

of the affected panel only. Development on panel system also permits provision of independent ventilation split for each panel, requires less number of isolation stoppings to be built during depillaring operations; the number of stone dust barriers, explosion proof stoppings to be provided is usually much less; and a panel may be easily kept isolated pending commencement of final operation with a number of attendant advantages as pointed out in this office circular No. 66 of 1964. Thus the panel system of development is not only to be preferred from safety and conservation points of view but it is also likely to prove an economical method of working in the long run.

3. A still better method of working while opening out a seam or a part of a seam is to drive 4 or 5 headings along strike and then dip and rise upto the mine boundary or a predetermined barrier as quickly as possible, and to form panels on the retreat. In this method of working, a system of more or less simultaneous development and depillaring could be conveniently arranged in the same panel or adjacent panels. Such a method of working can be planned to yield the desired output at the initial development stage, and it has the added advantages of concentration of workings, very much reduced chances of spontaneous heating, better roof control, little or no weathering or spalling of pillars, no old panels requiring inspection or isolation to keep them in safe condition etc.

4.1 Although the above mentioned principles of good development are well recognised, it is found that there continue to be many haphazard and unplanned developments. It is high time therefore that the old method of ordinary development in which all galleries are interconnected throughout in a honeycombed fashion is stopped and while adopting bord pillar system, the workings are developed on panel system only—preferably in the manner indicated in the preceding paragraph. It is also advisable that a *layout plan* should be prepared for every scheme of new development of a seam or part of a seam. The layout plan should be sufficiently comprehensive covering the entire area of proposed development or atleast the part of the area which is likely to be developed in next 3 years, and take into account existence of important surface features like railways, roads, buildings, presence of water-logged workings or fire in the vicinity etc. In preparing the plan of development, manner in which final operation or depillaring would be carried out, should be kept in close view to avoid any complications or wasteful mining later on.

4.2 A copy of the layout plan should be kept at office of the mine, and a copy may be sent to this office for scrutiny. If desired, the plan may be

time to time, a number of separate applications for statutory permission and thus ensure uninterrupted working of the mine in so far as compliance with regulations is concerned.

5. Needless to stress, it is important in the interest of proper development of working both from safety and conservation points of view that all future working should be laid out in a planned manner, and when bord and pillar system of work is adopted, development should be on the lines indicated above.

(Cir. 7/1966)

CMR 100 / MMR 107

1. Proforma for application to extract or reduce pillars, under Reg. 100(1)/105(1)/122(1)/126/127 of CMR 1957

In supersession of Circulars issued earlier on the above subject, henceforth all applications for permission to extract or reduce pillars under Reg. 100 of CMR 1957 shall be submitted alongwith the enclosed proforma [Appendix—100 PR(88)] duly filled in.

APPENDIX—100 PR(88)

PROFORMA FOR APPLICATION TO EXTRACT OR REDUCE PILLARS UNDER REGULATIONS 100(1)/105(1)/122(1)/126/127 OF CMR 1957

1. Name of Mine :
2. Name of Owner :
3. PARTICULARS OF THE SEAM :
 - 3.1 Name of the seam proposed to be depillared :
 - 3.2 Total thickness of the seam
 - 3.3 Thickness of the seams/section(s) proposed to be depillared (in a thick seam, indicate also the location of horizon in relation to roof and floor) :
 - 3.4 Rate of dip :
4. PLANS :
 - (a) Give the plan No. with date
 - (b) Are the plans up to date and accurate? (see Reg. 65 regarding checking of plans)
 - (c) When and by whom was the area applied for surveyed?
5. PARTICULARS OF THE WORKINGS TO BE DEPILLARED
 - 5.1 Maximum and minimum height and width of the workings
 - 5.2 Average height and width of workings
 - 5.3 Maximum & minimum size of pillars centre to centre
 - 5.4 Average size of pillars centre to centre
 - 5.5 In a thick seam, indicate also the location of the horizon in relation to roof and floor and the thickness of coal left in roof and floor.

- 5.6 Age of workings.
- 5.7 Nature of roof and floor (upto atleast 5m thickness above and below)
- 5.8 Are the workings dry/damp/naturally wet?
- 5.9 (a) Maximum and minimum thickness of cover from the surface.
(b) Percentage of sandstone in the cover over the proposed panel.
- 10 State—
 - (a) The rate of emission of inflammable gas per tonne of coal raised—
 - (i) in the district,
 - (ii) in the seam.
 - (b) The maximum percentage of inflammable gas detected at any time in the general body of air—
 - (i) in the district,
 - (ii) in the seam.
- 11 Are there any geological disturbances in or within 180m of the area proposed to be depillared?
- 12 General condition of workings as actually determined by a recent inspection; state in particular—
 - (i) If there are any signs of spalling of coal from pillar sides and/or
 - (ii) Falls of roof, if any (the nature and extent of such falls should also be clearly indicated)
- 13 Is there any history of fire in the seam in the same mine or the adjoining mines? Please give details.
6. **Section of the strata from surface showing the overlying and underlying seams, their thickness and the thickness & nature of the parting between them. This strata section shall be drawn at a point either within the panel or close to it [position of bore hole etc. section of which is reproduced, shall be clearly indicated on the plan]**
7. **PROPOSED METHOD OF EXTRACTION.**
 - (a) (i) Conventional depillaring with slicing/stooking method :
(ii) Splitting of pillars as final operation :
 - (b) With/without hydraulic/dry stowing with sand/other material or by any method like hydraulic mining.
- 7.1 If in conjunction with stowing, are all preparatory arrangements for stowing ready? If not, what time will this take. Give details & amount of existing void and current rate of stowing/day.
8. **Manner of extraction/splitting of pillars to be also illustrated by suitable sketches.**
9. **Condition of the overlying or underlying seams/sections with respect to the area applied for. Specific details for the area above/below and within 90m should be given.**
- 9.1 Are the seams free from water? If not give details regarding position of water level (Distance of water from the proposed panel should be given).
- 9.2 Are the seams extracted/split standing on pillars/virgin? (above the proposed panel and within 90m thereof)

- 9.3 If the seams have been extracted or split/state if by caving method or hydraulic stowing or dry stowing.
- 9.4 Is there any fire in any overlying or underlying seams/sections or at the surface? If so, please give detailed history about the same and the present condition of the fire. Mention if ventilation of the mine is by exhaust fan(s) or forcing fan(s).
- 9.5 (a) The rate of emission of inflammable gas per tonne of coal raised.
(b) Percentage of inflammable gas in the general body of air.
10. **AIR BLAST**
 - (a) Is the roof easily cavaible? What is your past experience?
 - (b) Is there any danger of air blast? Give details of past experience in this seam either in this mine or any nearby mine.
11. **SURFACE FEATURES VIZ. LYING ABOVE AND WITHIN 45M OF THE PROPOSED AREA (PLEASE GIVE DETAILS INCLUDING ACTUAL DISTANCE FROM THE PANEL)**
 - (i) railway;
 - (ii) public/private road;
 - (iii) river, nullah or any other water course, tank or reservoir;
 - (iv) building/dwellings belonging to the owner (state whether kutcha, pucca, single storey, double storey etc.);
 - (v) buildings/dwellings not belonging to the owner (state whether kutcha, pucca, single storey, double storey etc.);
 - (vi) H.T. Transmission line (state whether belonging to the owner or any other party);
 - (vii) aerial ropeway (state whether belonging to the owner or any other party);
 - (viii) any other structures/features whether or not belonging to the owner.
12. **HIGHEST FLOOD LEVEL**

Distance of the highest known flood level of any river, nullah etc. from the edge of the panel.

State difference in level between HFL & point on surface over edge of panel (details of HFL/R.Ls, contours, embankments shall be clearly shown on the plan)
13. **DAMAGE TO SURFACE STRUCTURES ETC.**

Do you apprehend any danger to the surface buildings or structures mentioned in item 11 above or any surface feature/structure beyond 45m of the panel—

 - I. Due to the proposed operations : If 'no' give reasons
If you apprehend danger, please give details of the proposed measures to prevent danger to the same.
 - II. Due to the vicinity of a fault or a dyke or other geological disturbances as a result of the proposed operations.
14. **SUBSIDENCE RECORDS ETC.**

Give particulars of the subsidence experience in panel already extracted in the same seam (attach also a copy of the subsidence records and plans and sections). Details of nature of intervening strata shall be given.
15. **ACQUISITION/FENCING OF SURFACE AREA :**

If surface is likely to be affected, has it been acquired for fencing as required under Reg. 112(1) (c)? If not, what alternative arrangement has been made to prevent danger.

16. DANGER OF INUNDATION :

- (i) Is there any waterlogged/disused working within 60m of the proposed panel?
- (ii) Is there any danger of inundation as a result of the proposed operation from :
 - (a) surface water
 - (b) underground workings
 - (i) in any seam/section lying above or below the area applied for in the same mine or
 - (ii) of the adjoining mines in same seam or any other seam/section, or
 - (iii) from the seam/section in the same mine.

16.2 What precautionary measures are suggested to prevent the danger of inundation, if any?

17. DANGER FROM FIRE

Where there is fire either in the overlying or underlying seam/section, or on the surface (whether in the same mine or adjoining mine), state the proposed protective measures to prevent danger from the same.

18. DETAILS OF VENTILATION :

- (a) whether ventilation is exhaust or forcing type
- (b) fan capacity and water gauge
- (c) quantity of air reaching the district.

19. DANGER OF PREMATURE COLLAPSE

Do you apprehend any premature collapse of the workings either in the same seam/section or in the overlying or underlying seams/section(s) as a result of the proposed operations; if so, what are the measures proposed to prevent the same.

20. INCUBATION PERIOD

20.1 What are the crossing and ignition point temperatures of the coal seam to be depillared?

20.2 What is the know-how of expected incubation period of the seam?

20.3 (a) What was the average rate of monthly production from a depillaring district under similar conditions, also state the expected monthly production in the proposed panel.

- (b) (i) Percentage of extraction achieved earlier in similar panels (excluding barrier)
- (ii) Expected percentage of extraction in the panel.

20.4 What is coal raised/sand stowed ratio by volume?

20.5 What was the average rate of daily sand stowing achieved by volume under similar conditions?

20.6 State the number of pillars in the largest panel/sub-panel and the quantity of coal in standing pillars (proposed for extraction)

21. DIVISION OF THE AREA INTO PANELS AND PROVISION OF ISOLATION STOPPINGS

21.1 Has the area applied for depillaring been divided on the plan into suitable panels consistent with the known or expected incubation period of the seam?

21.2 Please state the type (state whether explosions proof or otherwise and give the details of construction) of isolation/preparatory stoppings to be provided for the purpose of

21.3 How long will it take you to complete construction of isolation/preparatory stoppings around the proposed area for depillaring?

22. SYSTEMATIC SUPPORT RULES

Have you submitted a draft of the systematic support rules to the concerned Director/Dy. Director for approval in accordance with Regulation 108?

23. WORKING WITHIN DISPUTED AREA

Does the area proposed to be depillared/split lie within or close to the disputed boundary or area or encroached workings with the neighbouring mines. If so, please give details.

Have you left adequate barrier against the mine boundary as per provisions of Reg. 107 (as amended upto date).

24. FOR APPLICATION UNDER REGULATION 105(1)

(a) Where the application has been made under Reg. 105(1), has a copy of the same together with relevant plans been sent in the case of railway to railway administration concerned and in the case of other public works to the authorities, owning works?

25. REFERENCE TO PREVIOUS PERMISSION

Please state whether any permission for extraction of pillars was granted in the past for any other area of the seam at the mine, if so.

(a) the reference number and date of the permission letter(s)

N.B. Where permission has been granted in more than two areas in the past, reference to only the last two permission letters need be given.

(b) Has the extraction been completed in the said areas (if not give the latest position in respect of the same).

(c) Give details of experience during extraction of such panels mentioned above. Mention about any untoward incidence that might have occurred in those panels.

26. ANY OTHER RELEVANT DETAILS

Certified that the information given above is correct to the best of my knowledge and belief.

Signature

Designation

Owner/Agent/Manager

Date

Note : Intimation about crossing point and ignition point of the seam is to be given (see Cir. Tech. 3/1975 & 3/1994 under Reg. 118 also)

2. Proforma for application to extract or split or reduce pillars or blocks of minerals under Reg. 107(3)/109(1)/127/128 of MMR 1961

Complete information is not being furnished with the application for stoping. To eliminate avoidable delay in collecting further information required for dealing with the application for stoping, proforma at Appendix MMR-107 shall be filled in and sent with every application for stoping.