

Maintaining a “Step Change” approach in Health and Safety The Commodore Mine Experience Downer EDI Mining

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Background

The Commodore Mine has achieved many industry best practice achievements in health, safety and environment performance. It has been a lost time injury free workplace over its 6 years of operation. It has been recognised with a number of Mining Industry Safety and Environmental Awards. It continues to experience low levels of employee turnover, high levels of employee involvement and maintains its business goal of providing security of coal supply to the Millmerran Power Station. What have been the success factors that have achieved this result in maintaining a “Step Change” approach to Health and Safety? The starting point was far from the ideal, or was it?

The client was a power station operator, new to the industry and not a coal miner. The Operator and SSE was the mining services provider, Downer EDI Mining, new to the coal industry in Queensland, the site was starting from scratch, on the doorstep of the regulators and under the spotlight. As well, significant changes were taking place with the introduction of new industrial agreements and new mining methodologies to provide a competitive advantage in the marketplace. The approach to Health and Safety management was critical to the success of the project.

The Commodore Coal Mine is located adjacent to the Millmerran Power Station, 200km west of Brisbane. It is situated in the heart of the Darling Downs, a rich farming district in the south east corner of Queensland. The mine was opened six years ago to provide the sole coal supply to the new Millmerran Power Station run by Millmerran Power Partners. Downer EDI Mining were selected to provide contract mining services under a 10 year contract to operate the Commodore open cut coal mine and deliver approximately 3.5 million tonnes of raw coal per year to the power station.

In the life of the project the employees have reported and closed off an average of one hazard every day of every year since mining commenced, maintained a high level of safety training, high compliance, both from a documentation and effectiveness audit perspective, high level of employee involvement, and remained Lost Time Injury Free for the life of the project.

Downer EDI Mining was responsible for the opening and establishment of the mine and infrastructure. This was undertaken with significant changes taking place with the introduction of new industrial agreements and new mining methodologies, which was a first for the Australian mining industry at the time, to provide a competitive advantage in the marketplace.

With the client, a power station operator, Downer EDI Mining were engaged to undertake all of the mining services including; exploration drilling and geological modelling, mine planning and design, drill and blast service, overburden stripping, coal mining, and

rehabilitation for the site. In addition, Downer EDI Mining has the statutory responsibility for the mine site being the appointed Operator and Senior Site Executive for the mine.

The project was the first coal project that Downer EDI Mining had assumed the statutory management responsibilities for the overall operation. Based on the experience and success of the Commodore Mine, this capability has now become a core capability of the business, with eight of the coal projects managed by the company now being under the statutory control of Downer EDI Mining as the Senior Site Executive.

The safety management system used at the mine is based on the Downer EDI safety management system, which is a web based system that is aligned with AS 4360 Risk Management, principles and guidelines and utilises the learning's and experience from the 34 projects Downer EDI Mining operates in Australia and overseas.

The leadership in safety management at the mine is the key to the success of its performance and ongoing "Step Change" culture. This leadership must start at the top with the Senior Site Executive, but is also critical in all roles in the operation, where it provides for the "Brothers Keeper" relationships in the workplace.

Operations

The design of the mining methodology at the Commodore Mine had to provide a safe and cost competitive solution for the Millmerran Power Partners. The bid for the work was competitive with a number of other major and minor mining contracting companies, and mining houses bidding to supply the coal to the new power station on the Darling Downs.

The geological structure of the various coal seams , including seam thicknesses down to 300mm, meant that the usual high productivity mining methodologies, using draglines or truck and shovel operations could not be used for all the overburden removal. Downer EDI Mining introduced a dozer push methodology with GPS tracking, having benchmarked the high productivity operators overseas. This provided a safe and highly productive mining method while allowing for the recovery of the various coal seams with minimal dilution. The dozer push now accounts for over forty percent of the material moved, resulting in a reduction in truck movements on site and subsequent reduction in the potential for vehicle interaction, personnel access and travel incidents. This innovative and successful methodology resulted in the substantial reduction of risk associated with the number one exposure for a typical open cut coal mining operation.

Raw coal is mined and hauled to the ROM crusher. Here it is transferred via conveyor to stockpiles at the power station for direct feed into the power station, without using a coal processing plant. Again, the technology employed at the Power station and that in the coal mining process enables a reduction in coal flow interaction and again reduces the activities on the site that have the potential to introduce additional hazards in the workplace. The raw coal qualities are very variable, with the ash levels being high due to the presence of multiple thin parting bands within the seams. The deposit requires multiple mining faces to ensure the overall quality specifications to the power station are achieved.

The ash produced from the power station is hauled by Downer EDI Mining back into the mine and buried in-pit as part of the final landfill. The handling and burial of this material is another scheduling process that is aimed at reducing haul distances and limiting the

hazards associated with long haul distances and handling of the ash material. The site has developed effective techniques for burying the ash, while minimising dust, preventing water ingress and scheduling overburden removal activities near the ash dumps to minimise haul distances to cover the ash. This is another example of risk reduction via sound production methods. The quantity of ash, being 1.2 million tonnes per annum, thirty six percent of the coal mined, is a key operation at the mine and requires the same safety management as the core mining operations.

The complex nature of the operations is managed by a site based team, with support from the Brisbane based team at Downer EDI Mining. There are sixty people employed in the operations on site.

Safety Management

The management of health and safety on site has been a key consideration in the operations at the mine since the initial construction work commenced. This included the development of a risk based safety management system, further supported by the Downer EDI Mining web based safety management system. The safety management system has formed the framework in which all activities at the mine have been undertaken. However, the setting of the safety standards, and provision of the tools for safety management at the mine, can only be as effective as the commitment of the employees, and safety leadership at all levels in the business.

The maintenance of a “Step Change” safety culture at the Commodore Mine reflects the belief in the goal of Zero Harm in the workplace. Inherent in this belief is the requirement for continual step changes to be made in safety awareness, be it with the safety framework on the site, the recognition of positive safety behaviours, new work practices, the reviewing of existing work practices and so the list goes on. Without this continuous “Step Change” culture, as the leadership team on site reinforces with the workforce, “the safety standard we accept is the safety standard we will get”. The robust reporting culture being maintained across the operations is a reflection of management commitment to shared learning’s, effective prevention strategies and the increasing level of trust by the workforce where cause and not blame is the focus.

In the life of the project, the management team has changed; the current operations manager is the second, the project manager at the mine is the third, the previous two having been promoted within the company. The safety superintendent is the second, the maintenance superintendent the third, again all the previous incumbents having moved on to larger roles. Although good news for the incumbents at the time, the changes required close management to ensure that the continued improvements in safety standards and leadership on site were maintained. The changes provided for another “Step Change” with new people taking up the positions.

It has been an important aspect of maintaining a “Step Change” culture that new perspectives were brought to the leadership positions. These changes provided the workforce, which has been relatively stable through the period, opportunities for new ideas, initiatives, approaches and standards to be set. Many of the people appointed to the new positions had previously been at the mine, in other roles and undoubtedly forming their own views in how things could change for the better “If I had the chance”.

When people were appointed to their new roles, in some circumstances it was a stretch and not the conventional appointment, as an example the site clerk moved to the safety coordinator replacing the superintendent who moved on to a regional role. But the changes and opportunities for people, with a passion for safety, to perform was an opportunity the organisation could not afford to pass over. It provided the opportunity for a fresh approach and recommitment to the process. The 5R's of organisational change management were in many circumstances introduced into the "Step Change" approach.

The Five R's of a Step Change Safety Culture

The five R's of creating a step change in safety culture revolved around Reorganisation, Rebranding, Renew, Recommit and Reward. Each part has played an important role in maintaining the "Step Change" approach in health and safety at the mine.

Reorganisation

Many companies have looked to address poor safety and operational performance by reorganising the company structure, changing the ways things are done, bringing in new people and drawing the proverbial line in the sand. There are two things that are different at the Commodore Mine, firstly the safety and operational performance were benchmark in the industry, and secondly the people and systems were not broken, quite the opposite, their performance was such that they were being promoted.

Reorganisation was not a case of restructuring the site organisation, but rather changing personnel in the leadership team as a result of new opportunities presenting themselves to the incumbents. Rather than having to look outside the business, the resources already existed at the site, people with a passion for the success to continue, and for themselves to have personal growth. At times the people on site did not have the step up skills or experience to take on the full role; however they did have the site and organisational knowledge, and with support and mentoring were able to bring new skills and experience to the site under a reorganised leadership team. In the case of the Commodore success story, the benefits of promotion from within far outstripped the appointment from outside the business. It also provided the opportunity to recognise the great work that these people had been doing in their previous roles.

Rebranding and Renewal

The new appointments resulted in a fresh approach, which in itself provided a "Step Change" with new initiatives and approaches brought to bear from a fresh set of eyes looking at the issues from a different perspective. Sometimes this resulted in reinvigorating via rebranding of programs to give them a new lease of life. In addition, as with any relationships the new incumbents have different, not better or worse, relationships with the workforce, which provide different approaches, branding and renewal of the goal of Zero Harm.

Recommitment

The recommitment to the goal of Zero Harm and safety leadership throughout the operation happens in many forums. The opportunity to do this occurs in the most common way through the review and sign off of the various components of the safety management systems, through review of risk assessments, safe operating procedures, management

plans and standards. In addition the site celebrates the milestones that it achieves and commitments to the targets that lie ahead, in the journey to Zero Harm.

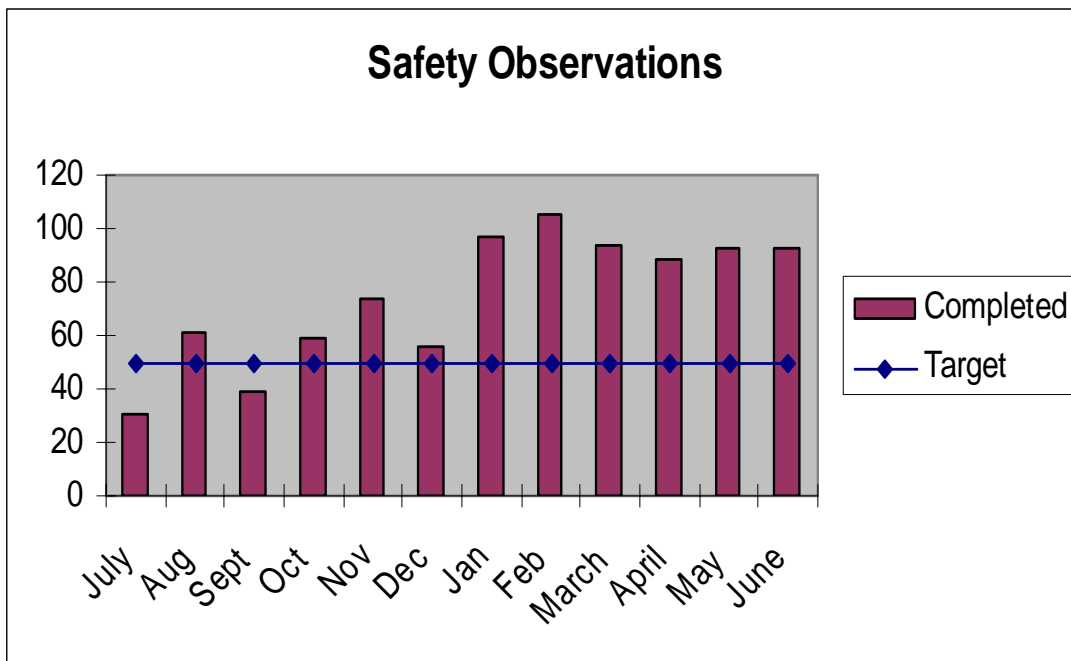
Reward

The final R that of Rewards coming from continuing high levels of safety performance with all the flow on effects in workforce safety and moral, recognition, management focussed on proactive initiatives rather than reactive issues, an engaged workplace and client, improved reputation in the market place and the provision of a workplace where involvement is encouraged, results are recognised, leadership is strong and the learning's are shared. An important part of the Reward stage is also the celebration or milestones and recognition of individual, team and workforce.

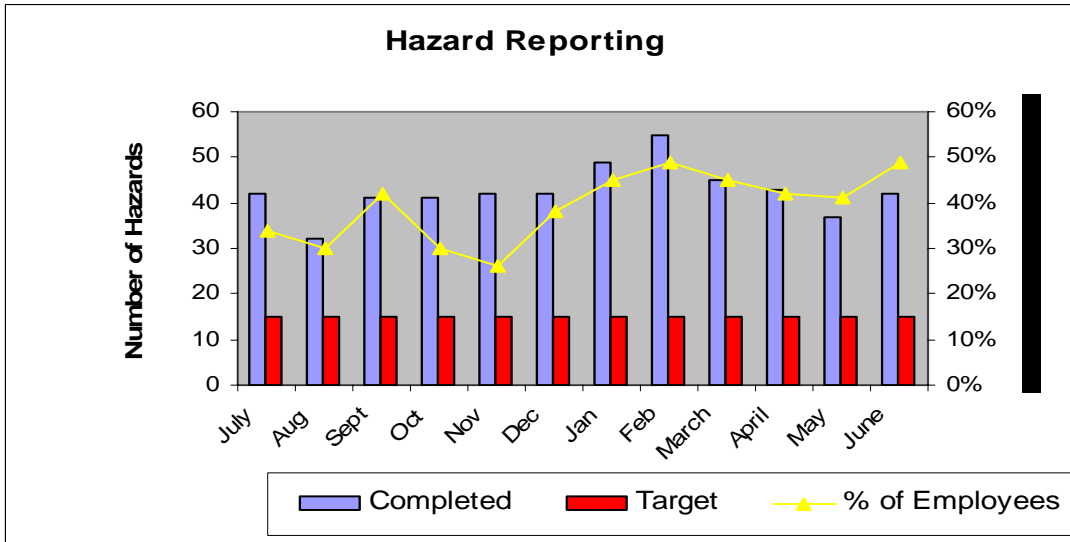
The Journey and Result

The monitoring and management of any project with continued high standards of safety management always leads to the sceptics who question the performance, and the way the site manages incidents. The site is not yet incident free, the goal it strives to achieve. However, it is also not a site filled with walking wounded and patched up incidents. As the site continues along the journey to Zero Harm it becomes more critical of itself and looks to third parties to review its processes and the effectiveness of its systems.

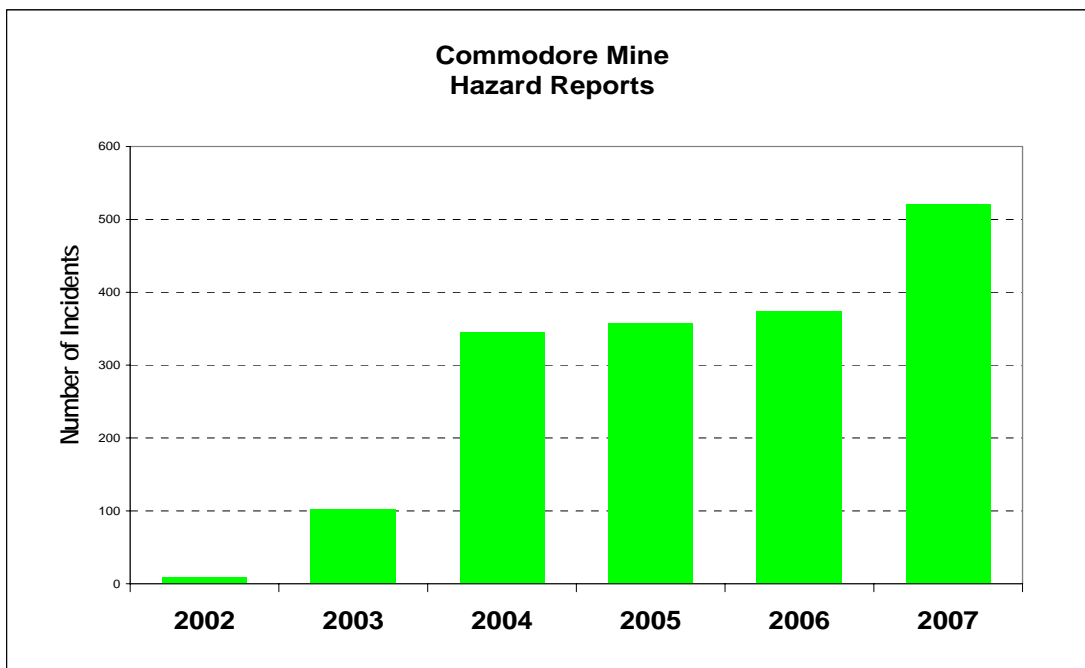
Positive performance measures are an integral part of the current safety management process, as can be seen below the monthly performance of the site is monitored and managed to ensure that the safety behaviour becomes engrained in the way business is undertaken at Commodore.



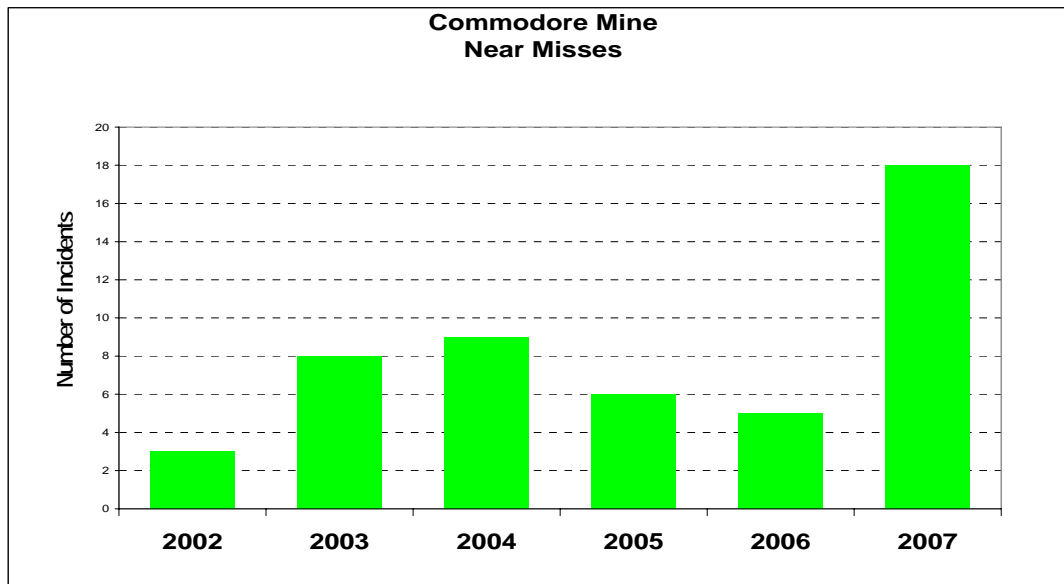
The reporting of hazards and close off of hazards is another key positive performance measure used at the mine. The hazards are reported whether they are eliminated at the time of observation, or require further work to eliminate. Important in the reporting process is that the hazard is captured and the learning communicated. Through this process the safety at the site is continually improved.



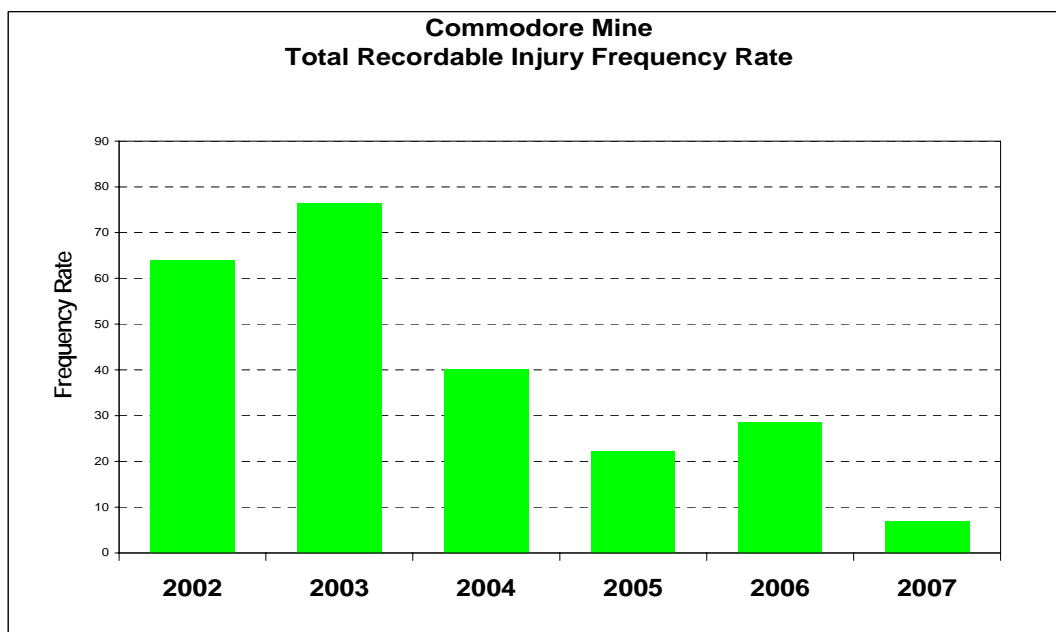
The current leadership team continues to value the involvement and engagement of the workforce in safety management on site. The high focus on safety observations and hazard reporting and close off is a renewed approach to workforce engagement. As can be seen in the graph below this has not always been the focus on the site, through the life of the mine, however the techniques used back at the start of the project achieved the same outcome of zero lost time injuries, but a degree of good fortune may have been more prevalent.

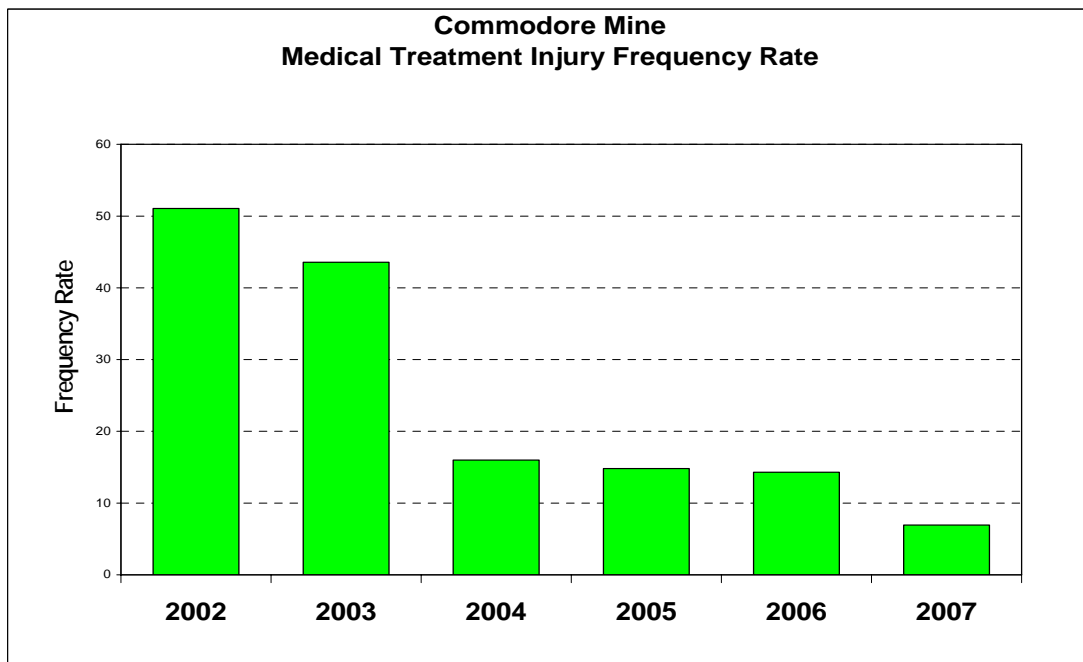
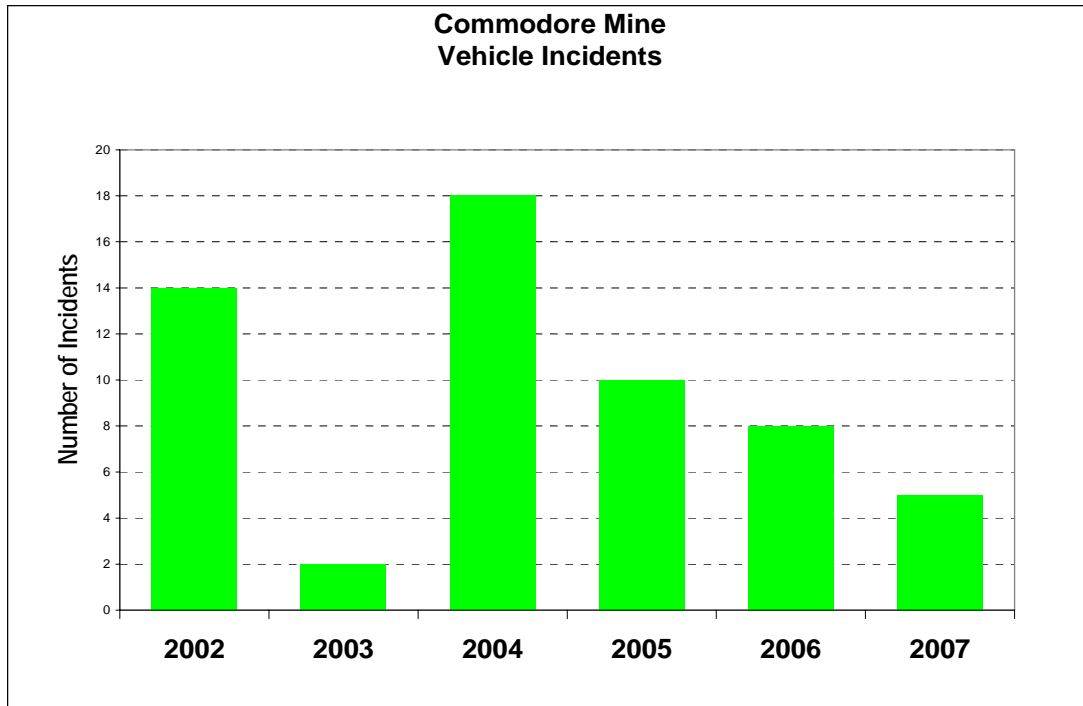


As described in the paper, the Commodore Mine has had and continues to have incidents in the mine. However minor, or potentially more serious, the incidents are reported investigated and communicated. This occurring both in the mine and across the organisation. The reporting of near misses is a recent focus area, again in the renewal phase of a new team. This is clearly evident in the next graph.



The results of maintaining step change behaviour at the mine can be reflected in many ways. In the positive performance measures as outline above, or through the lagging indicators shown below. However, understanding the drivers that enable the “Step Change” approach to be maintained is as important as the results themselves. This is encapsulated in the five R’s of change management. How it is achieved must be tailored to the site, its performance and its people, but all the elements must exist if it is to be maintained on the journey to the goal of zero harm.





Six years on, the journey to maintain step changes in achieving excellence in health and safety performance presents a challenge that continues to be met at the Commodore Mine. The starting point for the project was, in hindsight, conducive to enabling the site to achieve high standards in safety performance. People came onto the project with limited preconceived ideas of performance standards, most from outside the industry, the site had strong leadership in safety and health management, and the safety management system was comprehensive and robust.

The relationship between the management and employees at the mine has been important in establishing the safety behaviour and performance, the involvement and engagement of the workforce through strong safety leadership prevents the “Crystal Ball of Safety” from being dropped. Shatter it and there are many pieces that will never fit again, so keeping it in the air as the site juggles many other operational and business balls remains the key to maintaining performance.

Not satisfied with maintaining performance, but always striving to improve, has required a high level of safety leadership by all employees but in particular the leadership team. Only with this leadership and understanding of the role of achieving the five R’s in change management has the site continued to maintain a “Step Change” approach to health and safety.
