

FOREWORD

Chief Inspector of Mines (CIM), also designated as Director General of Mines Safety, has been empowered to grant approval to certain specific equipment, machinery, materials and appliances, etc. for use in mines under relevant provisions of the Coal Mines Regulations, 1957, the Metalliferous Mines Regulations, 1961, Oil Mines Regulations, 1984, Mines Rescue Rules, 1985 framed under Section 57 & 58 of the Mines Act, 1952 and other provisions of the Electricity Act, 2003, Central Electricity Authority (Measures relating to Safety & Electric Supply) Regulations, 2010, besides statutory notifications issued under these regulations by the competent authority from time to time. It is done in view of the documents and test reports submitted by the manufacturer together with entire facts and circumstances attached to the situation relating to the quality and performance of the equipment, machinery and appliances for use in Coal, Metal and Oil mines in the interest of safety.

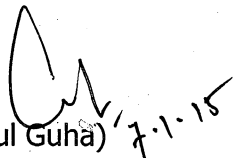
The Approval Policy contains the general outline of the procedure to be followed while processing cases of approval of equipment, machinery, apparatuses, appliances and other materials for use in Coal, Metal and Oil mines.

In order to review the Approval Policy and make it simple, transparent and suitable to user's need in the mineral industry, three different committees were set up following a stakeholders meeting at the Ministry of Labour & Employment on 18.6.2014.

The committees met from time to time to review and update the procedures for approval of equipment, machinery, tools and appliance for use in mines in the light of changing scenario in the mining industry and Standards laid down by BIS and other international Standard-setting bodies.

Based on the recommendations of the committees and inputs from experts & stakeholders, the present amended approval policy 2015 has been framed which supersedes all other approval policies with effect from 7th January 2015.

It is hoped that the Approval Policy, 2015 in its present amended form will serve the mining industry more effectively and will ensure safety of the persons employed therein in a better way.


(Rahul Guha) 7.1.15
Director General of Mines Safety

Dated: 7th January 2015.

APPROVAL POLICY – 2015

Abbreviations - DGMS: Directorate General of Mines Safety; BIS: Bureau of Indian Standards; S&T: Science & Technology; CIMFR: Central Institute of Mining and Fuel Research; IEC: International Electrotechnical Commission; IECEX: International Electrotechnical Commission System for certification to standards relating to equipment for use in explosive atmospheres; ATEX: ATmosphere EXplosive; FLP: Flame Proof; IS: Intrinsically Safe; OEM: Original Equipment Manufacturer; ERDA: Energy Research and Development Administration; CPRI: Central Power Research Institute; ERTL: Electronics Regional Test Laboratory; NABL: National Accreditation Board for Testing and Calibration Laboratories; PDIL: Projects & Development India Limited; EIL: Engineers India Ltd; DNV: Det Norske Veritas; TUV: Technischer Überwachungsverein; ISM: Indian School of Mines.

1.0. PREAMBLE

Mining is a hazardous occupation and a fight against natural forces. Mining accounts for only 1% of World Employment but it accounts for 7% of fatal accidents at work place. The engagement of competent manpower, constant vigilance, sustained use of safe methods and fit for purpose, quality materials and equipment would go a long way in achieving better safety and health conditions of workers deployed in mines. In the past, use of faulty machinery, equipment, tools and materials had resulted in accidents, disasters and dangerous situations. This warranted framing of mine safety legislation requiring approval of certain specific appliances, equipment, machinery, apparatuses and other materials to be used in mines.

The Policy is a compilation of the standard procedures to be followed for grant of approval under relevant statute to specific appliances, equipment, machinery, apparatuses and other materials used in mines. The document is divided in several sections, each dealing with a particular area of the approval procedure.

2.0 OBJECTIVE

- 2.1 The objective of granting approval to specific appliances, equipment, machinery, apparatuses and other materials for use in mines is aimed at fulfilling the statutory obligations enshrined under different provisions of the Coal Mines Regulations, 1957; Metalliferous Mines Regulations, 1961; Oil Mines Regulations, 1984; Electricity Act, 2003, Central Electricity Authority (Measures relating to Safety & Electric Supply) Regulations, 2010 & Mines Rescue Rules, 1985; besides statutory notifications issued under these regulations by the competent authority from time to time. It is done after due consideration of issues relating to the quality and performance of the equipment, machinery, apparatuses, appliances and other materials suitable for use in Coal, Metal and Oil mines.

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- 2.2 In mining, it is imperative that the appliances, equipment, machinery, apparatuses and other materials remain safe, robust and reliable under prolonged usage even in adverse conditions. In view of this, as a part of the process of approval, the actual performance in mines and pit worthiness of the products are also assessed, in addition to examining conformity to relevant standards.

3.0 EQUIPMENT AND MATERIALS REQUIRING APPROVAL

- 3.1 All equipment, machinery, apparatuses, appliances and other materials requiring approval have been broadly categorized into:

- (a) Environment monitoring instruments and devices;
- (b) Rescue apparatus;
- (c) Electrical equipment and cables;
- (d) Personal protective equipment;
- (e) Machineries and other equipment for carrying out mining operations;
- (f) Explosives & accessories;
- (g) Safety materials for use in underground mines;
- (h) Supports and accessories for roof/side supporting in mines;
- (i) Dust suppression/prevention systems in mines;
- (j) All types of lights, to be used in underground mines, hazardous areas in Oil & Gas mines; and
- (k) Other specific equipment, materials and appliances which the Directorate may consider necessary.

- 3.2 A list of appliances, equipment, machinery, apparatuses and other materials currently requiring DGMS approval by special order under the provisions of various statute, standards applicable and BIS licensing requirement is given at Appendix-I.

A list of appliances, equipment, machinery, apparatuses and other materials which can be used in mines with DGMS approval by general order has been furnished at Appendix – II.

4.0. APPROVAL PROCEDURE

- 4.1 The procedure for dealing with cases of approval is detailed in the various sections. However, there may be cases, which may deviate slightly from the laid down procedure due to unique nature of the equipment, machinery, apparatuses, appliances or other materials under special circumstances.
- 4.2 Appliances, equipment, machinery, apparatuses and other materials need to conform to the relevant Indian Standard(s) and/or DGMS Testing Protocol prescribed for the purpose. In case there is no Indian Standard/DGMS Testing Protocol, relevant

Standard of the country of its origin or any other internationally accepted standard(s) may be considered by DGMS on merit.

- 4.3 If overseas manufacturer(s) conduct business in India through an Indian agent, all details of the Indian agent such as name, correspondence address, contact telephone numbers, FAX, e-mail etc., shall be furnished in the application. Further, the Chief Executive Officer/Owner/Proprietor/Partner of the foreign company shall submit along with the application, his written authorization in original to the Indian agent for the purpose of follow-up etc. However, any correspondence on matters of approval shall be made with this Directorate only by the Chief Executive Officer/Owner/Proprietor/Partner of the manufacturing foreign company or authorized signatory thereof. Based on the above authorization, a copy of correspondence made with the manufacturer by this Directorate may be marked to the Indian agent also.
- 4.4 The overseas manufacturer conducting business in India through an Indian Agent, shall inform the Directorate, the appointment/modification/termination in respect of the Indian Agent with specified due liability and responsibility. The acceptance of the Indian agent must be submitted along with the application.
- 4.5 The manufacturing facility of an Indian manufacturer submitting application for the first time, may be inspected by an officer of this Directorate to ensure compliance with various technical requirements, to assess capability of the manufacturer in respect of quality control, testing and other facilities. The report of such inspection shall be submitted in the format given in Appendix-III.
- 4.6 The information, documents and test reports are scrutinized, and if found in order, approval for field trial may be granted.
- 4.7 After successful completion of field trial of the equipment /machinery /apparatus /material/appliance, performance report duly signed by Owner/agent /manager of the mine or Head of Discipline of user company may be submitted preferably within two months of the completion of the field trial to this Directorate.

The performance report is scrutinized, and if found in order, regular approval may be granted.

5.0 APPLICATION FORMAT

- 5.1 Application needs to be made in a prescribed format given at Appendix-IV. The application shall be made by the Owner, Proprietor, Partner of the Company seeking approval or a Director on the Board of Directors of the Company in case of private or partnership company and small public company, and addressed to 'The Director General of Mines Safety'. If the application is not signed and addressed as above, the same is liable to rejection. The application form can be downloaded from the official website of DGMS. (Presently, it is www.dgms.gov.in)

- 5.2 In case there is any change in respect of the information furnished in the application, the applicant shall forthwith send information in the same format duly revised.
- 5.3 For the imported appliance/equipment/apparatus/machinery/material, the application together with documents and certifications so possessed, in soft copy bearing digital signature of the Chief Executive Officer of the company may also be accepted after due authentication and verification.

6.0 TESTING

- 6.1 Testing is mainly divided into two parts, Type Tests and Routine Tests. Type tests are carried out on a prototype to ensure its conformity to the relevant standards. Details of type test and routine test are given in the relevant standards or specifications and guidelines drawn/accepted by DGMS. A few products may require identification of samples by this Directorate before sending them to the testing laboratory.
- 6.2 Prototype of any appliance/equipment/apparatus/machinery/material where Indian Standard(s) and/or DGMS Testing Protocol exist, need to be tested as per the relevant standard/DGMS Testing Protocol.
- 6.3 In case of appliance/equipment/apparatus/machinery/material for which no Indian Standard and/or DGMS Testing Protocol exists, relevant International standard(s) may be accepted on its merit.
- 6.4 If BIS accepts any international standard and the same has been adopted as our national standard, test reports based on these standards from any internationally accredited laboratory may be accepted on merit.
- 6.5 Imported appliance/equipment/apparatus/machinery/material may be considered for approval based on the test reports issued under IEC standard from any of the overseas accredited laboratory under IEC Ex certification scheme. The test report shall contain among others, all parameters of Testing Standard(s) vis-à-vis actual testing details with results thereof, and not only the "Certificate of Conformity".
- 6.6 Tests of all parameters of appliance/equipment/apparatus/machinery/material under relevant standard/ testing protocol or tests required by DGMS should be conducted preferably in a single test house. If, however, a particular test house does not have full facility for testing of all parameters of the required tests, the test report for rest of the parameters by other prescribed test house may be accepted.
- 6.7 Two copies of test report including test certificate(s), from a prescribed laboratory one original, the other certified copy thereof have to be submitted along with the application. Test report(s) may contain, among others, an executive summary detailing (a) different tests conducted, (b) passing criteria for each test, and (c) a

remarks column indicating each test result as 'passed' or 'failed'. Two copies of the drawing one original and one certified (wherever applicable) need to be submitted also.

6.8 Test reports issued by Government approved laboratories/ CIMFR /ERDA /CPRI /ERTL/ISM may be accepted. In addition to this, test reports of a test house accredited by NABL may also be accepted, subject to confirmation of its ability to conduct tests in pursuance with prescribe National/International standards/DGMS Testing Protocol, and the test house is not a part of any equipment manufacturer's testing facility.

6.9 In case no Indian standard exists and test facilities are not available in India, then the test report of any internationally accredited laboratory/recognized laboratory of country of origin, which is not a part of any appliance/equipment/apparatus/ machinery/material manufacturer's testing facility, may be accepted subject to condition that (a) the testing has been conducted as per the standard indicated by DGMS/ manufacturer, and (b) compliance of the stipulations of Chief Inspector of Mines, if any, in this regard.

7.0 EXAMINATION OF THE APPLICATION

7.1 In the first stage the examination of a particular case involves the following:

- ❖ Whether the format has been correctly filled;
- ❖ Whether the company really exists based on the documentary evidence submitted;
- ❖ Whether all information required has been submitted;
- ❖ Whether all enclosures duly authenticated have been submitted;
- ❖ BIS certification and validity, if applicable;
- ❖ Examination of drawing submitted; and
- ❖ Scrutiny of test reports and factory inspection report.

7.2 Applicability of BIS license shall be mentioned in the application. For items requiring BIS license, approval for field trials may be accorded even if the application is not accompanied with valid BIS license. However, approval may be granted only after submission of valid BIS license.

8.0 APPROVAL FOR FIELD TRIAL

8.1 After scrutinizing the documents and if found in order, the approval for field trial may be granted with letters addressed to the manufacturer and copies to the users and Indian Agents (wherever applicable). The period of field trials may vary between

three months to one year depending on the type of equipment, machinery, apparatus, material or appliance as given in Appendix -V.

- 8.2 The validity of field trial approval will be for a period of one year or twice the period of field trial prescribed for the equipment, machinery, apparatus, material or appliance , whichever is greater.
- 8.3 If a manufacturer is unable to complete the field trial(s) within the period accorded to him for the purpose, three consecutive extensions of one year each may be accorded based on a written application from the manufacturer. If a mine/manufacturer is unable to complete field trial within extended period also, further extension of time may be considered if justifiable reasons by the manufacturer/mine management are submitted for not being able to complete the field trial.
- 8.4 If during field trial period, there occurs any revision of Standard(s) applicable to the product, the manufacturer shall get the product under reference tested as per revised standards and submit test report(s) to the Directorate for further approval /renewal.
- 8.5 It is necessary to ensure that trials are conducted in mine(s) suitable for the purpose. In case of rescue and breathing apparatus, field trial/practical performance test may be conducted at prescribed test house and/or one or more Rescue stations before grant of approval.

9.0 MONITORING OF THE FIELD TRIAL

- 9.1 Copies of the approval for field trial letters are endorsed to concerned Dy. Director General of Mines Safety, In-charge of a zonal office of DGMS. The manufacturer shall inform concerned Director of Mines Safety/Dy. Director of Mines Safety (Electrical/Mechanical/ Mining) regarding details of field trial to be carried out in the mines.
- 9.2 During field trials, the performance of the equipment/material/machinery/apparatus /appliance may be witnessed by officer/officers of this Directorate.
- 9.3 In case any shortcomings are observed during field trials, the same are communicated both during the trials as well as at the end of the trials to the manufacturer along with a copy to the Indian agent wherever applicable and the user. The manufacturer may seek extension of the field trial, which may be granted based on the merit of the case. There are cases when field trial report submitted by the user points out some deficiencies. Such reports are forwarded to the manufacturer(s) and the Indian agent wherever applicable for comments or for taking

corrective measures. Approvals are accorded only after rectification of the deficiencies or addressing of comments, and successful completion of field trials.

10.0 REPORTING OF RESULTS OF FIELD TRIAL

Field trial reporting format for different types of mechanical equipment, is given in Appendix- VI A. The field trial report format for FLP/IS Apparatus, Cables etc. is given in Appendix-VI B. The field trial reporting format for Gas detectors/Flame Safety lamps/Cap lamps etc are given at Appendix VI C. The reporting format for field trial of permitted explosives is given in Appendix-VI D (I & II). The format of field trial report/performance report for Powered Support is given at Appendix VI E. The format of field trial report/performance report for indigenously manufactured legs & hydraulic valves for power support are given at Appendix VI F and Appendix VI G, respectively.

11.0 GRANT OF APPROVAL

- 11.1 After successful completion of field trial and on receipt of satisfactory field trial report(s), the case is examined and approval may be granted for a period of five years.
- 11.2 While dealing the case in the Directorate, recommendations of relevant Committees for development of Standards, Testing Protocol, Testing Memorandum, "Safe Operating Procedures", Committees appointed by the Directorate for the purpose, or any other protocol relating to testing and use of equipment, machinery, apparatus, appliance or material may be considered for guidance.
- 11.3 Where special conditions exist, DGMS may also consider for some equipments for approval with validity for entire accepted service life on case to case basis with stipulation of conditions to ensure quality standard and thereby ensuring safety.

12.0 DGMS APPROVAL MARK/NO

On grant of approval all manufacturers are given a unique number (like DGMS SA-9/2012) for the particular equipment, etc. The manufacturers are required to display the mark prominently on every product.

13.0 RENEWAL OF APPROVAL

- 13.1 Application for renewal of approvals shall be made by the manufacturer at least ninety days prior to the expiry of the approval. The application must be accompanied by satisfactory performance reports from user(s). For those items in which BIS license

has been made mandatory, the approval for renewal may be granted based on valid BIS license.

- 13.2 Renewal of Approval may be considered for five years each, based on the performance report received from the user. For permitted explosives, if any manufacturer is not able to supply the product during the approval period, two consecutive renewals each for a period of two years may be accorded after which, the said approval may be treated as revoked. For any appliance/equipment/apparatus/machinery/material, renewal of Approval may be considered on the basis of performance report(s) of previous supplies, if manufacturer fails to supply in the period under consideration for renewal.
- 13.3 The criteria for grant of renewal would be, (i) satisfactory Performance reports from user(s), (ii) no complaints about the product from the users or others and (iii) valid BIS license where applicable (iv) test report /practical performance test report in case of breathing apparatuses, self rescuers or other rescue apparatuses.
- 13.4 In case of certain approved items like Longwall Powered Supports and its components/ accessories, Road headers, Continuous Miners, Rescue apparatus, Man Riding System, equipments used in Oil Mines, etc., if the OEM does not come forward for obtaining renewal of the approval, the actual user at that point of time may apply for grant of renewal of the approval, provided that the said machinery, appliances or material are still in healthy condition as declared by the nominated owner of that company, and in no way jeopardize the safety of men and machinery deployed in the mine, and it passes successfully the required Tests as per relevant standard(s). The case may be considered for renewal of approval on merit.
- 13.5 The performance reports from mines for obtaining renewal of approval are required to be submitted in the prescribed formats as given at Para 10. For explosive products it will be submitted in Format furnished in Appendix VII.

For items not covered in this Para will be required to be submitted in prescribed format given at Appendix VIII.

The performance reports may also be submitted in any other format prescribed by the Directorate.

14.0 APPLICATION IN CASE OF REVISION OF STANDARDS

From time to time, Indian and other Standards are subject to Revisions incorporating various changes including testing and quality control systems. An equipment, machinery, apparatus, material or appliance, which had been granted approval based

on, such standards need to be revalidated incorporating the changes under the revised Testing Standard(s). Manufacturers need to make application for revalidation of the approval based on, among others, test report of the product tested as per revised standard(s) forthwith.

15.0 AMENDMENT / WITHDRAWAL OF APPROVAL

Any amendment or withdrawal of permission/ approval may be effected by the Directorate:

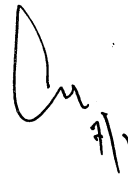
- i) If Testing Regime has undergone a change;
- ii) If at any time any one of the conditions subject to which the permission/approval has been granted is violated or not complied with;
- iii) If any complaint from user or other concerned agency on quality or other technical matter of the product or reasons affecting safety and health of person is received and the same is substantiated by the Directorate;
- iv) If any sample check results in deficient quality;
- v) Any other reasons brought to the notice of the Directorate; and
- vi) At any time in the interest of safety.

16.0 MISCELLANEOUS

- 16.1 If the performance report is not received within 90 days from the date of issue of letter seeking performance report from the user, performance of the equipment /machinery/apparatus/material/appliance may be considered satisfactory and approval may be renewed accordingly. However, if any adverse report is received subsequently the approval shall be deemed to have been revoked forthwith.
- 16.2 Field trial permission will normally be issued in ninety days time on receipt of all required documents from the applicant. In case manufacturers/applicants fail to comply with the requirements within the stipulated period, application is liable to be rejected / recorded.
- 16.3 The factory inspection may be made by an officer of DGMS any time to assess/ reassess capability of the manufacturer in respect of quality control, testing and other facilities. During Factory Inspection by DGMS, a representative from user(s) may be associated.
- 16.4 Authenticity of test certificates from Indian/international test laboratory(s) may be subject to verification.



- 16.5 If any Indian Standards has been harmonized with International standards that International standard may also be accepted for grant of approval of equipment /machinery/apparatus/material/appliance.
- 16.6 In case of new appliances/equipment/apparatuses/machinery/materials being introduced in Indian mines for first time, approvals are accorded in pursuance with the Approval Policy, and on the basis of successful application, they are notified by a general and special order under the relevant provisions of the statute.
- 16.7 Equipment which are in use in Zone 1 & 2, Hazardous areas of oil mines since long without specific approval, and which do not have proper documentation as regards to its date of installation, makers serial no. etc., may be regularized provided the concerned mine management or the original manufacturer seeks such approval from the Directorate with an application accompanied with a report from a certification body indicating their status of health and integrity of protection, Safety features details, available O&M manuals. Such approvals shall be accorded for remaining lifetime of the equipment. Such approval will be "site, equipment and user specific" and would be non-transferable.
- It shall be the responsibility of the user company/establishment to maintain the safety and integrity of protection of the equipment approved. Failure, if any, shall be brought to the notice of DGMS forthwith for review and needful action.
- CIMFR, ERTL, PDIL, EIL, DNV, TUV, Lloyds Register and Bureau Veritas may be considered for inspection and certification of equipment already in use in hazardous areas of oil mines. Other academic, scientific and research organization(s) of repute may also be engaged by the user Company/establishment for inspection and certification after due authentication and verification.
- 16.8 A consultative mechanism may be put in place to consider issues relating to test houses, standards and testing and make suitable recommendations.
- 16.9 As a consequence to notification of the DGMS Approval Policy 2015, suitable action, as deemed necessary may be initiated by the respective test house, manufacturer and user, under intimation to DGMS.
- 17.0** The Amended Approval Policy, 2015 supersedes all the earlier Approval Policies of this Directorate with effect from 7th January 2015.



APPENDIX-I

EQUIPMENT, MATERIALS & APPLIANCES REQUIRING DGMS APPROVAL BY SPECIAL ORDER

SL. No.	EQUIPMENT	PROVISION OF REGULATION				STANDARD FOLLOWED	REMARKS
		CMR, 1957	MMR, 1961	OMR, 1984	Mines Rescue Rules, 1985		
1.	Flame Safety Lamp	2(2)	2(2)			To be uploaded	
2.	Cap Lamp a) Flexible cable for miners' cap lamps. b) Miners' cap lamp assemblies (incorporating Pb-acid batteries) c) Miners' cap lamp batteries (Pb-acid type) d) Miner's LED cap lamp/lights	2(2)	2(2)			To be uploaded	
3.	Permitted Explosives a) Permitted explosives b) Detonators c) Detonating fuses	2(23)	2(24)			To be uploaded	
4.	(a) CO detector/Tube type (b) CO detector other than tube type	113(3)(c) 118A(3)(a)(I) 119(1)(b) 121 125(3)(b) 142(5)	116(3)(b) 120(1)(b) 122 126(3)(b) 141(5)			To be uploaded	
5.	CO ₂ Detector	119(2) (c)(iii)					

EQUIPMENT, MATERIALS & APPLIANCES REQUIRING DGMS APPROVAL BY SPECIAL ORDER

SL.No.	EQUIPMENT	PROVISION OF REGULATION				STANDARD FOLLOWED	REMARKS
		CMR, 1957	MMR, 1961	OMR, 1984	Mines Rescue Rules, 1985		
6.	Oxymeter	119(2) (c)(iii)				To be uploaded	
7.	Multigas detector/ Toximeter	113(3)(c), 119(2) (c)(ii & iii), 121,125(3)(b) & 145(1)(a)	122, 126(3)(b), 141	73 (1)		To be uploaded	
8.	(a) Portable Methanometer, (electrical type) (b) Infra red type	145(1) (a)	-			To be uploaded	
9.	H ₂ S Gas detector	181(3)		73(1)		To be uploaded	
10.	Exploders	174	165(3)			To be uploaded	
11.	Powered Supports & its components	181(3)				To be uploaded	
12.	Man Riding System	181(3)				To be uploaded	

EQUIPMENT, MATERIALS & APPLIANCES REQUIRING DGMS APPROVAL BY SPECIAL ORDER

SL.No.	EQUIPMENT	PROVISION OF REGULATION				STANDARD FOLLOWED	REMARKS
		CMR, 1957	MMR, 1961	OMR, 1984	Mines Rescue Rules, 1985		
13.	Winding Rope	181(3)				To be uploaded	
14.	Balance Rope	181(3)				To be uploaded	
15.	Haulage rope for man riding	181(3)				To be uploaded	
16.	Underground locomotive	181(3) 95(1)				To be uploaded	
17.	Internal Combustion Engine	181(3)				To be uploaded	
18.	Flame Proof and Intrinsically safe Equipment / Electrical equipment for use in UG Coal Mine or hazardous area (Zone 1 /Zone 2) of oil mines	181(3)		75(2)		To be uploaded	
19.	Cables used in high, medium and low voltage electrical systems & flexible cables/ control cables used for electrical systems of all voltages for use in U.G coal mines / oil mines.	181(3)		75(2)		To be uploaded	
20.	Breathing apparatus				11(5)	To be uploaded	
21.	Reviving apparatus				11(5)	To be uploaded	

EQUIPMENT, MATERIALS & APPLIANCES REQUIRING DGMS APPROVAL BY SPECIAL ORDER

SL.No.	EQUIPMENT	PROVISION OF REGULATION				STANDARD FOLLOWED	REMARKS
		CMR, 1957	MMR, 1961	OMR, 1984	Mines Rescue Rules, 1985		
22.	Self Rescuers	191D(1)			11(5)	To be uploaded	
23.	Electrical lighting apparatus for use in UG coal mines or Zone-1/Zone-2 hazardous areas of oil mines.	181(3)		75(2)		To be uploaded	
24.	Gas detectors (Telemonitoring Systems)	145(1)			11(5)	To be uploaded	

The standards mentioned in the above table are for reference purpose. The latest amended standards shall prevail over the standards given in the table. DGMS may consider any other standard/ equivalent standard on merit.

APPENDIX-II

EQUIPMENT, MATERIALS & APPLIANCES WHICH CAN BE USED IN MINES WITH DGMS APPROVAL BY GENERAL ORDER

- 1) Tub Couplings
- 2) Cap lamp Bulbs
- 3) Protective Footwear of all types
- 4) Helmets
- 5) Fire-resistant brattices including plastic sheeting and ventilation ducting
- 6) Industrial Safety Belt & Harness
- 7) Hydraulic props , Friction Props and Prop setting Devices
- 8) Link bars
- 9) Pipelines and fittings (specification approval if not as per ISS)
- 10) Safety Goggles
- 11) Ear Plugs
- 12) Reflective / High Visibility Harness
- 13) Fire Fighting & Fire suppression systems including automatic fire detection and suppression systems
- 14) Steel supports (Cogs, Chock, Props), Roof Bolts, Cement and Resin Grouts.
- 15) Noise/ Dosimeter
- 16) Dust Mask/ Dust Respirators
- 17) Underground Conveyor belting
- 18) High pressure hydraulic hose with its end fitting (Fire resistant)

- 19) Hydraulic fluid used in underground machinery (Fire Resistant)
- 20) Gravimetric /Personal Dust Sampler
- 21) Cage suspension Gear
- 22) Cage Suspension Gear including Bridle Chain
- 23) Automatic Contrivance
- 24) Power Brake
- 25) Automatic Speed Chart Recorder
- 26) Strata monitoring / Load cell/ Auto warning devices
- 27) Water barriers (substitute to Stone dust barrier) and other system to be used for the first time in underground coal mines.
- 28) Mechanically propelled vehicle for transport of explosives.
- 29) Water ampoules/Gel ampoules/Stemming plugs
- 30) Glass of Flame Safety Lamps
- 31) Oil of Flame Safety Lamps
- 32) Chemical additives
- 33) Emergency escape devices in oil mines.
- 34) Detaching Hooks.
- 35) Portable hand held lamps for use in storage tanks.
- 36) Life line.
- 37) Petroleum storage tanks.

N.B.: Completion and uploading of Annexures cited in the Approval Policy 2015 is in process