

To:

1. All Owners, Agents and Managers of Coal Mines
2. Manufacturer of Explosives

Subject: Procedure to be followed for approval of a New Permitted Explosive.

Dear Sir,

You are aware that the Chief Inspector of Mines (also designated as Director General of Mines Safety) is empowered to grant approval for the use of Permitted Explosive under the Regulation 2(23) of Coal Mines Regulation 1957 and Regulation 2(24) of the Metalliferous Mines Regulation 1961. In suppression of this Directorate's letter No. 14(26)79-Genl/1956 -63 dated 09/02/1983 the following procedure will be adopted while approving a new permitted explosive:-

- 1 The explosive manufacture shall submit an application to the DGMS in the prescribed format for approval of an explosive composition along with copies of test reports from the Central Mining Research Station, Dhanbad. The test report shall include results of tests for incendivity, COD, Air-gap sensitivity and Fume characteristics for P5 type of explosives.
- 2 On the basis of satisfactory test reports, an approval for conducting field-trials in mines may be granted.
- 3 The explosive manufacturer will intimate well in advance the date of field-trials to the field offices of this Directorate so that an officer of the Directorate may also witness few blasts.
- 4 The field-trials will be conducted jointly by the representatives of the concerned mine management and the explosive manufacture.
- 5 The faces for trial blasts shall be carefully selected. These faces should be about 30 meters in by of the last ventilation connection. During field-trials normal pattern of shot-holes shall be followed.
- 6 Quantitative measurements shall be made of NO+NO₂ and carbon monoxide in post detonation fumes 5 minutes after blasting.
- 7 During field trials, about 100 kegs of the explosive shall be fired. In case of ordinary electric detonators minimum 500 nos. and in case of delay detonators 200 nos. from each delay types will be blasted during the field trial. On completion of the trials, a report in original on the performance and safety characteristics of the explosive composition shall be submitted in Form –I

along with the blast details (enclosed) jointly signed by the Mine Manager/Agent and the Technical Services Engineer of the explosive manufacture.

- 8 A new explosive composition may be approved if its performance during field trials is found to be satisfactory. The initial approval will normally be for a period of one year. During this period the explosive may be supplied and used at a large number of mines. The explosive manufacture will keep this Directorate and the concerned field offices of the Directorate fully apprised of the details of supplies. Consumer will watch the performance of new explosive composition both from safety and productivity points of view and will submit reports on the same after six months of introduction of the new explosive composition in the mine. The concerned explosive manufacture shall also submit a consolidated performance report. The performance reports of the explosive composition during period of provisional approval shall be submitted in Form – II (enclosed)
- 9 The approval may be renewed if the performance of the new explosive composition is found to be satisfactory during the period of initial approval.
- 10 Approvals to P -3 types of explosive compositions will normally be granted in stages first for degree I then II and finally for degree III gassy mines.
- 11 The above procedure may be brought to the notice of all concerned for taking necessary action in the matter.

Director General of Mine Safety

REPORT ON PERFORMANCE AND SAFETY CHARACTERISTICS OF _____
 _____ EXPLOSIVES COMPOSITION

FIELD TRIAL CONDUCTED AT _____ COLLIERY

- 1
 - (a) Name of the Explosive :
 - (b) Name of Manufacture :
 - (c) Type of explosive :
 - (i) P-1/P-3/P-5
 - (ii) N.G. based
 - (iii) Slurry Emulsion

- 2 Details of DGMS approval (for trials)
 - (a) Letter No. _____ dt _____
 - (b) Valid upto _____
 - (c) For gassy seams of _____ degree(s)

- 3 Details of sites of Trials :
 - (i)
 - (a) Name of Seam
 - (b) Gassiness
 - (ii) Name of District
 - (a) working thickness, gradient of seam etc.
 - (b) Nature of coal (hardness , cleavage, bands etc)
 - (c) Method of work (depillaring or devl., BOS or M/c out/ face) :

- 4
 - (a) Period of Trial
 - (b) Total quantity (in kg) of explosive used during trial blasts
 - (c) No. of shots fired during trials blasts :

- 5 General Remarks
 - (a) Name of DGMS official
Who attended the blast _____ on _____
 - (b) Blast details (appended)
 - (c) Determination of Post detonation fumes by : (apparatus)
 - (d) Comparatives assessment of the performance & Safety characteristics of the explosive with other comparable composition (s) :-
 - (e) Any other remarks

- 6 Conclusion regarding suitability of the explosive .

Signature / Designation / Date
 Explosive manufacture

Signature / Designation / Date
 Mine Manager/ Agent

Consolidated report on performance and Safety Characteristics of the Explosive composition during its Regular Approval (Required for renewal of Approval)

- 1 (a) Name of the Explosive :
(b) Name of Manufacture :
(c) Type of explosive :
 - (i) P-1/P-3/P-5
 - (ii) N.G. based
 - (iii) Slurry/Emulsion

- 2 Details of DGMS approval (for trials)
 - (a) Letter No. _____ dt _____
 - (b) Valid upto _____
 - (c) For gassy seams of _____ degree(s)

- 3 (a) Name of Mine(s) with degree of gassiness to which this consolidated report relates :
(b) Total quantity of Explosive used during the period

- 4 General Comments on –
 - (a) Explosive Performance
 - (b) Post detonation fumes Characteristics
 - (c) Frequency of Misfires or any other unusual occurrence (Specify)
 - (d) Blasting vibrations effect on roof / sides
 - (e) Safety and ease in handling storage, transport, priming etc.
 - (f) Any other remarks

- 5 Comparative assessment of the performance & Safety characteristics of the explosive with other comparable compositions (s) :

- 6 Conclusion regarding suitability of the explosive.

Date
Place

Signature
Name
Designation