To

RESOURCE LEGISLATION
BALANCE CERTAINTY & EFFICIENCY
AMENDMENT BILL 2011.

LUKE & JEAN DAGLISH
[redacted]

19-12-11

OUR SUBMISSION

TO WHOM IT MAY CONCERN,

WE WISH TO EXPRESS TO THE COMMITTEE OUR CONCERN ABOUT THE 100 MT RULE AS FAR AS THE TAKING OF RESOURCES BY BLASTING. WE BELIEVE A MINIMUM OF 500 MTS SHOULD BE ENFORCED FROM BLASTING TO THE NEAREST DWELLING, REGARDLESS IF IT IS A HOUSE OR SHED. PEOPLE COULD BE WORKING IN THERE SHED? I ENCLOSE INFORMATION FROM BOTH N.S.W. & QLD GOVERNMENT PAPERS IN WHICH CLEARLY STATES THAT AT 500 MTS PEOPLE COULD BE KILLED. IT IS OUR BELIEF THAT ALL BLASTING IN MINES AND QUARRIES SHOULD NOT DO ANY BLASTING AT LEAST 500 MTS FROM PEOPLES PROPERTY. IN THE PLANNING AND ENVIRONMENT COURT (MANSELL & MANSELL CONCRETE P/L V MAROOCHY SHIRE COUNCIL 19-10-2007) JUDGE J.M. ROBERTSON REJECTED A QUARRY APPLICATION ON THE GROUNDS THAT HOUSES WERE 200 MTS FROM THE BOUNDRIES OF RESIDENTS. HE ALSO QUOTED THE QLD GOVERNMENTS OWN E.P.A. RECOMMENDED BUFFER DISTANCE OF 500 METRES AROUND QUARRIES A CONSIDERED SAFE DISTANCE. 100 METRES IS A RIDICULOUS DISTANCE AND IF PEOPLE DIE IN THE FUTURE THE GOVERNMENT SHOULD TAKE THE BLAME.

REGARDS LUKE & JEAN DAGLISH

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Explosives Inspectorate

Information bulletin **69**
27 Feb 2009

Flyrock incidents

Previously issued as Safety bulletin No 08 dated 8 April 2005

References

A. *Explosives Act 1999*
B. Explosives Regulation 2003
C. *Mining Safety and Health Act 2001*
D. *Coal Mining Safety and Health Act 2001*
E. Explosives Information bulletin No. 11 – Precautions against flyrock
F. Safety Alert No. 8 – Recent flyrock incidents

Purpose

1. High Potential Incidents involving flyrock continue to occur at unacceptable levels.

Background

2. In the past few months, there have been some very serious incidents reported from the coal mines of the Bowen Basin, North Queensland and from quarries around Brisbane. All of these could well have ended up with very serious or fatal results. Significant damage to property and structures has also been reported. The frequency of these incidents has reached a point where it is well beyond acceptable limits.

3. Flyrock is an integral part of blasting. However, uncontrolled or unexpected flyrock that is projected past a defined safety zone is not acceptable. It is well known that rock and/or debris can be thrown over a kilometre from the blast site, and in a recent case rocks travelled approx 1.3 kilometres.

4. Incidents of this nature constitute a serious risk to personnel involved with blasting activities as well as anyone else who might be in the vicinity. When such incidents occur in populated areas, the associated problems of air blast, ground vibrations and excessive noise add to the seriousness of the event.

Incident Causation

5. The investigation of the recent incidents point to several underlying causes,
   a. holes loaded with excessively high powder factors.

b. blast design not considering all the design parameters and information available.
c. incomplete or poorly conducted Risk Assessments.
d. excessive working hours of blast personnel and incomplete procedure closures.
e. conflicting responsibilities between site management, contractors and sub contractors.
f. no clear lines of responsibility for the whole blasting activity.
g. incomplete checking of hole placement, geological changes and setting in inadequate exclusion zones around the blast sites.

Issues

6. The *Explosives Act 1999* (Section 54) is clear in its instruction about persons using explosives that might endanger life and the penalties that go with this.

7. The Explosives Regulation 2003 (Section 126) details the requirements of the shotfirer with respect to the risk associated with flyrock, ground vibration and noise.

8. The obligations of persons who handle and use explosives are clearly detialed in AS 2187.2.

9. Authority holders are fully informed of the dangers and responsibilities that go along with the handling and use of explosives products.

10. There are duty of care obligations, that are essential, by all involved in the mining, quarrying and construction industries.

11. There are also legal obligations under the *Mining Safety and Health Act 2001*, the *Coal Mining Safety and Health Act 2001* and their associated Regulations for all persons who handle or use explosives.
Note : The penalties for mismanagement or ignoring these duties and obligations are extremely costly.

12. The Explosives Information Bulletin No. 11 (Precautions against Flyrock) was issued to the industry in July 2003.

13. Safety Alert No. 8 (Recent Flyrock Incidents) put out by the Explosives Inspectorate to the industry in July 2003, raising the Inspectorate's concerns at that time.

Recommendations

14. It is once again recommended that the attached documents are use regularly as,
    a. The subjects for tool-box meetings and training packages.
    b. Input into the reviews of Standard Operating Procedures and Work Instructions to assess their appropriateness and suitability in addressing flyrock.
    c. Information that can be used to re-assess whether exclusion zones around blast sites and the appropriate guarding of the blast site are appropriate.

15. It is of the utmost importance that this issue be viewed by all parties as one that needs urgent attention.

16. The current frequency of reported incidents is cause for much concern and suggests that effective procedural changes need to be reviewed/made once again and implemented without delay.

17. You, the handler and use of these dangerous goods, must progress this responsibility.

18. It is the responsibility of all parties, from shotfirer through drill and blast supervisor, to Mine/Quarry Manager, SSE and senior management, to ensure that the incidence of unintentional flyrock is brought under control immediately.

Chief Inspector of Explosives

Enclosures

1. Explosives Information bulletin No.11 – Precautions against flyrock.
   http://www.dme.qld.gov.au/zone_files/Explosives_information_bulletins/infobul11.pdf

2. Safety alert No. 8 – Recent flyrock incidents.
   http://www.dme.qld.gov.au/zone_files/Explosives_Safety_alerts/safetyalert08.pdf

NSW DEPARTMENT OF
PRIMARY INDUSTRIES

SAFETY ALERT

Blast Control – Flyrock Incident

INCIDENT

During a quarry blast under the control of a contractor, flyrock was projected more than 500 metres onto the Pacific Highway.

A rock of approximately 100mm diameter was also projected onto a nearby property where it caused damage to a shed and parked vehicle.

In addition, the windscreen of a front end loader in the quarry was broken but there was no other damage or personal injury.

CIRCUMSTANCES

The drilling and blasting was carried out some 36 metres below the top level of the pit.

While drilling the thirty-two 89mm holes the driller reported difficulty as his rig was losing air pressure on a number of holes. As such, four of the holes at the northern end of the shot were left undrilled.

During loading the contractor expressed some concern that a number of holes were 'getting away on them'. The theoretical loading of the 12 metre holes was 80kg of explosives with a 2 metre stem height. In 9 holes, 90kg of explosives were used without achieving the stemming depth, possibly due to leakage through fissures in the rock mass. This was consistent with the geology of the pit.

INVESTIGATION

The three experienced shotfirers confirmed all holes as having fired with no cut-offs.

Most of the fired holes on the southern end pushed forward in the designed manner with good fragmentation and heave. This ground had not exhibited any anomalies during loading or drilling.

Mine Safety Report No:	SA05-16
File No:	05/5353
Comet ID:	317524764001
Prepared by:	Paul White
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Date Created:	15th December 2005

The northern end had a lot of blocky oversize which was expected after loading due to increased stemming heights. This section had hardly moved forward and the energy released up, rather than out.

The additional explosives added by the shotfirers to adjacent holes may have combined, through voids in the ground, to increase the slurry concentration and contributed to the resulting flyrock.

A risk assessment had been prepared by the contractor but this was considered generic in nature without taking into consideration specific unique features outside of the lease.

RECOMMENDATIONS

Changes in procedures should be implemented:

- Where there is a potential for the explosives to run through the cracks in the rock mass, a procedure should be followed to deal with the loss of explosives. E.g. an alternative method such as a packaged product should be used.
- Profile and boretrack methods should be applied where there is a potential for drill wander due to cracked ground.
- Where anomalies occur during loading, shotfirers must determine the causes and take action to ensure overloading does not occur.
- Careful consideration should be given to the orientation of quarry faces to ensure appropriate safe firing direction.
- Stemming heights could be increased.
- The risk assessment should take into account the unique quarry location and external areas that come under the influence of the blast.
- The risk management procedure should allow for reassessment of risks if significant changes in circumstances occur.

Signed

Rob Regan
DIRECTOR
MINE SAFETY OPERATIONS BRANCH
NSW DEPARTMENT OF PRIMARY INDUSTRIES

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