



Safety

The Chamber of Mines and its member companies remain committed to the industry's goal of zero harm of all those working at our operations, be they employees or contractors. The Chamber continues to be actively involved in a number of initiatives and partnerships aimed at eliminating fatalities and injuries in the mining industry.

The Chamber's Safety and Sustainable Development Department plays an important facilitative and coordinating role in the implementation of the 2024 milestones on mine health and safety in a manner that accelerates the achievement of the industry's goal of zero harm. This is done through engagement with the Chamber's Occupational Health and Safety Policy Committee (OH&SPC), the MOSH Learning Hub and the CEO Zero Harm Task Team; regional associations including the Association of Mine Managers of South Africa (AMMSA) and South African Colliery Managers' Association (SACMA); the DMR and organised labour through the MHSC; and with international industry bodies through the Chamber's membership of the International Council on Mining and Metals (ICMM).

SAFETY PERFORMANCE AND TARGETS

Over the past 23 years, mine fatalities have been reduced by 88% - testimony to the significant efforts of all parties involved – management, employees, government and trade unions. In 2016, there were 73 fatalities in the South African mining industry compared to 77 fatalities in 2015. This marked an improvement of 5% year-on-year. 2016 marked the fourth consecutive year in which fatalities were reduced below 100 in the entire history of the South African mining industry. It was also the ninth consecutive year in which the industry reduced fatalities.

In 2016, there was a decrease in the number of serious injuries of 476, from 3,138 in 2015 to 2,662, a reduction of 15%. The Chamber would like to recognise the efforts of our member companies in this substantial reduction.

The South African mining sector now compares favourably, in terms of fatality rates, with developed mining nations such as the United States, Canada and Australia. The progress achieved in workplace safety is a tribute to the 2014 Mine Health and Safety Tripartite Summit and continued engagement with the DMR and organised labour through the MHSC.

Industry, unions and government signalled their intent to achieve further progress at the 2016 MHSC biennial Summit on Mine Health and Safety when all industry tripartite stakeholders signed a declaration of actions, to improve mine health and safety performance, harness the achievement of 2024 milestones and accelerate the industry's journey to zero harm. The declaration of actions focuses on building tripartite visible-felt leadership, building trust among stakeholders at various levels, aligning communication on zero harm among stakeholders, empowering employees and supervisors and hosting of annual health and safety days tailored to the respective needs of companies as part of their overall health and safety campaigns.



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2016 AREAS OF FOCUS continued

CEO ZERO HARM TASK TEAM

In 2012, the Chamber established the CEO Zero Harm Task Team (formerly called the CEO Elimination of Fatalities Team) to visibly lead by example, to drive health and safety initiatives and to share experiences to help address key challenges in a manner that will enable the industry to achieve the 2024 milestones and accelerate the industry's journey to zero harm. The CEO Zero Harm Task Team consists of the following Chamber-member companies: Anglo American Platinum, AngloGold Ashanti, Anglo American Coal, African Rainbow Minerals, De Beers, Glencore Coal, Glencore Alloys, Gold Fields, Harmony, Impala Platinum, Kumba Iron Ore, Sasol Mining, Sibanye Gold and South 32. The Team meets every quarter of the year with the following objectives:

- Develop a model for industry leadership at CEO level.
- Model visible leadership behaviour to demonstrate commitment.
- Share company experiences and help each other deal with and solve key challenges.
- Establish working protocols with industry stakeholders and communities.
- Monitor and agree to adjustments to industry models to suit specific needs.

The first focus area was on falls of ground (FOG) – the greatest single contributor to fatalities at the time. It is encouraging to note that our focus on falls of ground contributed to a 50% reduction in FOG fatalities in the first year.

In 2016, the Chamber's CEO Zero Harm Task Team members agreed on the following areas of focus:

- a) The development and management of critical controls for fatal risks, with an increasing emphasis on controls that are higher up the hierarchy of controls.
- b) A culture transformation in the industry that will change the behaviour of people at all levels to enhance their compliance and agility for change.

APPROPRIATE APPLICATION OF SECTION 54s

While the Chamber and its members recognise the important safety supervisory roles played by mines inspectors, we are also convinced that the inspectors' applications of costly Section 54 work stoppages should be proportionate to the infraction. Unfortunately this has not always been the case and has led to wholesale closures of mines where transgressions were confined to small parts of their operations.

Section 54s are the notices issued to mines in terms of the Mine Health and Safety Act (MHSA) that allow inspectors to stop mining activity in the event of an accident. A Section 55, another part of the MHSA, enables the DMR's inspectors to close only the affected area in the event of an accident, which is considered less punitive on the mining companies.

The Chamber is committed to zero harm whereby every mine worker returns from work unharmed every day. Through tireless efforts by government, employers and employees, mine fatalities reduced from 615 in 1993 to 73 in 2016, an 88% reduction.

The Chamber supports appropriate Section 54 instructions that empower inspectors to close parts of, or entire mines, for health and safety reasons. However, the Chamber remains concerned about disproportionate Section 54 instructions that have been issued since 2007. These affect the viability of many mines and their ability to sustain jobs. A recent Labour Court judgement against DMR officials stated that a Section 54 instruction must be proportional to the harm or potential harm that it intends to prevent, quoting an author on law who said '*... one ought not use a sledgehammer to crack a nut*'. The inspector had inspected a small portion of the mine and instructed the whole mine to be closed.



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Safety continued

The Chamber estimated that Section 54 instructions cost the industry some R4.8 billion in 2015. The Chamber's concerns are particularly around the North West, Rustenburg area, where inappropriate or disproportionate Section 54s are adding to the woes of a significant number of platinum producing shafts that are already loss-making. The primary drivers of this impact are the direct production days lost due to Section 54 stoppages and the indirect losses that result from the slow upliftment process and the subsequent start-ups.

While a number of companies are resorting to costly court action, the Chamber's Platinum Leadership Forum (PLF) consisting of CEOs of platinum mining companies, developed a practical protocol to guide the appropriate application of Section 54 instructions.

The protocol contains proposals to deal with challenges that make Section 54 applications both ineffective in enhancing health and safety and that render them value destructive, such as:

- a) Reducing the duration of Section 54 stoppages.
- b) Assessing the applicability of Section 55 (an instruction that avoids stoppage of operations) versus Section 54 and/or other instruments.
- c) Reducing the extent of Section 54 stoppages.
- d) Interacting appropriately with organised labour.
- e) Assessing the applicability of training as remedial action.
- f) Limiting the impact of small defects and administrative issues.

The practical protocol has been shared and discussed with the Acting Chief Inspector of Mines since September 2016 with regular follow ups, though with no response as yet.

During November 2016, this 'disproportionality' was challenged in the Labour Court by AngloGold Ashanti after its entire Mponeng mine was closed by an inspector who had found a few relatively minor localised infractions that posed no serious threats to the safety of employees in the small section of the Mponeng mine, or in the mine as a whole. In finding in favour of the company – that the inspector's closure order, as well as the penalty imposed were disproportionate – the Court established important legal principles. An inspector, the Court ruled, may only close an entire mine if he or she has objective reason to believe that occurrences and conditions identified, endangered, or may endanger, the health and safety of any person at an entire mine, and not only of a portion of the mine. It is hoped that this case will lead to greater clarity between mines, the DMR and its inspectorate.

A further legal challenge by another Chamber member, Sibanye, in the first month of 2017 was made on the basis that the closure of its Kroondal platinum mine in August 2016 was unwarranted. The company has lodged a claim against the Mineral Resources Minister and certain DMR inspectors in their personal capacities for an estimated production loss totaling R26 million.

In March 2017, the Chamber hosted a workshop aimed at empowering training and occupational health and safety (OHS) managers on the interpretation of Sections 54 and 55 of the MHSA. The Chamber has since tabled the workshop recommendation to the MHSC that this training be extended to other OHS managers, inspectors and organised labour's shop stewards. It is envisaged that Section 54/55 training will empower tripartite stakeholders to have a common understanding on the interpretation and implementation of Section 54s and 55s, thus building the much-needed trust in this area of mine health and safety.

2016 AREAS OF FOCUS continued

MINE HEALTH AND SAFETY COUNCIL

The MHSC was set up in 1996 to direct safety in the mining industry and to respond to industry safety and health challenges. The council was built on the achievements of decades of fundamental research and is funded by the mining industry. The MHSC comprises a tripartite board represented by the state, employers and organised labour, under the chairmanship of the Chief Inspector of Mines.

The MHSC is accountable to Parliament. The MHSC's primary tasks are to advise the Minister of Mineral Resources on occupational health and safety legislation and research outcomes focused on improving and promoting occupational health and safety in South African mines.

The council has been working on the implementation plan of the 2014 Summit milestones on mine health and safety and plans to effectively implement structures according to these milestones. Through the MHSC, more than R250 million has been spent on research into seismicity associated with deep-level mines. In addition, R40 million has been spent on fundamental and applied research and technology transfer. The research outcomes have led to new mine designs and methods and the fatalities associated with seismicity declined from 48 in 2003 to 7 in 2016.

The MHSC and its tripartite stakeholders held the biennial Mine Health and Safety Summit in November 2016 to review progress on the implementation of the occupational health and safety (OHS) milestones, targets and actions agreed upon by tripartite stakeholders at the 2014 Mine Health and Safety Summit. A declaration of actions (the pledge) was signed by the tripartite stakeholders at the Summit.

This declaration of actions aimed at improving the industry's occupational health and safety performance emanated from the outcomes of the MHSC Tripartite Leadership Workshop held in October 2016. The MHSC was then mandated to develop the actions as part of the pledge that was signed by tripartite stakeholders at the Summit. The Chamber's CEO Zero Harm Task Team members and the Chamber Council approved the declaration of actions prior to the signing of the pledge at the 2016 Mine Health and Safety Summit.

The main aspects of the declaration of actions are:

Tripartite visible-felt leadership and relationship building

Action: Principals and leaders of all stakeholder groups commit to meeting at least on two facilitated sessions on health and safety per annum. The representation would comprise union presidents and general secretaries, the DMR Minister, Deputy Minister, Director General, Chief Inspector of Mines, Principal Inspectors and mining CEOs.

Trust deficit

Action: All stakeholders will address the issue of trust deficit amongst the stakeholders moving from a transactional to a transformative approach.

Communication

Action: All stakeholder organisations – the MHSC, organised labour, government and employers – will commit to improving communication across all levels to ensure that the message of zero harm reaches all mine employees and contractors and, in so doing, support and permeate actions intended to improve OHS throughout the industry.



Through the Mine Health and Safety Council, more than R250 million has been spent on research into seismicity associated with deep-level mines.

Empowerment of supervisors and employees

Action: Stakeholders will collectively and collaboratively empower supervisors, health and safety representatives and employees through extended visible-felt leadership and empowering conversations. This will not only be implemented by employers, but also by other stakeholders from organised labour, government and the MHSC.

Tripartite stakeholders will also strive to empower women in mining on safety and security challenges, personal protective equipment and hygiene issues that impact them.

Annual company health and safety days

Action: Each mining company will commit to hosting an annual health and safety day tailored to their respective needs as part of their overall health and safety campaigns.

The objective of the above will be to reinforce tripartism, raise the bar on tripartite visible-felt leadership as per the Culture Transformation Framework (CTF) to harness the achievement of the 2024 milestones and to accelerate achievement of the industry goal of zero harm.

MINING QUALIFICATIONS AUTHORITY

The MHSC works closely with the Mining Qualifications Authority (MQA), which plays a critical role in addressing skills shortages in the mining industry through capacity development and process improvement. The MQA is mandated to ensure that the mining and minerals sector has sufficient numbers of competent people who have been trained to improve health and safety standards and processes.

MHSC CENTRE OF EXCELLENCE

In November 2014, the MHSC principal tripartite stakeholders launched a Centre of Excellence (CoE) to conduct world-class research, to build research capacity and to facilitate the implementation of research outcomes to accelerate the industry's journey to zero harm. The Chamber has played an active role in the development of the business plan for the Centre, which began operating on 1 April 2017. The Chamber will also maintain oversight of the following MHSC CoE 'quick-win' research projects:

- Understanding the impact of technology on people in the South African mining sector.
- Assessment of statutory equipment compliance for South African mines based on a centralised database.
- Assessment of the feasibility of developing a communication system for underground and surface mining operations.
- Development of testing specifications for netting and the dynamic testing of tendons and assessment of the feasibility of establishing an independent accredited support testing facility.
- Development of rock-mass condition assessment tools.
- Assessment of the feasibility of developing collision management systems for South African mines.
- Missing person locator system.

BUILDING A CULTURE OF SAFETY

The CTF, developed by the MHSC and approved at the 2011 Health and Safety Summit, is an initiative that seeks to transform the culture of health and safety in the workplace to control risks. Research shows that an organisation's culture has an impact on safety. In 2011, MHSC launched a campaign entitled "changing minds, changing mines", with the aim of developing a framework to guide the South African mining sector into making the necessary changes towards attaining zero harm.

2016 AREAS OF FOCUS continued

The CTF has eleven pillars. The Chamber is committed to the effective implementation of the following pillars of the CTF by 2020:

- 1) Bonus and performance incentive pillar to prioritise safety ahead of production.
- 2) Risk management pillar aimed at reducing risk at its source and to investigate root causes of incidents.
- 3) Leadership pillar encouraging leaders to lead by example and walk the talk of zero harm.
- 4) Leading practice pillar provides a unified approach to identifying and facilitating the adoption of leading occupational health and safety practices and research outcomes.
- 5) Diversity management pillar aimed at eliminating racism, genderism and any other forms of discrimination.
- 6) Data management pillar to monitor and evaluate progress of CTF implementation and mine health and safety performance.

After December 2020, the remaining pillars of the CTF will be implemented:

- 7) Integrated mining activity
- 8) Technology
- 9) Inspectorate
- 10) Tripartism
- 11) Regulatory framework

WORK BEING DONE ON CULTURE TRANSFORMATION BY MHSC AND CHAMBER

In the third quarter of 2016, the Chamber initiated two projects focusing on the risk management pillar of the CTF. At the behest of the CEO Zero Harm Task Team, the Chamber facilitated and coordinated the collation of information from the CEO Zero Harm Task Team member companies on the application of critical controls management on falls of ground (gravity) and underground transport (both trackless and rail-bound). The information was then analysed to compile a desktop study report that seeks to encourage companies to:

- a) Share BowTie Risk Models on falls of ground and underground transport (trackless and rail-bound) drawing on international experience and formalising lessons learnt including measurement criteria and controls (as per the critical control management steps outlined in the ICMM guidance documents).
- b) Share critical controls successes amongst the companies on falls of ground and underground transport (both trackless and rail-bound) in order to determine the benefits of such collated bowties.

The second project sought to understand the current incident investigation methodologies and systems being utilised by companies as well as their consistent application. The conclusions and outcomes of both projects highlighted that there was still some work to be done in developing the maturity of both systems. The OH&SPC subsequently mandated the Chamber to establish working groups to continue work in these areas.

The MHSC has commissioned two research projects focusing on the Leadership, Diversity Management and Bonus and Performance Incentive Pillars of the CTF. The aim of these research projects is to develop guidance on the leadership and diversity assessment tools and guidance on the incorporation of leading and lagging health and safety indicators in bonus and performance incentive systems.



Research shows that an organisation's culture has an impact on safety.

Safety continued

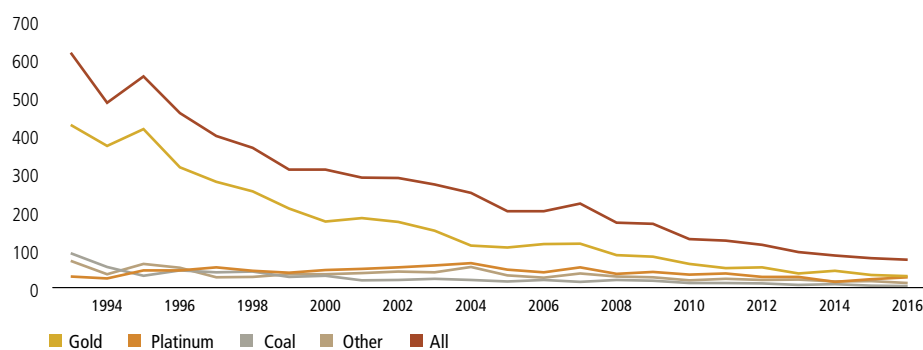
The Chamber is exploring various ways in which the MHSC's information reporting system and Chamber's HealthSource could be used to collate safety information including lost time injuries and adoption of leading practices.

At the 2016 Mine Health and Safety Summit, the tripartite stakeholders approved a set of declaration of actions as step change initiatives to harness the achievement of 2024 milestones. These actions complement the pillars and minimum standards of the CTF. The Chamber will facilitate, in conjunction with other stakeholders, the hosting of two annual sessions of stakeholder principals and leaders focusing on tripartite visible-felt leadership and relationship building.

The Chamber, through its President, Mike Teke, extends its heartfelt sympathies to the families, friends and colleagues of Ms Yvonne Mnisi, Ms Pretty Mabuza and Mr Solomon Nyarenda, who remain missing following the accident at the Vantage Goldfields Lily Mine near Barberton on 5 February 2016.

"We know that no words will be sufficient to bring comfort to them, and will keep them in our prayers. We want to thank those who have worked tirelessly to reach their colleagues since the collapse occurred, including the volunteer members of Mine Rescue Services, who have come from all parts of South Africa." Mr Teke also commended all parties for the mature and sensitive way in which they have worked together under trying circumstances. Mr Teke and colleagues from the Chamber of Mines visited the mine in February 2016 to extend the Chamber's ongoing support.

Mining fatalities per commodity (1993 – 2016)

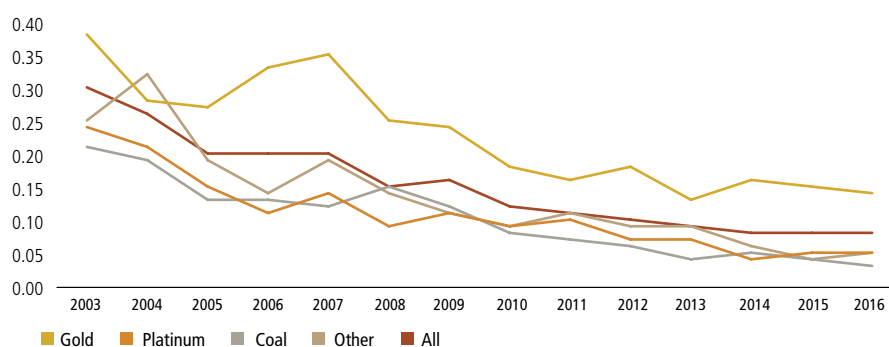


* Other includes diamonds, chrome, copper, iron ore, and all other not specified above.



Source: Department of Mineral Resources

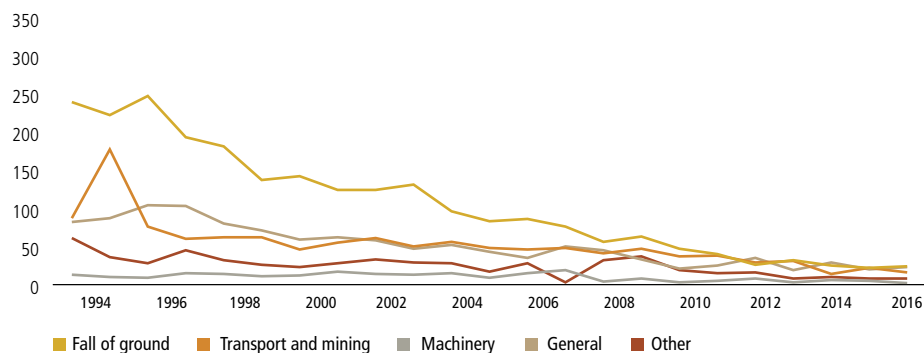
Fatality frequency rates per million hours worked (2003 – 2016)



Source: Department of Mineral Resources

2016 AREAS OF FOCUS continued

Causes of fatalities (1993 – 2016)



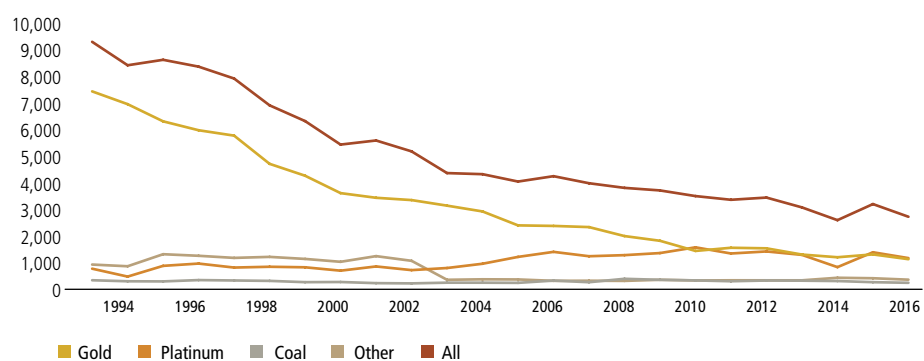
The Chamber's Health department strives to make a positive contribution at a number of levels in the spheres of public and occupational health, and in healthcare.



Source: Department of Mineral Resources

* Other includes diamonds, chrome, copper, iron ore, and all others not specified above.

Number of injuries (1993 – 2016)



Source: Department of Mineral Resources

Injuries in 2016

Commodity	2015	2016	% Change
Gold	1,249	1,069	-14
Coal	206	183	-11
Platinum	1,329	1,110	-16
Other*	354	300	-15
Total	3, 138	2,662	-15

* Other includes diamonds, chrome, copper, iron ore, and all others not specified above.