



SAFETY BULLETIN NO: 58

STRUCK BY VENTILATION DOORS – DEATH OF CHARGE-UP ASSISTANT IN A BLASTING ACCIDENT

The State Coroner has delivered his findings in a recent inquest into the death of a 29 year old underground miner in a blasting accident during 1998. The deceased was struck by steel ventilation doors as a result of air-blast over-pressure from the blasting of a down-hole raise round in an underground mine. It was found that an excessive amount of explosive was charged into the holes that were fired, due to confusion regarding the charging instructions issued in respect of the raise.

In his comments regarding the safety issues raised by the accident, the Coroner said:

“This case has highlighted the fact that it is extremely important to ensure that charging instructions are comprehensive and clear.

Charge-up plans should be in writing and should specify the type of explosive to be used and the quantity to be used with reasonable precision. If, as a result of decisions made shortly before firing, a decision is made that a significant increase in the amount of explosive will be required, this should be reported to the supervisor before firing takes place. ...

Before blasting, it is necessary to clearly identify the positions which should be taken by the shot firer and the shot firer’s assistant at the time of firing.

This process should include a risk assessment of the nearby area including identification of all potential hazards, such as ventilation doors or other man made structures. A decision should be made in relation to how these identified hazards should be treated at the time of blasting.

These questions should be addressed before the time of blasting and not simply determined in an ad hoc manner. It is important that any decisions made should take into account the possibility that there could be larger than predicted blasting forces.



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At the stage when hazards are being identified prior to blasting, appropriate signage should be displayed. Signs should also be displayed warning of the fact that blasting is taking place and these signs should be placed at a safe distance from the blast location.

It is obvious that every effort should be made to ensure that blasting takes place from positions which are as safe as possible. Consideration should be given to the possibility that blasting could take place from central, remote positions where there can be no realistic possibility that those concerned could be injured by the blast.”

The attention of underground mine managers and supervisors is drawn to the fact that the Coroner’s recommendations are entirely consistent with the provisions of s.9 of the Mines Safety and Inspection Act 1994 and the Part 8 regulations of the Mines Safety and Inspection Regulations 1995, compliance with which is mandatory.

Attention is also drawn to the fact that the forces acting on structures due to air-blast during blasting operations are proportional to both the air-blast over-pressure differential above atmospheric pressure and the surface area of the structure which is presented to the path of the air-blast. A relatively small over-pressure acting on a structure with a large surface area (such as the ventilation doors concerned in the present case) can result in very substantial forces acting on the structure and can have disastrous consequences.

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