

To All Owners, Agents & Managers of mines.

**Subject: Dangers due to blasting projectiles.**

Accidents due to projectiles ejecting from blasting had been a major source of accident in both below ground and opencast workings. Under the existing provisions of Coal Mines Regulations, 1957 and the Metalliferous Mines Regulations, 1961, before a shot is charged, stemmed or fired the shotfirer/blaster is required, amongst other things to ensure that all persons within a radius of 300m from the place of firing (referred to hereinafter as danger Zone) have taken proper shelter, apart from giving sufficient warning by efficient signals or other means approved by the manager over the entire zone. There had been, however, a number of instances where flying fragments due to blasting had ejected not only within but also beyond the danger Zone, resulting into serious and even fatal accidents.

This Directorate from time to time had drawn the attention of all concerned about the dangers from flying projectiles through issue of DGMS Circulars Viz. Circular Tech. 15/1977 and 8/1982. Recently, however, another fatal accident occurred due to same reason.

Enquiry into the accident revealed that in an open cast coal mine, overburden had been kept dumped against the free face of OB bench, 12 No. first row of holes were left uncharged because of spontaneous heating in the seam below, 17 holes of 150mm 6.5m Depth drilled in 7m x 5m Pattern (spacing & burden) charged with 75 kg/hole and 42 holes of 6.5m depth 250mm dia drilled in 6m x 6m pattern charged with 130 kg/hole were blasted. The projectiles ejected due to blasting travelled for a distance of about 412m in the reverse direction away from the free face and hit a mechanical supervisor. The enquiry further revealed that the deceased had taken proper shelter in a blasting shelter but had come out of the shelter immediately on hearing to the sound of blast and was subsequently hit by the projectiles.

Over years there had been refinement of blasting practices as well as development in explosives and accessories, whereby it is possible to control the throw and prevent ejection of flying fragments within a safe distance, with relative ease. There is, therefore, no reason why such type of accident should continue to occur.

The matter is brought to your attention so that following corrective measures are taken in case similar conditions exists in any mine under your control.

(1) In the interest of safety to treat all the places within a radius of 500m of the place of firing as the danger zone, all persons who are required to remain within the danger zone at the time of blasting should take protection in substantially built shelter.

(2) Formulate a code of practice for controlled blasting Technique with milli-second delay detonators/ electric shock tubes/ cord relays or use of sequential blasting machines or by adequately muffling of holes including precautions to be taken during blasting operation until all clear signal given by blaster.

(3) Training of persons and their helpers engaged in such blasting operation.

( Dashrath Singh )  
Director-General of Mines Safety.