



भारत सरकार  
Govt. of India  
श्रम एवं रोजगार मंत्रालय  
Ministry of Labour & Employment  
खान सुरक्षा महानिदेशालय  
Directorate-General of Mines Safety



**NO: 360182|NZ|Jabalpur Region|Perm|2024|269454**

**Date: 24.12.2024**

**From**

**Director of Mines Safety,  
Jabalpur Region, Northern Zone, Ghaziabad**

**To**

**Shri Manoj Kumar(Agent)  
Kuteshwar Limestone Mine  
M/s Steel Authority of India Ltd.  
Village-Gairtalai,PO:Bharhi,  
Dist-Katni,(MP).**

**Subject: Permission to use Site Mixed Emulsion explosives (SME) along with booster for deep hole blasting under the Regulation 155(1) & 162(5) of Metalliferous Mines Regulations, 1961 at Kuteshwar Limestone Mine of M/s Steel Authority of India Ltd.**

Sir,

Please refer to your online application ID No. 269454 dated 07.10.2024, offline letter no. BSP/KTR/MIN/SME/2024/GM(F)/252 dated 07.10.2024; scientific study related to field trial of SME Explosive along with booster charge conducted by Department of Mining Engineering AKS University, Satna(MP) Vide ref .no. AKSU/FE&T/MINIG/PROJECT-SME/2024-25/11,July-September,2024 along with mine plan on the above subject.

The matter has been considered in the light of what has been stated in your application under reference.

By virtue of the powers conferred on the Chief Inspector of Mines (also designated as Director General of Mines Safety) under Regulation 155(1) & 162(5) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorization granted to me by the Chief Inspector of Mines (also designated as Director General of Mines Safety) under section 6(1) of the Mines Act, 1952, I hereby grant permission to use different type of explosive and not in cartridge form namely, Site Mixed Emulsion Explosives (SME) along with cast booster within the area bounded by points marked as BP-1,BP-2, BP-3,BP-4,BP-5,BP-6,BP-7 and BP-1 as shown on surface plan no. SAIL/KTR/2024-25/07 Dated 25.06.2024 in Kuteshwar Limestone Mine of M/s Steel Authority of India Ltd, subject to the strict compliance of the following conditions:

1.0 (a) The operations of mixing of the site mixed slurry/emulsion, loading, charging, etc. shall be carried out under the guidance of the technical service engineer of the explosive manufacturer.

(b) The mine management shall frame a suitable code of practice to be observed by the blasting crew for handling the SMS/SME in consultation of the explosive manufacturer. A copy of the same shall be submitted to this Directorate for record.

**2.0 All the conditions stipulated by the Explosives authorities (Chief Controller of Explosives) vide letter No. E/HQ/MP/SME/9 (E51370) dated 27.08.2009 granting approval for SMS/SME regarding manufacturing, storage, transportation and handling shall be strictly followed.**

3.0 General precautions and provisions of MMR,1961 and DGMS Tech. Circulars issued time to time regarding handling, transportation and use of explosive shall be followed by the blasting crews.

4.0 (a) The pump truck carrying the premix/constituents shall be of approved by the Chief Controller of Explosives and shall be in safe operation condition and shall be driven by competent licensed driver.

(b) The truck shall be kept in isolated location while loaded.

(c) No smoking and no open flame shall be allowed within a radius of 60m of the pump truck.

(d) The area surrounding the truck, not less than 10m in all directions shall be kept free of rubbish, dry grass or other materials of combustible nature.

5.0 (a) Only necessary minimum number of persons shall be allowed during charging and firing of shots.

(b) Due care shall be taken to ensure that the explosive is pumped into properly drilled hole and that there is no spillage of explosive.

(c) Charging of the explosive shall be done in such a manner so as to ensure continuity of the explosive column in each shot hole. Where deck charging is done, continuity shall be ensured for each deck of the explosive charge.

(d) The hose used for loading the SMS/SME shall have antistatic properties and shall have a diameter less than the critical diameter for that particular explosive so that the mixture remains non-explosive while loading.

(e) The BMD vehicle shall also be properly earthed with chain link while loading.

(f) The charging and firing of the holes shall be carried out in daylight hours only.

(g) The area of the loaded holes shall be conspicuously marked by visible bright red flags during day light hours and by fluorescent signs during night hours and the entry into the area shall be effectively cordoned off to prevent inadvertent and unauthorized entry.

**(h) Proper record shall be maintained of the quantity/ratio of each ingredient in the mixture, density of the mixture, quantity of explosive in shot hole and the quantity of charge in each round of blast, giving therein the place of firing, type of strata, fragmentation obtained, distance of the fly rock, ground vibration and the quantity of overburden/coal broken. The record shall be signed by a competent person possessing managers certificate appointed for the purpose and then technical services engineer of the manufacturer supervising the operation. The record shall be countersigned by the manager of the mine.**

(i) No deep hole blasting shall be carried out within 100m of any structure not belonging to the owner unless permitted by this directorate in writing under regulation 164(1B)(a) of the Metalliferous Mines Regulations, 1961.

**(j) Recommendations of Scientific Study Report undertaken by the Department of Mining Engineering, AKS University, Satna (MP) vide reference AKSU/FE&T/MINIG/PROJECT-SME/2024-25/11, July-September, 2024 at Kuteshwar Limestone Mine of M/s Steel Authority of India Ltd. (SAIL) shall be strictly followed.**

6.0 The explosive charge shall not be allowed to sleep over in the shot holes unless express permission to that effect has been obtained in writing from this Directorate.

7.0 Adequate amount of cast boosters shall be used with the non-cap-sensitive explosive charge to ensure complete detonation of the explosive charge.

8.0 Primer explosive cartridge shall not be slit or deformed.

9.0 It shall be ensured that water in the holes does not mix up with the main charge.

10.0 Before entering the area after the blast, the Blaster and other personnel shall ensure that the place is free from any fume and dust and safe in all respect.

11.0 In case of misfires, precautions as laid down in Regulation 167 of the Metalliferous Mines Regulations, 1961, shall be followed.

12.0 Two separate explosive manufacturers shall not be engaged in close proximity including the same bench for loading/charging SME/SMS at a time.

13.0 Safe blasting pattern and the charge per delay, type of bulk explosives (SME) or its equivalent recommended by the Scientific body (Department of Mining Engineering, AKS University, Satna, shall be strictly followed.

14.0 Precautions laid down in DG's (Tech) Circular No.2 of 1985 & 2 of 1990 shall be complied with in case of hot strata condition, so, however that no blasting shall be done in fire area/hot holes unless prior permission has been obtained in writing from this Directorate.

15.0 DGMS Tech Circular No. 14 of 2020 dated 24.12.2020 that is precautions against premature blasts of site mixed emulsions (SME) /Site Mixed slurry (SMS) explosive shall be complied with.

16.0 Safe operating Procedure for handling and use of explosive including SMS/SME shall be framed on the basis of assessed risk.

17.0 In case of any dangerous situation arising out due to the use of the above explosive at any time, further use of the same shall be stopped forthwith and this Directorate shall be informed immediately. Further use shall not be started till a written approval is obtained from this Office.

18.0 No site mixed slurry or emulsion explosive shall be used in any shot holes in which water is encountered, unless prior permission is obtained in writing from this Directorate, specifying the proposed precautions and the proposed composition and density of the explosive.

19.0 The entire operation of transportation of the explosives to the site of its use, charging and blasting shall be placed under the charge of a person possessing manager's certificate of competency and duly appointed and authorized for the purpose in writing by the manager.

20.0 The mine management and the manufacturer shall prepare a scheme of training covering all aspects of operations involved in SMS/SME blasting method. The persons engaged in the SMS/SME operation shall be trained as per the scheme at regular interval.

**21.0 This permission is being issued under the provisions of Regulation 155(1) & 162(5) of the Metalliferous Mines Regulations, 1961 only and without prejudice to any other provisions of law, which may be or may become applicable at any time.**

22.0 This permission shall be deemed to have been revoked with immediate effect, if at any time any one of the conditions subject to which this permission is granted, is not complied with or violated.

23.0 This permission may be amended, modified or withdrawn at any time, if considered necessary in the interest of safety.

24.0 This permission is valid for a period of **three years** from the date of issue of this letter.

**Your Faithfully**



**ASHOK KUMAR (DIRECTOR - JABALPUR REGION)**