribunal
- any other function conferred on the regulator by the Act.

Inspectors have the following functions and powers under the Acts:

- to provide information and advice about compliance with this Act
- to assist in the resolution of:
 - work health and safety issues at workplaces
 - issues related to access to a workplace by an assistant to a health and safety representative
 - issues related to the exercise or purported exercise of a right of entry
- to review disputed provisional improvement notices
- to require compliance with the Acts through the issuing of notices
- to investigate contraventions of the Acts and assist in the prosecution of offences, and
- to attend coronial inquests in relation to work-related deaths and examine witnesses.

SAFE SYSTEMS OF WORK

The Acts and Regulations place requirements on mine operators to establish implement and apply health and safety management plans to control all the prescribed major hazards that arise at their mine. They must also prepare such plans for any particular major hazard that is peculiar to their mine. No mining can take place until such plans are implemented. Once mining commences it is the inspector's function to apply his powers to drive implementation and application of these plans as well as compliance with the legislation in general.

Management plans and systems

There are a number of control and management plans comprising the safety management system requirements to develop safe work methods, and how to deal with high risk activities:

Safety management system

This is the primary plan that the mine operator must prepare and implement; its contents are prescribed in the WHS (Mines) Regulation 2014.

If no functional safety management system or any part relevant to mining operations is established, such mining operations are not to take place.

The approach specifically calls up each of the NSW WHS Act key requirements of Consultation, Hazard Identification, Risk Assessment, Risk Management, Information Provision, Instruction and Training, Supervision, Monitoring, Reviewing and Revising.

The outline and policy are required to be submitted to the Inspector of Mines and to the Industry Check Inspector who can object where the system is deficient. The inspector can then issue a prohibition and/or improvement notice to ensure a satisfactory standard is achieved.

The following are major components of the Safety Management System.

- Health and Safety Policy
- Management Structure for operation
- Management Register for operation
- Contractor Management Plans
- Principal Hazard Management Plans
- Principal Control Plans, including a Health Control Plan
- Specific Control Measures
- Emergency Management Plans, and

Procedure and arrangement details for these plans and measures

Contractor management plans:

These address both mine operators and contractors to the mine operator.

- Contractors must either prepare a plan and obtain the mine operator's written agreement that the plan is consistent with the SMS for the mine, or
- Contractors must review the relevant parts of the mine SMS and give the operator written notice that the contractor's arrangements for managing health and safety are consistent with the SMS.
- Contractors are defined as those conducting a business or undertaking at a mine, i.e. general mining and construction but not those engaged in a delivery, office equipment service, office cleaning or catering business or those specified in a regulator published Gazette order.
- It is the duty of both the mine operator and contractor to ensure that contractors comply with the Contractor Management Plan and the requirements of the Acts and Regulations

Principal mining hazard management plans

The nine Principal Mining Hazards (PMH) to be considered are prescribed in Schedule 1 of the Regulation. They are:

- Ground or strata failure
- Inundation or inrush of any substance
- Mine shafts and winding systems
- Roads and other vehicles operating areas
- Air quality or dust or other airborne contaminants
- Fire or explosion
- Gas Outbursts
- Spontaneous combustion
- Subsidence

PMH are also identified by a mine operator's own identification and risk assessment.

A separate plan must be prepared for each separate principal hazard and each must be considered individually and cumulatively with other hazards at a mine.

The plans must

- provide for the management of all aspects of risk control in relation to the PMH
- be set out and expressed in a way that is readily understandable by persons who use it
- describe the nature of the PMH, how it relates to other hazards, analysis used to identify it, record of most recent risk assessment, investigation and analysis methods to determine control measures, all control measures, arrangements to provide information, training and instruction
- refer to design principles, engineering and technical standards, and

- set out reasons for adopting or rejecting each control measure considered.

Principal control plans

Schedule 2 of the regulation prescribes matters to be addressed by each of the four plans.

- Health
 - o controlling exposures and impairments and monitoring health hazards and health of workers
- Mechanical engineering
 - o consider the life cycle of plant and structures, reliability of mechanical safeguards, work practices and competency of workers, possible injury to workers working on plant or structures, ignition sources, mechanical energy sources, plant fires and toxic or harmful substances
- Electrical engineering,
 - o consider the life cycle of plant and structures, reliability of electrical safeguards, work practices and competency of workers, possible injury to persons caused by direct or indirect contact with electricity or working on electrical plant or installations, ignition sources and fires, and
- Explosives
 - o Consider unintended detonation, characteristics for intended use and places of use, charging and firing activities, theft, misuse, deteriorated or damaged explosives, handling misfires, manufacturing, storing, transporting and delivering and accounting of explosives and ejection of flyrock.

Emergency Management Plan (Emergency Response Control Plan)

The mine operator must prepare an up to date emergency management plan including the following matters having regard to the nature, complexity and location of the mining operations and the risks associated with those operations:

- emergency control structure
- key personnel, internal and external
- consult with primary emergency services and workers
- resources and equipment
- rescue training
- procedures including evacuation and accounting for all persons at the mine, control points for utilities, in event of ventilation failure for more than 30 minutes, fire fighting, emergency sealing from a safe place and for safely inserting inertisation equipment
- training of workers in relation to the plan
- testing of plan
- regularly review the plan
- copy available at the mine
- provide copy to consulted emergency service organisation

Ensuring effective provisions for emergencies is one of nine objectives of the WHS (Mines) Act. This means that the Emergency Management Plan is of critical importance.

High risk activities

The High Risk Activities are prescribed by schedule 3 of the Regulation and include:

- All mines
 - o Electrical work on energized equipment
- Underground mines
 - o Development of a new mine entry
 - o Connected voltage becoming greater than 12,000 volts

- Underground coal mines
 - o Working in an inrush control zone
 - o Roadway or drift without intersection for 250 metres
 - o Shotfiring
 - o Sealing part of a mine, other than in an emergency
 - o Conduct of hot work in a hazardous zone
 - o Driving underground roadway that is wider than 5.5 metres
 - o Widening underground roadway to more than 5.5 metres
 - o Use of high voltage plant and cables in a hazardous zone
 - o Formation of non-conforming pillars
 - o Secondary extraction or pillar extraction, splitting or reduction
 - o Shallow depth of cover mining
 - o Mining in outburst control zones
 - o First applications of explosion inhibitors
 - o Use of explosives designed for use in coal mines
 - o Use of explosive not designed for use in coal mines
 - o First use of a vehicle with a fire-protected diesel engine
 - o First use of an explosion barrier other than a water barrier or bagged stone dust
- Coal mines other than underground coal mines
 - o Highwall mining, entry of persons
- All coal mines
 - o Emplacement areas
 - o Highwall mining
 - o Barrier mining

A mine operator is not permitted to commence any of these activities without preparation of suitable plans and notification to the inspector and industry check inspector and observing a waiting period, while the plans are examined.

The principal hazard management plans and high risk activity notifications are required for the

- Prevention of unplanned falls of ground or strata,
- Prevention of inrushes of mud, water, gas,
- Prevention of gas and dust explosions,
- Prevention of electric shock and burns,
- Prevention of fires,
- Prevention of uncontrolled explosives blasts,
- Prevention of injury and death from unintended operation of equipment,
- Prevention of high pressure hydraulic fluid injection
- Provision of electrical safeguards with a correct safety integrity level (reliability vs failure on demand or failure per hour), and
- Prevention of health risks from airborne pollutants such as diesel particulate matter, diesel exhaust gases and coal and silica dust

MANAGEMENT SYSTEMS

The management system approach is systematic, rigorous and auditable involving:

- System safety engineering
- Hierarchy of risk controls
- Hazard reduction precedence
- Provision of information used to provide:
 - o Fit for purpose equipment
 - o High focus on hazardous area equipment
 - o Competent people

- o Proper procedures

System safety is a compilation of engineering analyses and management practices that:

- Uses consultative processes
- Identifies hazards in the system
- Determines underlying causes of hazards
- Develops engineering and management controls to eliminate the hazards or mitigate their consequences
- Verifies the controls are adequate and in place
- Monitors the system
- Puts appropriate supervision in place
- Provides information, instruction and training to employees, and
- Reviews and revises the system.

COMPETENCY LEVELS

Mining management, supervisors and workers

Mine operators must ensure that each person is competent to undertake the duties, tasks and functions required of them by the mine operator and the mine safety legislation.

The legislation requires competence standards to be set and met by persons undertaking various roles at a mine.

The mine operator must ensure only competent people are employed to perform specified functions such as the mining, electrical and mechanical engineering managers, underground mine supervisors, supervisors of mining crews, electrical, mechanical and ventilation engineers, electrical and mechanical tradespersons, quarry managers and shotfirers (blasting explosives users).

Likewise any contractors must ensure they employ only competent people to undertake these functions. To oversee the setting and assessment of competency standards a Mining Competence Board is constituted with an independent chairperson, two employer representatives, two employee representatives, between two and four persons who have expertise in the development and assessment of competence of people performing functions at mines, and two officers of the Department appointed by the Minister.

The Mining Competence Board sets examinations through examination panels convened by inspectors of the Department, electrical, mechanical and mining, and assesses the competency of persons through written examinations in mining practices and mine safety legislation and an oral examination by two or three examiners, being one inspector and one or two competent persons from the mining industry.

Before a person is permitted to sit for the examinations they must have at least three years experience in or about a mine. If a person has a tertiary qualification in mining engineering at university degree or technical and further education advanced diploma level they are not required to be examined in mining practices but must sit a legislation examination and oral examination.

Certificates of competency are granted if the person passes the written examinations with at least 65% overall and at least 60% in any one examination paper and are recognised as competent in the oral examination. The oral examination assesses competence in all aspects of the (legislation specified) function for which they wish to obtain a certificate. Candidates often pass the written examinations but are not recognised as competent after the oral assessment. Candidates are permitted three attempts at the oral examination once the written examinations are passed before they must resit the written examinations. There are strict requirements governing the granting of certificates of competency with penalties for false and misleading statements regarding experience and qualifications, use of other person's certificates and forged certificates.

Workers must be assessed after training in the functions or activities they are to undertake as part of their work at a mine, e.g. continuous miner operator, longwall shearer operator, longwall chock operator, shuttlecar driver, roofbolter operator, fire officer, roadway dust sampler, etc

INSPECTORS OF MINES

A person may be appointed as an inspector only if the regulator is satisfied that the person has:

- appropriate knowledge and skills, and adequate experience in mining operations to effectively exercise the functions of an inspector, and
- the qualifications prescribed by the regulations or qualifications that the regulator determines to be equivalent of those qualifications, i.e.
 - o the qualifications required to be nominated to exercise the statutory function of mining, mechanical or electrical engineering manager or quarry manager at the mine to which the person's inspections will relate

Powers and functions of inspectors

Inspectors have several powers under the WHS Act 2011 and the WHS (Mines) Act 2013.

- Advice

The inspector has a duty to bring concerns regarding health, safety or welfare to the attention of mine operators when an inspector obtains any information or becomes aware of any practice at a mine that may, in their opinion, be relevant to the continued safe operation of a mine or the health, safety or welfare at work of the people who work at a mine. The inspector must, as soon as possible, advise the most senior person in the management structure of the mine who is at the mine.

- Proactive improvement or prohibition notices

This enables an inspector to act on information received or observed about any matter or activity that is not yet taking place but is in the inspector's opinion not being planned to be undertaken with the necessary standard of safety or health. If the inspector is of the opinion that a mine or any part of a mine or any matter, thing or practice at a mine or connected with the control or management of a mine is, or is liable shortly to become, dangerous to the safety or health of any persons employed at the mine the inspector may serve on the operator of the coalmine a notice:

- stating that the inspector is of that opinion, and
- giving particulars of the inspector's reasons for being of that opinion.
- The inspector may, by way of that notice:
- impose upon the operator such prohibitions and restrictions, and require the operator to carry out such works or do such things:
 - o as appear to the inspector to be necessary for the purpose of safeguarding the safety or health of the persons employed at the operation, and as are set out in the notice, or
- direct that operator cause the mine or any part of the mine:
 - o to be evacuated immediately, or
 - o to be closed, either indefinitely or for such period as is specified by the inspector, or
 - o give such directions as appear to be necessary, or
 - o both impose prohibitions and restrictions and give directions.

The inspector may require any notice to be complied with immediately or within a period specified in the notice. Any notice served remains in force until it is varied or revoked by the inspector unless it sooner expires.

- Reactive improvement notices

If an inspector is of the opinion that any person:

- a. is contravening any provision of the Act or the regulations, or
- b. has contravened such a provision in circumstances that make it likely that the contravention will continue or be repeated, the inspector may issue to the person a notice requiring the person to remedy the contravention or the matters occasioning it within the period specified in the notice.

An inspector may specify a period that is less than 7 days after the issue of the improvement notice if satisfied that it is reasonably practicable for the person to comply with the requirements imposed by the notice by the end of that period.

- Reactive prohibition notices

If an inspector is of the opinion that at any place of work there is occurring or about to occur any activity which involves or will involve an immediate risk to the health or safety of any person, the inspector may issue to the person who has or may be reasonably presumed to have control over the activity a notice prohibiting the carrying on of the activity until the matters which give or will give rise to the risk are remedied.

- Power of entry

Inspectors have powers to enter any premises they have reason to believe is a mining place of work or associated with a mine.

The inspector may enter the premises without notice and then notify the mine operator unless that would defeat the purpose of the inspection. Entry may be at any time the mine is worked. If necessary, reasonable force may be used for the purpose of gaining entry to a mine if the regulator gives written authority to the inspector. Inspector may apply for a search warrant if the inspector has reasonable grounds for believing that a provision of Act or the regulations has been or is being or is about to be contravened in or about any premises.

Powers on entry

When an inspector goes to a mine he has the power to do any of the following:

- make searches, inspections, examinations and tests (and take photographs and make video and audio recordings),
- take samples of substances or things which in the inspector's opinion may be a risk to health, require any person in or about those premises to answer questions or otherwise furnish information, require the mine operator to provide the inspector with such assistance and facilities as is or are reasonably necessary to enable the inspector to exercise the inspector's functions,
- require the production of and inspect any documents in or about those premises, take copies of or extracts from any such documents, dismantle any plant or other thing on the premises for the purpose of examination, take any plant, substance or other thing (or any sample of any substance) from the premises. Having taken a thing an inspector may:
 - o move the thing from the place where it was taken, or
 - o leave the thing at the place but take reasonable action to restrict access to it, or
 - o if the thing is plant—dismantle it.

Access may be restricted by:

- sealing a thing and marking it to show access to it is restricted,
- sealing the entrance to a room where the thing is situated and
- marking it to show access to it is restricted.
- keep any plant, substance, sample or other thing taken that:
 - o may reasonably be required as evidence in proceedings for an offence , or
 - o might, if not so kept, be used to continue or repeat the offence.

An inspector may, by notice in writing served on a person, require the person to do any one or more of the following things:

- to give an inspector, in writing signed by the person (or, in the case of a body corporate, by a competent officer of the body corporate) and within the time and in the manner specified in the notice, any such information of which the person has knowledge,
- to produce to an inspector, in accordance with the notice, any such documents,

- to appear before an inspector at a time and place specified in the notice and give either orally or in writing any such evidence and produce any such documents.

An inspector may inspect a document produced in response to his notice and may make copies of, or take extracts from, the document. An inspector may take possession and retain possession for as long as is necessary for the purposes of the Act, of a document produced in response to his notice if the person otherwise entitled to possession of the document is supplied, as soon as practicable, with a copy certified by an inspector to be a true copy. An inspector may require a person whom the inspector reasonably suspects has committed an offence against this Act or the regulations to state the person's full name and residential address. The inspector may request the person to provide reasonable proof of the person's identity.

An inspector may take a police officer to accompany and take all reasonable steps to assist an inspector in the exercise of the inspector's functions in executing a search warrant, or if the inspector reasonably believes that he may be obstructed in the exercise of those functions.

Inspector to consult with employee's local check inspector

An inspector who is proposing to undertake an inspection of a place of work with respect to a matter that may affect the health, safety or welfare of employees at the place of work: must, to the extent that it is practicable, consult a representative of the employees or an industrial organisation of employees whose members are employed at the place of work, and must, if requested to do so by the representative, take the representative on any such inspection.

Duty to notify the regulator of certain incidents:

1. A mine operator of a mine must ensure that the regulator, and at a coal mine an industry safety and health representative, is notified immediately after becoming aware that a notifiable incident arising out of the conduct of any business or undertaking at the mine has occurred.
2. A person conducting a business or undertaking at a mine must ensure that the regulator is notified immediately after becoming aware that a notifiable incident arising out of the conduct of the business or undertaking at the mine has occurred.
3. Notice under this section must be given in accordance with this section and by the fastest possible means.
4. The notice must be given:
 5. by telephone, or
 6. in writing.

Example. The written notice can be given by facsimile, email or other electronic means.

- Notifiable incidents
 - o the death of a person
 - o a serious injury or illness of a person prescribed by the regulations, i.e.
 - a. an injury or illness requiring the person to have immediate treatment as an in-patient in a hospital,
 - b. an injury or illness requiring the person to have immediate treatment for any of the following:
 - o the amputation of any part of his or her body,
 - o a serious head injury,
 - o a serious eye injury,
 - o a serious burn,
 - o the separation of his or her skin from an underlying tissue (such as degloving or scalping),
 - o a spinal injury,
 - o the loss of a bodily function,
 - o serious lacerations,
 - c. an injury or illness requiring the person to have medical treatment within 48
 - d. hours of exposure to a substance,

- e. a fracture to a person's bone other than a bone in the person's hand (including a finger) or foot (including a toe),
- f. a condition prescribed as a serious illness for the purposes of section 36 of the WHS Act, or
 - o a dangerous incident prescribed by the regulations, i.e.
 - a. an incident in relation to a workplace that exposes a worker or any other person to a serious risk to a person's health or safety emanating from an immediate or imminent exposure to:
 - i) an uncontrolled escape, spillage or leakage of a substance, or
 - ii) an uncontrolled implosion, explosion or fire, or
 - iii) an uncontrolled escape of gas or steam, or
 - iv) an uncontrolled escape of a pressurised substance, or
 - v) the fall or release from a height of any plant, substance or thing, or
 - vi) the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be authorised within the meaning of Part 4 of the WHS Act, or
 - vii) the collapse or partial collapse of a structure, or
 - viii) the collapse or failure of an excavation or of any shoring supporting an excavation, or
 - ix) the inrush of water, mud or gas in workings in an underground excavation or tunnel, or
 - x) the unintended interruption of the main system of ventilation in an underground excavation or tunnel, or
 - xi) the loss of control of heavy earthmoving machinery (including any failure of braking or steering), or
 - xii) the unintended activation, movement, or failure to stop of vehicles or machinery, or
 - xiii) a collision involving a vehicle or mobile plant, or
 - xiv) damage to, or failure of, any part of a powered winding system or a shaft or shaft equipment, or
 - xv) damage to any plant or structure, or
 - xvi) a failure of ground, or of slope stability control measures, or
 - xvii) rock falls, instability of cliffs, steep slopes or natural dams, occurrence of sinkholes, development of surface cracking or deformations or release of gas at the surface, due to subsidence, or
 - xviii) a vehicle or plant making contact with an energised source having a voltage greater than 1,200 volts (other than testing equipment applied to energised equipment in accordance with the WHS Regulations),
 - a. a fire in the underground parts of a mine, including where the fire is in the form of an oxidation that releases heat and light,
 - b. an electric shock to a person (other than a shock from an extra low voltage source),
 - c. any initial indication that any underground part of a coal mine is subject to windblast, outbursts or spontaneous combustion,
 - d. the unintended overturning of any vehicle or of plant weighing more than 1,000 kilograms,
 - e. ejection of rock from blasting that falls outside the blast exclusion zone (being the area from which persons are excluded during the blasting).

The mine operator must take all reasonable steps to ensure that the regulator, via the inspector of the mine, is notified after becoming aware of an incident, other than a notifiable incident, if the incident results in illness or injury that requires medical treatment suturing wounds, treating fractures, bruises and second and third degree burns. Similarly the industry safety and health representative is notified in case of an incident at a coal mine.

The time frame is 7 days after becoming aware of the incident or 48 hours after becoming aware that the incident resulted in an illness or injury.

- High potential incidents
 - o incidents that would have been dangerous incidents had a person reasonably been in the vicinity at the time, and
 - o detection of methane in the general body or air at 2.5% or greater

- o an unplanned fall of a roof or sides that impedes passage, extends beyond the bolted zone or disrupts production or ventilation
- o a failure of ground support where persons could potentially have been present
- o the burial of machinery such that it cannot be recovered under its own tractive effort
- o a progressive pillar failure or creep
- o a sudden pillar collapse
- o an electric arc occurring in the hazardous zone in an underground coal mine that is directly observed or that leaves visible evidence on an electric cable
- o the failure of the explosion-protection characteristics of explosion-protected plant while that plant is in-service in an underground coal mine
- o a misfire or unplanned explosion of an explosive or explosive precursor (but not in the case of a misfire at a mine other than a coal mine if the misfired explosive can be fired without any significant risk to a person)
- o an unplanned event that causes the emergency evacuation of more than once person from the mine or part of the mine
- o an unplanned event that causes less than 2 exits from an underground mine to be available for use
- o any indication from monitoring data of the development of subsidence which may result in any incident referred to in clause 179 (a) (xvi) or (xvii), i.e. a failure of ground, or slope stability control measures or rock falls, instability of cliffs, steep slopes or natural dams, occurrence of sinkholes, development of surface cracking or deformations or release of gas at the surface, due to subsidence
- o an injury to a person (supported by a medical certificate) that result in or is likely to result in the person being unfit, for a continuous period of at least 7 days, to perform the person's usual activities at the person's place of work
- o the illness of a person (supported by a medical certificate) that is related to a work process and that results in or is likely to result in the person being unfit, for a continuous period of at least 7 days, to perform the person's usual activities at the person's place of work.

Investigation notices

An inspector investigating any matter whether notified to him or not may issue an investigation notice to the mine operator if it is necessary to issue the notice in order to facilitate the exercise of the inspector's powers.

An investigation notice extends the time for non-disturbance of a site for a period, not exceeding 7 days, as specified in the notice. The notice may be renewed more than once by an inspector by issuing a further investigation notice.

The inspector may, after consulting with an industry check inspector (employees WHS representative), notify the operator of a mine that the scene of the incident may be released less than 24 hours after the notification of the relevant incident.

Despite the strong powers of the inspector and the role to fairly but firmly enforce compliance with satisfactory standards of health and safety, I expect inspectors to have a relationship with industry stakeholders such that the inspector is the first person mine operators, industry check inspectors, union officials and workers will call when planning an activity or when they have a problem.

The Mine Safety Operations approach is to extend the capabilities of mine operators by:

- Sanctioning or stopping the "vulnerable" mines
- Directing the "rule followers" to be better organised
- Encouraging the "robust" to achieve credible systems through involvement and information
- Partnering the "enlightened" to demonstrate the value of leadership with committed employees
- Championing the "resilient" to achieve mines truly prepared for any contingency

- Assisting the mining industry to eliminate unsafe work practices and achieve a safe working environment,
- Enabling industry and stakeholders to demonstrate commitment to the principles of duty of care and due diligence and adopt a systems approach to managing risks, and
- Implementing positive and clear safety interventions with continuous improvement for better safety and health management

Mine Safety Operations has the responsibility is to administer the legislation firmly, fairly and consistently, for example by

- appropriate licensing and certification; but with greater emphasis on assessment, education, advice, persuasion and enforcement of acceptable health and safety standards in the legislation and other sources
- checking the applicability of industry standards
- coordinating the improvement of standards
- where necessary retaining a leading role in standard setting
- monitoring industry compliance and taking appropriate enforcement action where it does not comply

The enforcement process is a relationship between assessment, investigation and application of directive powers and functions in the legislation.

Assessment or investigation can lead, with or without enforcement, to improved standards and to greater conformity with standards through standard improvement, education and information transfer, which are processes of encouragement.

Prosecution is one form of sanction in the overall process of enforcement. It is used to demonstrate that serious incidents are not acceptable and will be dealt with by use of the strongest measures available in the legislation. It is reserved for the most serious non-compliance outcomes as it is an often lengthy and adversarial process that requires enormous resources, skill and dedication both of the organisation and individual inspectors and investigators.

The Department Mine Safety Operations unit maintains this ongoing enforcement approach because our serious injury and fatality rates are not zero for long enough periods.

Enforcement of the legislation is the strategy for obtaining or maintaining conformity of operations with acceptable standards. Enforcement responses range from giving advice and expressing concern orally through to giving directions in writing as detailed above. For serious incidents or repeated non-compliance prosecution, and suspension or cancellation of 'right to mine' may result. Responses at the earlier end of the spectrum have the advantages of immediacy. The latter responses invariably take greater time and resources to give effect to.

The appropriate response will depend on the particular circumstances, the relevant provisions and the appropriate exercise of legislative discretions. The broad range of sanctions available allows the Inspectorate to tailor responses to particular circumstances including the breach, the actual or possible consequences of the breach and the relative immediacy of any danger.

Responses may be directed to the mining company, company directors, the mining engineering manager, particular mine workers, contractors, suppliers or combinations of these people.

CONCLUSION

The enforcement principles adopted by the Department are to:

- protect the safety and health of the mining workforce and those who may be affected by mining in a firm, fair and reasonable way consistent with community attitudes
- co-ordinate development, review and promulgation of acceptable standards
- examine that compliance with acceptable standards for the management of health and safety is accepted and the primary responsibility lies with mine operators

- ensure that sanctions, applied from the wide range of available responses, are applied consistently, fairly, commensurate with the seriousness of a situation and should escalate where previous responses have not been complied with
- ensure that non-compliances should be met with timely and effective responses but in the first instance, subject to the seriousness of a situation, a cooperative response is preferred

This is done by:

- by maintaining a database and records of non-compliances and of Department action
- checking to ascertain remedial actions taken by industry and maintaining records of the remedial action
- supporting the enforcement policy through assessment and investigation programs
- identifying and solving specific problems in the industry, and
- developing and maintaining the competency of inspectors and adopting operating procedures to effectively administer the strategy

Improvement

The Department will know the strategy is successful while safety performance measures show continuing trends of improvement.

These are

- a continuous reduction in serious incident rates
- more and longer periods fatality free
- an increased ability to counsel industry, rather than apply penalties
- more time spent on assessment and verification, major hazard identification, risk assessment planning, risk management, emergency preparedness planning, targeted safety campaigns, practical workshops, guidelines and investigation of problems rather than reaction to serious incidents and breaches of legislation.
- implementing solutions to specific problems.
- a reduction in the number and type of certifications, notifications and exemptions required by legislation.
- continued management, recruitment and training consolidation of inspectors to enable delivery of the programs.

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