

## Safety Education in Small Mines: THE NSW SMALL MINES CAMPAIGN 'Putting Duty of Care to Work'

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### Synopsis

The paper outlines the NSW Department of Mineral Resources' Small Mines Campaign.

A small mine is defined as a mine which employs less than five people.

Reinforcement by the Safety Operations group of the NSW Department of Mineral Resources (DMR) to include a risk based approach to legislation is described. Primarily, this is being achieved through the adoption of a monitoring and coaching role and the practical assessment of safety systems in the workplace.

Currently, a significant component of a Safety Operations officer's role is directed towards actively working with mine owners, managers, supervisors and employees in the development and implementation of the 'Small Mines Campaign'. The paper describes the implementation of this campaign.

The need for a safety campaign designed specifically for the small end of the mining business has been identified through relatively high accident and fatality rates in recent years. Also, there is a realisation that a systematic approach to safety management, underpinned by the process of hazard identification, has real potential to improve safety at the workplace.

The paper will also include a description of the methodology used and the response by miners to the Small Mines Campaign. Particular attention is paid to Officers' involvement in providing guidance through workshops and reference material together with 'hands on' mine site visits.

### Introduction

With the introduction of General Rule 2000 which reinforces systematic safety management, the minerals and extractives industry is faced with the adoption of an improved culture and ongoing developments in safety management.

To meet these new challenges the Departments' Safety officers, who form the backbone of the 'business end' of the Department, have recognised and responded to the need to change their roles.

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The Small Mines Campaign is a significant initiative by the Safety Operations group to work proactively with management and employees of small mines in the metalliferous and quarrying sectors. This initiative particularly provides guidance in the development of Mine Safety Management Plans and, ultimately, to assist them to achieve safe production.

### NSW Legislation – A Safety Systems Overview

As part of legislative changes taking effect in September this year, all small mines in NSW (defined as those with less than five employees) will be required to have prepared a Safety Management Plan.<sup>1</sup> For a large number of small mines this is a new challenge.

Currently, the Mines Inspection Act - General Rule 2000 requires only mines with five or more employees to have implemented a Mine Safety Management programmes. Compliance with this legislation has been the focus of the 'Verification Programme' - introduced when General Rule 1994 first became law in NSW. The Verification Programme is not covered by the scope of this paper<sup>1</sup>.

Historically, an increasingly more detailed trend in regulatory reform did not show a corresponding inverse trend in the number of people seriously injured or killed at work in mines. New South Wales was no exception to this.

The mining industry must be able to demonstrate responsibility for the health and safety of all persons on mine sites by way of duty of care. To be more effective within a positive organisational culture, establishment of systems of work to support the safety improvement process must be a stakeholder responsibility.

The concepts which underpin 'duty of care' are well established in the Australian minerals industry. However, Safety Operations officers are often reminded during assessments of mining operations, and through investigations into incidents and accidents, of the need to translate these concepts into practical safety systems. To be effective, these systems must not only be relevant to the mine site but be part of the normal way of doing business for the entire workforce.

The Small Mines Campaign is providing education and hands on assistance to enable small mines in NSW to understand and commence the implementation of a systematic approach to safety. This is consistent with the duty of care and due diligence philosophies. In effect, putting duty of care to work.

Ten years ago the NSW Department of Mineral Resources launched a program designed specifically for the opal sector. It is believed that this program has demonstrated the value of an educative component of Safety Operations' officers roles. It is also believed that any benefits should be extended to the wider small mine sector.

### The Small Mines Campaign

Small mines have a disproportionately high rate of fatalities when compared with the non-coal mining industry in general. There have been 13 fatalities in NSW small mines in the past 10 years - the same number as in all the remaining metalliferous mines, some of which employ several hundred people.

Most of the State's 800 plus quarries, exploration sites, clay pits, salt evaporation sites, local council operations and borrow pits are classified as a 'mine' under the Mines Inspection Act 1901. Operations range from those utilising sophisticated mobile equipment and fixed plant to 'father and son' businesses mining and stockpiling sand on a part time basis.

A typical small mine is shown in the photograph below.



The above 'small mine' produces stone products for the building industry and is typical of those taking part in the Small Mines Campaign education program.

<sup>1</sup> Be Aware, Be Safe - A series of mine safety booklets to understand and implement the General Rule 1994

In the past, small mines have generally been found to face particular hurdles in achieving safety improvements: shortages of suitably qualified supervision, impacts from geographical isolation, inadequate communication, misguided attitudes towards safety management, a restrictive shortage of resources to support safety improvement and a lack of understanding of the negative commercial impact of poor safety performance. Also, ignorance of legislative imperatives is often a common factor.

The Small Mines Campaign is not only an example of the implementation of DMR strategies directed towards compliance with legislation, but also an opportunity for Safety Operations officers to directly influence how small mines approach safety in a practical and real way. That is, putting duty of care to work.

The objectives of the Small Mines Campaign include:-

- The location and identification of all small mines in the State.
- The significant improvement of mine owners', production managers' and mine employees' awareness of their statutory obligations.
- The provision of a structured education programme in the development, implementation and continuous improvement of safety management systems with particular focus on hazard identification and risk management.
- Proactive work with programme participants and employees at the mine site to provide coaching in, and evaluation of, Mine Safety Management Plans.

#### Campaign Structure and Content

The Small Mines Campaign consists of a number of programmes running concurrently across NSW. Industry is invited to attend regional workshops. Each programme involves two interactive workshops of one and a half and one day duration respectively, each attended by up to 20 participating mines. The two workshops are scheduled approximately three months apart. Also, two one day visits are made to each mine site by a Safety Operations officer a month or so after each workshop.

To date, workshops have been conducted in Orange, Wagga Wagga, Lismore, Tamworth, Raymond Terrace, Wollongong, Broken Hill and Cobar.

By September this year it is estimated that more than 180 participants from 150 mines will have completed the programme.

<sup>2</sup> Ref Mines Inspection Act 1901 No 75 Sections 5B & 8 - Production Manager

The content and structure of the workshops is centred on the 'Mine Safety Management Plan - Workbook' - a combined Institute of Quarrying Australia / Department of Mineral Resources initiative. This publication is rapidly becoming an industry standard for the development and implementation of Mine Safety Management Plans. It not only provides a structured, plain English explanation of the process of developing safety management plans, but it also includes pro forma documentation and examples of its use.



The 'blue' and the 'green' books: Department's 'Guidelines for Safe Mining' and the jointly published 'Safety Management Plan - Workbook'

The Safety Management Plan Workbook is complemented by the 'Guidelines for Safe Mining' publication. It is also compliant with AS 4801 - Occupational Health and Safety Management Systems. Both DMR publications are available for purchase from any NSW Department of Mineral Resources office.

Programme topics included in the Small Mines Campaign are :-

- \* Safety Management Plan Overview
- \* Policy
- \* Document Control
- \* Hazard Identification
- \* Risk Assessment
- \* Workplace Inspections
- \* Job Safety Analysis
- \* Safe Work Procedures

- \* Emergency Response Planning
- \* Maintenance Programmes
- \* Work Environment
- \* Accident and Incident reporting
- \* Contractor Management
- \* Training and Development
- \* Fitness for Work

Although these topics are not a comprehensive coverage of all of the programmes included in the Safety Management Plan - Workbook, they have been chosen on a risk assessment basis by Safety Operations officers as those with the greatest potential to establish effective Mine Safety Management Plans. Also, it is realised that for some managers and owners of small mines, the workshop duration could become unacceptably onerous and therefore lose impact.

#### Role of Safety Operations officers

All of the presentation material and supporting documentation for the workshops has been developed in-house by Safety Operations officers. The enthusiasm demonstrated and quality outcomes achieved during the early implementation stages cannot go without acknowledgment. Although officers' time has been spread amongst some of the small mines in previous years, for the first time many were afforded the opportunity to both create and utilise specific tools to influence safety culture.

Perhaps the planned site visits are the best example of where Safety Operations officers have been required to take on the role of 'mentors' - very much a changed role in the eyes of many small mine operators.

Each of the two one-day visits to participating mine sites is carefully structured to involve both management and employees. This involves discussion on duty of care and due diligence as well as reviewing progress on preparation of their Safety Management Plan. Also, officers are able to demonstrate safety systems that are relevant to, and are designed to meet, specific hazards identified at that particular mine site. This is achieved by conducting hazard identification, risk assessment and job safety analysis with the active participation of mine personnel. Again, an opportunity to put duty of care to work.

#### Programme Measurement

A system of monitoring progress and measuring outcomes and has been established for each topic within the Small Mines Campaign programme.

This has been achieved through the utilisation of the Safety Operations Group's COMET (COmmon Mines Environment) database. This comprehensive database mirrors legislative reporting requirements as well as recording mine particulars and details of officers' general activities. Fields have been established in the database for officers to input outcomes of site assessments following each one day visit.

Output from the COMET database not only provides positive performance measures in a status report on progress achieved in the development of Mine Safety Management Plans but will also provide fundamental input into the establishment of future small mine strategies by the Department. This will become particularly relevant for measuring small mines' legislative compliance after September 1st 2001.

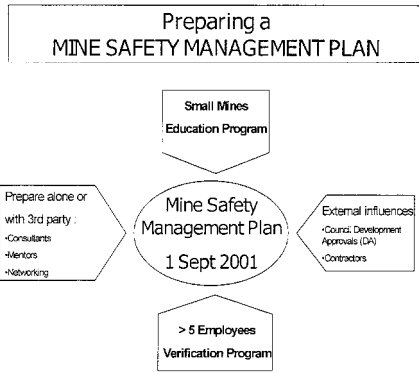
#### Small Mines Outside the current Campaign

Additional Government funding has been made available in recent years to complete a number of key strategic and administrative priorities in the NSW Department of Mineral Resources. The Small Mines Campaign is one such priority. From the outset, it was realised that the Safety Operations Group did not have sufficient resources to include every NSW small mine in a programme.

However, it has been fortunate that in most areas of the State, the majority of respondents to the Department's advertising have been accommodated.

In recognising the potential for a shortfall, and consistent with the Department's Strategic Plan, significant progress has been achieved in encouraging third parties to work with small mines in developing their Mine Safety Management Plans. Also, other influences such as the inclusion by mines and local Councils of the requirement for a Mine Safety Management Plan in contract tender invitations and local Council Development Approvals for quarries is having a positive effect.

In particular, the voluntary work by a number of industry mentors with peers in the industry has been invaluable. They have been able to demonstrate effective utilisation of their own safety management plans and, therefore, are able to pass on practical knowledge and learning. Also, some small mines and local councils have pooled resources and engaged consultants to work with them. Networking between mines is also encouraged to supplement the increasing number of enquires directed to Safety Operations officers.



#### Response from Industry

Like any effective education programme, the content, format, and delivery of the Small Mines Campaign has been revised from time to time in response to feedback from participants as well as evaluation by presenters.

It would be fictitious to state that all programme participants have responded by systematically implementing effective safety management plans in their mines. It is unfortunate that the achievement of safe production through the application of systematic safety management techniques appears difficult for some operators who may well 'file' this new legislation firmly into the 'too hard basket'. However, in doing so they may well be in breach of legislation.

Despite this, the predominant response from mine owners and managers who have attended workshops in the Small Mines Programme is extremely positive. The mentoring role of Department officers and their preparedness to work proactively with mines is recognised and has been particularly appreciated<sup>3</sup>.

<sup>3</sup> NSW Department of Mineral Mine safety News - July 2001, page5

#### Future Action

The current programmes of workshops and site visits are scheduled for completion in most areas of the State by mid August 2001.

With the impending legislative requirement for small mines to prepare a Mine Safety Management Plan, the Department's focus will be on an assessment of compliance. This will be achieved initially through a State wide response to a self assessment questionnaire by all small mines. This will be similar in structure to the current site assessment. Results will be monitored through the COMET database.

Analysis of the results of the self assessment will help identify priorities for future work in the small mines sector.

A reduction in mining injuries and fatal accidents is expected.

#### Acknowledgments

- \* The author wishes to thank the NSW Department of Mineral Resources, Safety Operations Group for the opportunity to present this paper.
- \* The significant contribution that Safety Operations officers are making to the small mining sector in their understanding and implementation of outcomes focussed legislation is acknowledged.
- \* The positive response by the minerals industry to the Small Mines Programme has been the motivation in the preparing this paper.

#### References

- \* Institute of Quarrying / Department of Mineral resources "Safety Management Plan - Workbook"
- \* NSW DMR 'Guidelines for Safe Mining'
- \* NSW Mines Inspection General Rule 2000, Clause 9 - Mine Safety Management Plan
- \* NSW Department of Mineral Resources "The Enforcement of Health and Safety Standards in Mines - Jan 1999"
- \* Regan, R. "Improving Safety Performance - DMR NSW Strategies", 2000 NSW Mining Industry Occupational Health and Safety Conference.
- \* AS 4801 Occupational Health & Safety Management Systems.
- \* HB 211 - 2001 Occupational Health & Safety Systems - A guide to AS4801 for small business