



# Mine Safety Annual Report

2015-16



Department  
of Industry  
Resources Regulator



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# From the Resources Regulator's Chief Compliance Officer



The mining industry is of enormous economic importance and is the lifeblood of many communities in regional Australia. Sadly, in a small but significant number of cases, it is also the source of tragedy.

While the New South Wales mining industry is statistically one of the safest in the world, mine workers still die or suffer terrible injuries every year while helping earn the billions of dollars the industry contributes to the economy. One person died in the state's mining industry in the 2015–16 reporting year, while the number of serious bodily injuries increased to 64, up from 50 in the previous reporting year.

While the industry has shown general improvement in safety performance over the past five years, continuing incidents are a stark reminder that we must work together to achieve our common goal of a zero-harm industry.

Names like Gretley remind us of the heavy personal cost that failures in mine safety practices can have for the family, friends and colleagues of mine workers.

That human cost must never be forgotten.

In 2015–16, NSW Mine Safety embarked on one of the most significant reforms of work health and safety regulation in the history of the NSW mining and petroleum industry.

Triggered by the Wilkinson Fatalities Review, the *Mine Safety Regulatory Reform: Incident Prevention Strategy* was developed with considerable input from industry stakeholders.

Key changes already made as a direct result of the strategy include:

- improving the way information is collected, analysed and used
- developing skills and resources to support greater consideration of how human and organisational factors impact on risk management and reporting
- implementing a Targeted Assessment Program (TAP)—a program of work to proactively assess the effectiveness of control measures for critical risks associated with principal hazards according to an operations risk profile
- rolling out a Targeted Intervention Program (TIP) to coordinate and structure the industry-wide program of work that follows identification of a new or emerging issue, a major incident or another event
- implementing a centralised reporting process to provide a single phone number for receiving incident and high-risk activity notifications, requests for information, complaints and general inquiries.

The outcomes from these key changes are essentially the same: we need to be a regulator that deploys its resources around risks, a regulator that deploys its resources based on clear evidence, and a regulator that is accountable, transparent, responsive and consistent in its approach.

Our overall risk-based management approach requires ongoing consultation with mine workers, management and the unions. It's important to note that those carrying out the day-to-day work at the mine are best placed to identify hazards and the most appropriate methods for addressing them.

NSW Mine Safety believes:

- fatalities, injuries and diseases are preventable
- no task is so important that it cannot be done safely
- hazards can be identified and their risks managed
- everyone has a personal responsibility for the safety and health of themselves and others
- safety and health performance can always be improved.

**Lee Shearer APM**



### About NSW Mine Safety

From 1 July 2016, NSW Mine Safety became part of the newly formed NSW Resources Regulator, within the NSW Department of Industry.

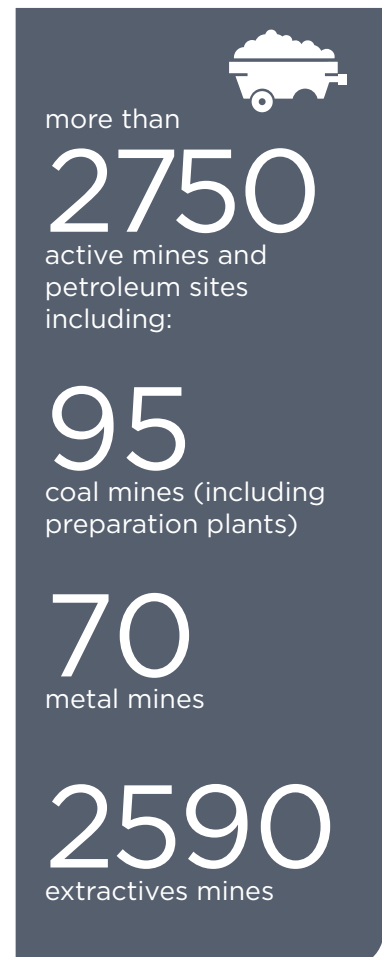
Mine Safety carries out regulatory functions on behalf of the Regulator (the Secretary of the NSW Department of Industry) to meet community and government expectations for the health and safety of mining industry workers.

Mine Safety works closely with employers, employees, other government agencies and the community to promote best practice in the area of mine safety.

The mission of Mine Safety is to be a leader by enabling, supporting and focusing the mining and petroleum industries on preventing workplace death, injury, illness and disease.

Mine Safety's goal is to improve the safety performance of the mining industry through a range of regulatory activities including:

- inspections, audits, investigations and verification of safety systems
- collecting, reporting and disseminating data
- providing specialised technical and engineering services
- providing information and education to duty holders and authorising activities, equipment, materials and substances for use.



# Mine and Petroleum Site Safety Levy

## Spotlight: Establishment of the NSW Resources Regulator

**The NSW Resources Regulator was established on 1 July 2016 within the Department of Industry.**

The Resources Regulator is a stand-alone regulator, responsible for compliance and enforcement functions across the mining and energy sectors, and for driving continuous improvement across all the regulatory functions of the Department of Industry.

The NSW Resources Regulator was established to ensure the regulatory functions within the NSW Department of Industry have clear separation from industry development activities.

The NSW Resources Regulator is headed by a Chief Compliance Officer, Lee Shearer, who reports directly to the Secretary of the NSW Department of Industry.

To ensure transparency and to earn community confidence in the NSW Department of Industry's regulatory operations, an Advisory Committee has been established.

### The committee comprises:

- The Chief Compliance Officer, NSW Resources Regulator (Ms Lee Shearer);
- The NSW Department of Industry General Counsel (Mr Tim Holden);
- The Land and Water Commissioner (Mr Jock Laurie);
- An independent Regulatory Adviser (Ms Lisa Corbyn PSM).



The amount contributed to the Mine and Petroleum Site Safety Fund for 2015-16 was

**\$33.83 million**

## About the Mine and Petroleum Site Safety Levy

The *Mine and Petroleum Site Safety (Cost Recovery) Act 2005* (the Act) establishes the Mine and Petroleum Site Safety Fund. The contributions to the fund by mining industry employers are commonly referred to as the Mine and Petroleum Site Safety Levy, although the word 'levy' is not used in the legislation. It is a levy charged by the NSW Government to pay for health and safety regulation of the state's mining workplaces.

The levy applies to employers in the mining industry who have obligations under mine safety legislation (see page 7) for the health and safety of workers. The levy is collected by the workers compensation insurers of mining industry employers and transferred to the NSW Department of Industry. The levy is calculated as a percentage of worker wages.

Under the Act, the fund can only be used to meet specified expenses incurred by NSW Department of Industry in carrying out:

- regulatory activities connected with mine safety legislation, the *Explosives Act 2003* and *Radiation Control Act 1990*
- expenses incurred in the administration or execution of the mine safety legislation, the *Explosives Act 2003* and *Radiation Control Act 1990*
- administrative expenses related to the fund.

The Mine and Safety (Cost Recovery) Regulation 2013 requires the Secretary of the NSW Department of Industry to publish a report (this report) containing an overview of payments made from the fund. It must be published within six months after the end of the financial year on the department's website.



## Administering the levy

Payments into and out of the Mine and Petroleum Site Safety Fund in accordance with Sections 6 and 7 of the Act are captured within the department's financial accounting system.

To ensure these payments are in accordance with the Act, the Mine and Petroleum Site Safety Levy accounts are periodically audited so that expenditure is in relation to mine safety regulatory activities.

## Payments from the levy

The Mine and Petroleum Site Safety Levy (the amount contributed to the Mine and Petroleum Site Safety Fund) for 2015-16 was \$33.83 million. The financial report on pages 22-25 is an overview of payments made from the fund.

## Governance branch

During the 2015-16 financial year the Governance Branch took oversight of the governance framework of the Mine and Petroleum Site Safety Fund. This responsibility required not only administrative oversight and management of the annual levy setting process but also governance responsibilities for assessing the structure, transparency and accountability of the Mine and Petroleum Site Safety Fund.

Due to the Governance Branch activities throughout the 2015-16 financial year, the fund is in a better position for:

- having more financial expenditure information released
- contributing to a higher quality release of information in the Annual Report
- having more robust accountability of the internal fund budgeting processes
- strengthening the methodology for calculating the Mine Safety Levy.

## Spotlight: Mine safety legislation

**Mine safety legislation means any of the following acts and the regulations and other instruments made under them:**

- *Mine and Petroleum Site Safety (Cost Recovery) Act 2005*
- *Work Health and Safety Act 2011*
- *Work Health and Safety (Mines and Petroleum Sites) Act 2013*
- *Petroleum (Onshore) Act 1991*, to the extent that it related to work health and safety requirements prior to 1 February 2016 when health and safety at petroleum sites was included in the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*.



# Meeting our objectives

## Effective and appropriate compliance and enforcement

### Mine safety regulatory reform

One of the most important milestones for NSW Mine Safety in 2015–2016 was the commencement in December 2015 of the *Mine Safety Regulatory Reform: Incident Prevention Strategy*. This strategy sets a program of reform for NSW Mine Safety to implement the findings of the Mine Safety Advisory Council's (MSAC) *Fatality Review 2013–14* and the NSW Government's Quality Regulatory Services initiative.

Throughout 2015–16 NSW Mine Safety has been implementing these reforms. Key changes include:

- improving the way information is collected, analysed and used
- developing skills and resources to support greater consideration of how human and organisational factors impact on risk management and reporting
- implementing a Targeted Assessment Program (TAP)—a program of work to proactively assess the effectiveness of control measures for critical risks associated with principal hazards, according to an operation's risk profile
- rolling out a Targeted Intervention Program (TIP)—to coordinate and structure the industry-wide program of work that follows identification of a new or emerging issue, a major incident or another event
- implementing a centralised reporting process to provide a single phone number for receiving incident and high risk activity notifications, requests for information, complaints and general inquiries.

Mine Safety conducted a roadshow of information sessions during June and July 2016 to bring industry up to date with progress of the reform, with more than 500 industry representatives attending.

### Targeted Assessment Program

A crucial part of the Incident Prevention Strategy involves taking a scheduled and 'targeted' approach to assessing a mine or petroleum operation's control of critical risks. It involves sampling elements of the safety management system, rather than a holistic, audit-based approach.

Targeted assessments are an effective way of exposing 'fatal risks' in an organisation's safety management system. It focuses initially on principal hazards and the hazards that are managed under principal control plans, as these hazards have the greatest potential to cause a fatality if not effectively controlled.

Mine Safety conducted the first Targeted Assessment Program (TAP) in March 2016, with a focus on methane gas and ventilation management in underground coal mines. Mines selected for this particular TAP were identified by their hazard burden profile, based on a series of reports of methane gas exceedance notifications in 2015 and early 2016. The findings of all TAPs are published on the Department's website at [www.resourcesandenergy.nsw.gov.au/miners-and-explorers/safety-and-health/mine-safety-regulatory-reform](http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/safety-and-health/mine-safety-regulatory-reform).

### Targeted Intervention Program

Targeted intervention is a responsive approach to assessing how effectively critical risks are being controlled by mine operators, based on information identified through:

- a series of events or a single significant event (such as a fatality)
- a change in operational risk profile
- emerging issues
- other data presenting a case for investigation.

Each Targeted Intervention Program (TIP) involves a team of NSW Mine Safety inspectors from various disciplines. It includes documented assessments, engaging with mine operators, site visits and monitoring follow-up activities.

The purpose of the TIP is to maximise voluntary compliance to prevent catastrophic, multiple-fatality events, reduce personal injury, and address occupational health.

The first TIP for 2015–16 was undertaken at an underground coal mine, focusing on methane gas and ventilation management following a significant number of notifications of methane gas exceedances.



## Introduction of Activity, Compliance & Enforcement System

The department's new Activity, Compliance & Enforcement System (ACES) became operational for Mine Safety in November 2015.

Since 1999, the department had been using the COMET system to capture data to support its business processes. While COMET had met the department's needs to this point, it lacked the modern features expected in information systems. Specifically, COMET lacked the capacity to handle communications, including email and SMS, as well as dashboards, analytics, reminders, and workflow capabilities.

Noggin OCA, on which ACES is built, is a proven, event notification, risk and emergency management system that has improved the capture, assessment and workflow of non-compliance events and departmental responses.

## New centralised reporting process for NSW mine operators

Throughout 2015-16, Mine Safety worked on establishing a new centralised reporting process for notifiable incidents. The process became operational on 4 July 2016 with a new statewide telephone number: **1300 814 609**.

Under the *Work Health and Safety (Mines and Petroleum sites) Act 2013*, mine and petroleum site operators are required to immediately notify the Resources Regulator if a serious injury, illness or dangerous incident occurs at their mine or petroleum site.

The inspectorate now uses a centralised assessment team to:

- receive information from industry or the community that would previously have gone to individual inspectors
- receive all reported incidents, reportable events, high-risk activity notifications, as well as requests for service and complaints, and general enquiries
- triage the information and allocate to the relevant areas within the inspectorate according to clearly defined processes.

# Reporting an incident or injury:

# 1300 814 609

	Notify regulator CALL <b>1300 814 609</b>	Submit written notification within	Preserve the site
<b>Death, serious injury or illness</b> <small>Notifiable incident S 14 WHS(MP)A &amp; 178 WHS (MP)R</small>	IMMEDIATELY	48 Hours	
<b>Dangerous incident</b> <small>Notifiable incident S 14 WHS(MP)A &amp; 178 WHS (MP)R</small>	IMMEDIATELY	48 Hours	
<b>Injury</b> <small>CI 128 WHS (MP)R</small>	Not Required	48 Hours	Upon request
<b>"Other" incident</b> <small>CI 128 WHS (MP)R</small>	Not Required	7 Days	Upon request

**Under WHS (Mine and Petroleum Sites) laws:**

- All PCBU's at mines or petroleum sites have certain obligations to report incidents and preserve the incident site.
- You should make arrangements in advance as to who will notify the regulator.
- Operators of coal mines must also notify an industry safety and health representative and provide them the same information as the regulator.

**Department of Industry**

The centralised assessment team is staffed with an appropriate level of technical expertise and support staff, and operates during business hours. Out-of-hours calls are diverted to a qualified inspector for either coal or metalliferous sectors. On-call inspectors triage the calls and ensure appropriate responses to a notification including, if necessary, the deployment of inspectors, the Emergency Management Coordination Team and the Investigation Unit.

This provides a more streamlined, consistent and transparent approach to incident notifications.

### Primary contact inspectors

The centralised reporting process was an important component of the overall incident prevention strategy, however there are recognised benefits to an inspector having a detailed working knowledge of a particular site. This includes knowledge of the safety management systems, the people and equipment, the management team and statutory position holders.

To retain the benefits these relationships and knowledge bring, complex and high-risk sites have been allocated an inspector who is responsible for receiving enquiries relating to that site and providing a point of contact for non-urgent matters. The primary contact inspector also liaises with the centralised assessment unit team and responding inspector in the event of an incident, providing detailed site knowledge as required.

### New Strategic Compliance Unit

The Strategic Compliance Unit (SCU) (which now sits within the newly formed NSW Resources Regulator) was established in September 2015. SCU helps the Resources Regulator meet its regulatory compliance objectives by identifying and managing potential and emerging regulatory and industry risks and by delivering a coordinated, integrated, risk-based compliance program. SCU's key priorities are:

- developing processes to identify trends and emerging issues
- monitoring industry compliance
- developing compliance initiatives and programs
- developing educational strategies to help industry better understand their compliance obligations
- evaluating programs and initiatives across the units with a regulatory function.

## Our approach to compliance

NSW Mine Safety is committed to improving the compliance culture within industry. To help industry improve its compliance practices, Mine Safety sets clear expectations about acceptable standards of regulatory performance, as well as publishing information about how to meet those expectations, for example approved codes of practice, guides and fact sheets.

Our approach to compliance is to:

- encourage industry participants to voluntarily comply with the legislation and policies that govern coal, mineral and petroleum activities
- support, monitor and, where necessary, enforce industry to provide a healthy and safe work environment for workers resulting in zero deaths and a reduction in serious injuries occurring in the workplace
- educate and provide guidance to industry and the community about the laws and how to comply with them
- demonstrate consistency in our compliance and enforcement actions and promote transparency in our decision making processes
- conduct thorough and timely investigations of alleged breaches of legislation, or unsafe or risky mining practices
- exercise enforcement action in a professional, transparent and effective manner
- encourage self-regulation and timely reporting of non-conformances to Government.

## Monitoring compliance

The objective of Mine Safety's compliance activity is to prevent fatal, serious and other injuries to workers and prevent incidents that may threaten the ongoing operation of mines in NSW.

Our compliance activity is guided by the Incident Prevention Strategy.

Mine Safety's compliance approach is continually evolving to take into account the changing nature of the industry, including technological advances and community expectations and is risk-based and outcomes-focused.

The regulatory objectives of Mine Safety's compliance approach are to:

- ensure duty holder's compliance with health and safety legislation and departmental policies governing coal, mineral and petroleum activities
- provide for a healthy and safe work environment for mineworkers resulting in zero deaths and a reduction in serious injuries occurring in the workplace



- educate and provide guidance to industry and the community
- demonstrate consistency in actions taken by Mine Safety
- promote transparency in our decision making processes
- conduct thorough and timely investigations of potential non-compliances or alleged breaches of legislation or policies
- exercise enforcement action in a professional, transparent and effective manner.

### Spotlight: being better prepared

**During the year, Mine Safety's inspectors and mine safety officers underwent intensive training in emergency response, and took part in the 5th Exercise Red Flag at Tocal College in November 2015, and the 6th Exercise Red Flag at Dubbo in February 2016.**

Mining emergencies demand a coordinated response from a range of agencies and Mine Safety is usually one of the first to be notified. The knowledge and experience of the department's inspectors form an integral part of an emergency response. Training in simulated emergency situations helps the inspectors to effectively handle the stressful circumstances encountered during mining emergencies.

The program involves information sessions on changes to emergency management arrangements including the new Mine Sub Plan, and presentations from other agencies, including Fire & Rescue NSW, which presented on its major structural collapse capability and equipment.

## Electrical safety programs

Communications to industry personnel continued to be a key area in the management of risk associated with the use of electricity. The 25th annual safety seminar was held on 4-5 November 2015 at the Waterview Convention Centre at Homebush. The theme of the conference was "Electrical engineering safety: the continuing evolution", and provided information that assisted electrical engineers and mine operators to develop systems that manage risk associated with the continuing change in technology and the need for cost reductions.

Electrical engineers, electrical supervisors, safety and health representatives and suppliers and repairers of electrical equipment took part in Mining Electrical and Mining Mechanical Engineering Society (MEMMES) meetings in the Hunter Valley and central west region, and at separately organised forums.

Inspectors of electrical engineering participated in the development and review of Australian and international standards in areas related to:

- explosion protection of electrical equipment for use in potentially explosive atmospheres
- standards of electrical installations and electrical equipment at both surface and underground mines
- gas monitoring and detection equipment and guidance handbooks for management of electrical protection devices.

They also participated in the management committees of the ANZEx and the IECEx certification schemes for explosion protection of electrical equipment.

Programs for the assessment of electrical installations at small quarries and mines were also continued during 2015-16.



## Mechanical safety programs

Mine Safety continues to play a leading role in reviewing, developing and maintaining mechanical engineering safety standards for the mining industry.

Key risk areas managed during 2015-16 by the department's mechanical engineering inspectors were:

- explosion protection of diesel engine systems
- drilling and bolting equipment
- mine winders, including person riding hoists
- diesel engine exhaust emissions
- safety critical systems on mobile plant
- escapes of pressurized fluid from plant
- fires on mobile plant.

Changes and improvements to safety in the NSW mining industry were the focus of Mine Safety's annual Mechanical Engineering Safety Seminar, on 9 September 2015. More than 200 engineers, miners, manufacturers, contractors, mine operators and industry specialists converged at the Waterview Convention Centre in Homebush, Sydney, for the 25th annual conference.

Guest speakers discussed mechanical hazards, how the hazards become an unacceptable risk to the health and safety of people and how to best control the risks.

## International and Australian standards

Mine Safety continued to play a key role in reviewing, developing and maintaining Australian standards for the mining industry. The department's inspectors of electrical engineering also played a major role in the IECEx Australian mirror committee for the adoption of International standards within Australia.

Mine Safety inspectors collaborated with industry working groups to update existing mining design guidelines, as well as develop a number of guidelines for new and emerging areas of technology and codes of practice. These documents provide a benchmark for good industry practice, engineering standards and fit-for-purpose mining equipment.

## Enforcement

Mine Safety uses a variety of enforcement tools to ensure compliance, ranging from notices of concern and improvement, to prohibition notices and prosecutions for serious breaches of the law.

During 2015-16 the following enforcement actions were taken:

concern/improvement notices	1238
prohibition notices	135
investigations	48
prosecutions commenced	3

## Technical services

The Mine Safety Technology Centre conducted more than 1370 assessments during 2015-16.

These assessments included:

- pre-registration testing for a number of gas monitors and escape breathing apparatus
- statutory prerelease testing and in-service testing of breathing apparatus
- fire resistance and anti static tests on materials including conveyor accessories, hydraulic hoses and brattice
- diesel emission tests
- certification of intrinsically safe electrical equipment
- licence applications for polymeric chemicals.

The Mine Safety Technology Centre worked on developing methods to better characterise diesel particulate emissions from mining engines.

## Subsidence engineering

Mine Safety subsidence engineers perform technical subsidence engineering and risk management work, and liaise with each underground coal mine, infrastructure owners and operators. These engineers comprise one of the few leading professional groups in the world with the capability to provide high quality technical services to government, community and the mining industry.

The engineers undertook assessments and regulatory management related to the subsidence impacts of underground mining, including mining under the Sydney to Melbourne railway and Hume Highway, as well as mining beneath other infrastructure or built features in NSW.

## Investigations

During 2015-16, the Regulatory Audit and Investigation Unit conducted nine safety investigations into significant mining incidents in NSW and 17 bullying investigations.

The safety investigations sought to identify the cause and circumstances that led to serious work health and safety incidents.

Investigators engaged with mine operators and stakeholders during these investigations and shared their findings through publications to raise awareness about factors that may have contributed to an incident.

The unit has continued publishing investigation findings via investigation information releases and subsequent investigation reports.

Information releases are designed to draw attention to the occurrence of a serious incident and are issued at the preliminary and final stages of an investigation.

Investigation reports and information releases are available on the [Resources Regulator's website](#) and serve as a useful tool for the industry to help assess risks or develop risk controls.





# Providing advice, information, education and training

## Spotlight: ergonomic safety

**During 2015–16, the Mine Safety Industry Assistance Unit delivered participatory ergonomics (PE) programs throughout the Illawarra and southern regions of NSW.**

Initiatives implemented to reduce hazardous manual tasks include:

- stemming options for preparation of shot firing
- scrapers for use under plant
- modifications to move generators around site
- tensioning systems for an underground coal mine
- using gantry cranes to move materials up and around plant
- moving of bog mats on exploration and drilling sites
- lighter guarding options to allow easy access to clean plant.

## Industry assistance

Mine Safety's Industry Assistance Unit delivers education and assistance programs directly to the NSW mining industry. The aim is to help industry better understand barriers to work health and safety system implementation and improve work health and safety practice.

The Industry Assistance Unit was established in 2009 as an initiative of the NSW Mine Safety Advisory Council.

The unit's Work Health and Safety Culture Benchmarking Pilot Program began in 2012–13, with a number of major mining operators agreeing to participate. The program applies participative assessment tools and evaluates the results.

During 2015–16, the Industry Assistance Unit conducted group workshops and provided individual site assistance to a wide range of organisations involved in mining. Specifically, the unit:

- collaborated with stakeholders through a number of NSW Mine Safety Advisory Council sub committees, Minerals Industry Safety Advisory Committee and industry organisations such as the Institute of Quarrying Australia, Cement Concrete and Aggregates Australia and the NSW Minerals Council
- conducted audits and provided feedback to assist stakeholders identify their strengths and opportunities for improvements

- coordinated the development of the mine safety and health representative training program under the *Work Health and Safety (Mines & Petroleum Sites) Act 2013*
- supported the ongoing development of the skills of mine safety and health representatives.

The Industry Assistance Unit has provided education in areas including health and fatigue management, organisational and human factors, associated non-technical skills and safety management systems and organisational culture.

## Spotlight: Police training days

**The Mine Safety Investigation team continued to work closely with the NSW Police during the year, delivering one-day training programs to NSW police commanders, inspectors and detectives.**

The training helps both agencies maintain awareness of each other's statutory roles when attending a mining incident, clarifies jurisdictional issues on mine sites and forges good working relationships.

Mine Safety provided training to about 50 police officers in 2015–16.

## Spotlight: Safety and health representatives gap training course

**The first pilot gap training course for coal mine safety and health representatives (formerly known as site check inspectors) was delivered by the Industry Assistance Unit in November 2015.**

Safety and health representatives (SHR) from coal mines in the Hunter Valley attended the two-day training course at the Maitland office during November. Further pilots were held in Wollongong. The course addresses a range of matters relevant to SHRs, including legislative changes and issuing provisional improvement notices (PINs).

The Industry Assistance Unit is currently leading the development of the full SHR training course, which is required under the *Work Health and Safety (Mines & Petroleum Sites) Act 2013*.



**Photo:** Kylie Newton from the Industry Assistance Unit with workers at the Holcim Lynwood quarry after completing the Southern and Illawarra area participatory ergonomics program.

## Emergency management

The Emergency Management and Coordination Team was established to help the Regulator collaborate with NSW's mining industry, emergency service organisations and other stakeholders to coordinate responses and manage critical mining industry incidents and emergencies.

The team plays a critical role in liaising between private and public sectors to achieve an all-hazards, all-agencies approach across the stages of emergency: prevention, preparation, response and recovery.

Team members have also engaged industry and external agency sectors across the state, raising the awareness of mining emergency planning arrangements, the role of the NSW Department of Industry and collaboration opportunities between government and non-government organisations.

These initiatives included:

- six emergency service forums across the state, with 145 participants from the mining industry and emergency service organisations, discussing changes to emergency management legislation and the new Mine Sub Plan arrangements
- one staff member traveling to New Zealand to examine firsthand New Zealand's response to the 2010 Pike River mining disaster recommendations
- two internal emergency simulation exercises, covering both coal and metal mining
- the purchase of a support trailer to help with longer regulatory activities in remote areas with limited facilities. The trailer is fitted with shelters, tables, chairs, barriers, power, lighting systems and other equipment to assist field staff
- using vehicle and portable radio systems that operate through the Government Radio Network (GRN). These radios provide wide area communication across much of the state, allowing the regulator, other government agencies and Coal Services Mines Rescue to communicate in the field during major events
- acquiring a new training simulation system (Avalanche TTX), which is a computer-based learning tool for conducting interactive emergency simulation sessions. The same system is used by the NSW Police Force, and other government and security agencies to facilitate various exercises
- representing the regulator across 13 Local Emergency Management Committee areas, and six Regional Emergency Management Committee areas with 50 individual engagements
- participating in a major mine emergency discussion exercise held at Broken Hill, attracting 60 of the region's emergency services staff and local mine operators.



## Spotlight: practising emergency management training

**Yancoal's Moolarben Mine, with help from the Mine Safety Emergency Management and Coordination Team, conducted a desktop emergency exercise on 3 December 2015.**

These types of exercises are all about emergency management training and testing mine site emergency management plans. They are an essential part of being prepared for emergency situations. Superintendent Tony Joice, the Local Emergency Operations Controller, Acting Inspector Mick Wurth, and Mine Safety's Matt U'Brien all took part.

The exercise put the group through a simulated rollover of an explosives truck, with a driver trapped in the vehicle.

The Mine Safety Emergency Management and Coordination Team works across NSW with emergency services and mine operators, promoting a collaborative approach to emergency planning at mines.

## Communication

Mine Safety produces a range of health and safety information for the mining industry, including:

- news—Mine Safety Update, mine safety news, legislation updates
- incident-related publications—incident e-alerts, investigation information releases, safety alerts, safety bulletins, investigation reports
- guidance materials—codes of practice, guides and fact sheets, mining design guidelines, audit tools
- statistical publications and reports—weekly incident summary, annual performance report
- education program materials—facilitators' guides, Focus Ons, coaching guides
- guidance for application and notification forms for certification, notifications, licensing, exemptions and registration activities.

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### Incident-related publications published in 2015-16 included:

- 7 Investigation Information Releases
- 6 Safety Alerts
- 4 Safety Bulletins
- 2 Investigation Reports.

### Legislation guidance published in 2015-16 included:

- managing risks in petroleum operations
  - appointment and notification of a petroleum site operator
  - quick guide for petroleum site holders and petroleum site operators.
- 







*Photo: Superintendent Tony Joice and Acting Inspector Mick Wurth participating in the emergency exercise.*

# Framework for continuous improvement and higher standards of WHS

## NSW Mine Safety Advisory Council

The NSW Mine Safety Advisory Council (MSAC) is constituted under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*. MSAC provides advice and guidance to the Minister for Industry, Resources and Energy on matters relating to work health and safety in the NSW resources industry. The specific functions of MSAC are detailed in the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014.

Nominations to MSAC are approved by the minister. A range of organisations are represented to ensure the perspectives and views of industry stakeholders are considered.

The organisations represented on MSAC are the NSW Department of Industry, NSW Minerals Council, Cement Concrete & Aggregates Australia, CFMEU – Mining and Energy Division and the Australian Workers Union. Two independent work health and safety experts are also members. During the reporting period, a new independent Chairman, the Hon. Carl Scully, was appointed. MSAC held three meetings and two workshops during the reporting period.

MSAC's vision is for the NSW resources industry to be recognised as achieving world-leading work health and safety. In working towards this vision, MSAC has been working to review and analyse safety performance, provide advice and set strategic direction. MSAC focused on the following key current and emerging issues; worker fatigue, investigations, fatalities review, and safe design.

Key achievements during the reporting period were:

- commissioning and completing an independent survey of NSW mine site managers, personnel and contractors regarding perceptions of NSW Mine Safety and mine inspections. The survey indicated that industry perceptions of the mine safety regulator and inspectors were generally positive with scores between 7 and 8 out of a possible 10. Some areas for improvement were identified and will be addressed by the regulator. The report is available on the department web site at: [www.resourcesandenergy.nsw.gov.au/regulation/safety-and-health/mine-safety-initiatives](http://www.resourcesandenergy.nsw.gov.au/regulation/safety-and-health/mine-safety-initiatives)
- accepting the report completed by Australian Nuclear Science Technology Organisation that identified radon levels in NSW underground mines are below the Australian Radiation Protection and Nuclear Safety Agency action level
- working with the Resources Regulator to implement the recommendations of the MSAC fatalities review. The regulator is implementing the recommendations through its Incident Prevention Strategy
- identifying principles that may improve the flow of information from the Resources Regulator to industry on causal factors identified during the investigation of significant incidents
- developing safe design projects on crusher screen changes in the quarrying sector and roof bolting in underground coal
- reviewing worker fatigue risk factors associated with long commutes and the importance of sleep.





## Mining and Petroleum Competence Board

The Mining and Petroleum Competence Board that supports industry began developing a strategic plan to support the new WHS legislative framework for statutory positions that includes certificates of competence, assessment of candidates and a scheme for practising certificates.

The board met four times during 2015-16 and established the Maintenance of Competence Working Party and the Statutory Function Role Description Project Steering Group to oversee the implementation of these projects.

The board commenced a number of significant projects to meet its strategic objectives to 2020. These included developing:

- role descriptions for 17 statutory functions to outline the activities each role should undertake to assist the person conducting a business or undertaking in meeting their obligations under the WHS legislative framework. The project is scheduled for completion during 2016-17
- a scheme for maintaining the competence of practising certificate holders. The board circulated a discussion paper in December 2015 on a proposed scheme similar to one in New Zealand. This project is scheduled to be finalised during 2016-17
- a matrix for associated non-technical skill for statutory functions that can be used as a guide by examination panels when conducting oral examinations of candidates for Certificates of Competence. The matrix has been accepted by the NSW Resources Regulator.

The board also:

- participated in the newly established Australasian Mining Competence Advisory Council that includes NSW, Queensland, Western Australia, New Zealand and the Commonwealth as members. This national council will assist in the development of similar requirements for statutory positions and mutual recognition
- endorsed the Resource Regulator commencing discussion with the Australian Skills Quality Authority to implement a memorandum of understanding to provide technical assistance and other information.

## Competence assessment

During 2015-16 the Mining Competence Team conducted 538 individual examinations, held 14 candidate briefing sessions and processed 29 mutual recognition applications.

In April 2016 a review of current policies and procedures commenced with a view to increasing efficiencies in the Mining Competence Unit. The Mining Competence Team is working closely with the Secretariat of the Mining & Petroleum Competence Board and other stakeholders in regards to the implementation of practising certificates in 2017. Procedures to administer the practising certificates are included as part of the overall review. It is anticipated that amendments to policies and procedures will be completed during the 2016-17 financial year.

An expression of interest was called in early 2016 for examination panel members. With new panel members appointed, there has been an increase in subject matter experts available for all certificate of competence examination panels.





# Industry performance

## Mine safety statistics

### Annual performance report

The annual Mine Safety Performance Report summarises the incidents and injuries notified to Mine Safety by the NSW mining, extractives and petroleum industries. It also includes the assessments conducted and enforcements and advice issued by Mine Safety in the 2015–2016 financial year, set against a decade of data.

It classifies data into the coal, metalliferous, extractives, non-coal other and petroleum (onshore) mining sectors, and into underground and surface operations. It also analyses serious bodily injuries and injury outcomes by mechanism, agency, nature of injury, bodily location, age group and employment type.

The report provides annual and five year rolling average frequency rates for fatalities, lost time injuries and serious bodily injuries and annual frequency rates for total recordable injuries.

It also documents the changes in the mining workforce based on the number of hours worked as notified each quarter by mine operators in the coal, metalliferous and extractives sectors.

### Injury characteristics

Serious bodily injuries were mostly associated with people falling, being hit by objects or hitting objects, and fractures and lacerations were the most common injury.

Most serious bodily injuries were to direct mine employees, 58% occurred in underground operations and most were related to the work environment or mobile mechanical plant. The most common causes of injuries with notifiable outcomes (mainly hospital inpatient admission or seven days of lost time and/or alternative duties) were muscular stressing, being hit by moving or falling objects and falls (including slips and trips).

The most common types of injury were sprains and strains and amputations. Hands and finger injuries featured prominently, with 74% occurring in underground operations and the majority related to the work environment.

### Key performance—comparison of 2015–16 to 2014–15 Annual performance report

#### HOURS WORKED **55,490,489**

The number of hours worked for the coal, metalliferous and extractives sectors decreased from 61,477,316 to 55,490,489.

#### FATALITIES **1**

There was one fatality in the metalliferous underground sector compared to two fatalities in 2014–15.

#### LOST TIME INJURIES **268**

The number of lost time injuries for the coal, metalliferous and extractives sectors decreased from 363 to 268.

#### SERIOUS BODILY INJURIES **64**

The number of serious bodily injuries increased from 50 to 64.

#### INCIDENTS **2219**

The number of notifiable incidents increased 4% from 2,132 to 2,219.

#### ASSESSMENTS **3548**

The number of assessments increased 32% from 2689 to 3548.

#### NOTICES **1403**

The number of notices increased from 1,401 to 1,403. 87% of notices issued were advice/improvement notices.



The full Mine Safety Annual Performance Report is available on the department's website at:

[www.resourcesandenergy.nsw.gov.au/  
miners-and-explorers/safety-and-health/  
publications/safety-performance-measures](http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/safety-and-health/publications/safety-performance-measures)

## REPORT AN INCIDENT OR INJURY

**1300 814 609**

<b>Maitland</b>	NSW Department of Industry, Mine Safety PO Box 344 Hunter Region MC NSW 2321	Phone: (02) 4931 6666 Fax: (02) 4931 6790 maitland.notification@industry.nsw.gov.au
<b>Armidale</b>	NSW Department of Industry, Mine Safety PO Box 1138 Armidale NSW 2350	Phone: (02) 6770 3100 Fax: (02) 6770 3199 armidale.notification@industry.nsw.gov.au
<b>Orange</b>	NSW Department of Industry, Mine Safety Locked Bag 21 Orange NSW 2800	Phone: (02) 6360 5333 Fax: (02) 6360 5363 orange.notification@industry.nsw.gov.au
<b>Broken Hill</b>	NSW Department of Industry, Mine Safety PO Box 696 Broken Hill NSW 2880	Phone: (08) 8088 9300 Fax: (08) 8087 8005 brokenhill.notification@industry.nsw.gov.au
<b>Cobar</b>	NSW Department of Industry, Mine Safety 62-64 Marshall Street Cobar NSW 2835	Phone: (02) 6836 6000 Fax: (02) 6836 4395 cobar.notification@industry.nsw.gov.au
<b>Wollongong</b>	NSW Department of Industry, Mine Safety PO Box 674 Wollongong NSW 2500	Phone: (02) 4222 8333 Fax: (02) 4226 3851 wollongong.notification@industry.nsw.gov.au
<b>Lithgow</b>	NSW Department of Industry, Mine Safety PO Box 69 Lithgow NSW 2790	Phone: (02) 6350 7888 Fax: (02) 6352 3876 lithgow.notification@industry.nsw.gov.au
<b>Lightning Ridge</b>	NSW Department of Industry, Mine Safety PO Box 314 Lightning Ridge NSW 2834	Phone: (02) 6829 9200 Fax: (02) 6829 0825 lightningridge.notification@industry.nsw.gov.au

# Financial report

## Payments made from the Mine and Petroleum Site Safety Fund for the 2015-16 financial year

Refer Note	Description	Amount \$,000
	<b>Total payments</b>	<b>35,878</b>
	<b>Employee related</b>	<b>23,799</b>
	Salaries & Wages - direct	19,327
	Salaries & Wages - oncosts	4,472
<b>1</b>	Contractors	471
<b>2</b>	Consultants	21
	Advertising & promotion	45
<b>3</b>	Travel expenses	745
<b>4</b>	Occupancy & maintenance	243
<b>5</b>	Training & development	361
<b>6</b>	Legal	1,103
<b>7</b>	Minor asset purchases	68
	Administrative expenses	13
<b>8</b>	Audit fees	0
	Printing	49
	General expenses	89
<b>9</b>	Motor vehicle	79
<b>10</b>	Consumables & stores	260
<b>11</b>	Materials to produce goods & services	12
<b>12</b>	Bad debts written off	2
<b>13</b>	Other fees - events	228
	Other fees - fee expense	1
<b>14</b>	Other fees - computer software fees	278
	Other fees - licence expense	6
<b>15</b>	Other fees - conference/seminar	281
<b>16</b>	Other fees - membership	24
<b>17</b>	Other fees - operating lease rentals - other	19
	Other fees - other fees	8
<b>18</b>	Other fees - professional fees	1,226
	Other fees - recruitment fees	1



Refer Note	Description	Amount \$,000
	Other fees - refund	2
	Other fees - security	2
19	Other fees - service fee	139
	Other fees - miscellaneous other fees	0
20	Other fees - trade union	90
21	Accommodation	1,147
22	Legal services	844
23	Computer hardware and software	124
24	Motor vehicles	941
25	Other corporate business services	1,845
26	Compliance & Enforcement management	711
27	Governance	449

## Summary of movements in the Mine and Petroleum Site Safety Fund for the 2015-16 financial year

Description	Amount \$,000
<b>Opening balance @ 30 June 2015</b>	<b>10,033</b>
Plus: Revenue for 2015-16	36,243
Less: Accrued Revenue for 2015-16 not received @ June 2016	-837
Less: 2015-16 Operating Expenditure excluding Depreciation	-35,727
Less: 2015-16 Capex	-151
Plus: 2016-17 Budgeted Mine Safety Levy	33,830
Plus: 2016-17 Budgeted Miscellaneous other revenue	1,223
Plus: 2015-16 accrual assumed to be received in 2016-17	837
Less: 2016-17 Operating Expenditure excluding Depreciation	-38,599
Less: 2016-17 Capex	-493

\* This figure is unable to be determined until after 30 June 2017 because of variances in 2016-17 and previous years' revenue due but not expected to be received by 30 June 2017, and variances to 2016-17 budgeted expenditure.

**Note:** The expenditure figures are based on accrued expenses and this is consistent with previous years. As a similar level of unpaid accounts would be expected at every year end, therefore accrued expenses are used to represent payments from the fund.

## Comments on financial report

Note Number	Description
1	Includes costs for contractors engaged to assist with incident investigations, development of training course materials, servicing of lab equipment, Failure of Explosion Protected Diesel Engine Systems project, etc.
2	Consultants are engaged to provide high-level specialist advice. Includes costs for a spontaneous combustion report from the University of Queensland and costs associated with the <i>Mine Safety Regulatory Reform: Incident prevention strategy</i> .
3	Includes domestic and overseas travel undertaken by mine safety personnel. Overseas travel expenses totalled \$25,000 for the following: <ul style="list-style-type: none"> <li>• Inspector Electrical Engineering - Belarus - Participate in development of IEC standard ISO 60069-19</li> <li>• Senior Inspector Mechanical Engineering - Italy - Participate in development of IEC standard ISO 80079-41</li> <li>• Inspector Emergency Management - New Zealand - Participate in national-level, multi-agency mining emergency exercises</li> <li>• Inspector Electrical Engineering - New Zealand - Participate in IECEx meetings, forums and workshops</li> <li>• Inspector Electrical Engineering - United Kingdom - Continuation of development of IEC standard ISO 60069-19.</li> </ul>
4	Includes telecoms for field staff of \$173,000.
5	Training for regulatory staff. Topics include investigations, auditing, risk, root cause analysis, human factors, emergency management (including Red Flag exercises).
6	Legal advice obtained from Crown Solicitors Office and external providers in relation to major incident investigations and prosecutions.
7	Assets under \$5,000.
8	An independent audit of the mine safety levy was not undertaken in the 2015-16 financial year. Please note that an internal audit is currently being conducted for the 2015-16 financial year, however, it will be paid for in the 2016-17 financial year.
9	Operational costs (fuel and maintenance) of fleet vehicles. See also internal motor vehicle charges below.
10	Includes uniforms, stationery and office supplies and other consumable items.
11	Flowmeters and controllers for the Mine Safety Technology Centre (MSTC). Offset by commercial revenue.
12	Bad debts for the Mine Safety Technology Centre (MSTC). Offset by commercial revenue.
13	Costs for internal and external events hosted by NSW Mine Safety, including Mechanical Engineering Safety Seminar and Electrical Engineering Safety Seminar. Costs associated with external events are offset by revenue from attendees.

Note Number	Description
14	Includes licensing fees for the Mine Safety Database - ACES.
15	Costs for internal and external events hosted by NSW Mine Safety, including Mechanical Engineering Safety Seminar and Electrical Engineering Safety Seminar. Costs associated with external events are offset by revenue from attendees.
16	Membership fees for external organisations including JAS-ANZ and Australasian Fire and Emergency Service Authorities Council.
17	All expenses associated with the Mine Safety Technology Centre. Offset by commercial revenue.
18	Fees paid for professional services. Includes \$930,000 for investigating 95 individual bullying and harassment allegations within the industry. Also includes costs associated with implementing the <i>Mine Safety Regulatory Reform: Incident prevention strategy</i> .
19	Includes costs associated with MSAC projects including fatigue and roof bolting review and workshops. The costs of the roof bolting project are offset by monies paid under an enforceable undertaking.
20	Contribution to trade union for industry safety and health representatives appointed by minister under part 5 of the <i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i> .
21	Costs associated with providing office accommodation to mine safety personnel in Maitland, Thornton, Parramatta, Wollongong, Lithgow, Orange, Cobar, Broken Hill, Lightning Ridge and Armidale.
22	Legal services provided by departmental in-house legal team.
23	Costs associated with providing computer hardware and software for personnel.
24	Operational costs (leasing, fuel and maintenance) of fleet vehicles for use by mine safety personnel (including inspectors). See also motor vehicle expenses above.
25	Costs associated with providing corporate services such as finance, payroll, human resource, records and asset management for mine safety personnel in Maitland, Thornton, Parramatta, Wollongong, Lithgow, Orange, Cobar, Broken Hill, Lightning Ridge and Armidale.
26	Costs associated with the Executive Director Compliance & Enforcement for senior management and development of the ACES database to enable the qualitative and quantitative recording of data.
27	Costs associated with the Executive Director Governance and internal governance services provided to mine safety.
28	Capital purchases associated with the Mine Safety Technology Centre.





Department  
of Industry  
Resources Regulator