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S-29020/80/181(3)/FTP/2013/EHQ  
सरकार/ Government of India  
श्रम एवं रोजगार विभाग  
Ministry of Labour & Employment  
उत्तम सुरक्षा महानिदेशालय  
Directorate General of Mines Safety



No. 625/468 /EHQ, Dhanbad, dated 08-11-2017

From:  
Director General of Mines Safety  
Directorate General of Mines Safety  
P.O & Distt: Dhanbad - 826 016

To  
Nominated Owner and  
Director (Tech) P & P  
M/s Bharat Coking Coal Limited,  
Koyla Bhawan, Koyla Nagar, Dhanbad-826 005

Sub:- DGMS Approval under Regulation 208(3) of the Coal Mines Regulations, 2017, for Flameproof and Intrinsically safe electrical equipment (as mentioned in Annexure-B) associated with Roadheader EBZ-160 manufactured by M/s. Zhengzhou Coal Mining Machinery (Group) Co. Ltd., China for use in belowground Coal Mines in the name of M/s. Bharat Coking Coal Ltd. as site, equipment and user specific at Moonidih Project.

Ref: 1. IPL/SCM-M/M16T/437 dated 23.10.2017.  
2. BCC/D(T)P&P/2017/F-12(W3)/124 dated 08.11.2017.

Manufacturer's declaration as to Standard with which the machine complies in respect of:

- |     |                                      |                            |
|-----|--------------------------------------|----------------------------|
| (a) | General design, rating & performance | : as per drawing submitted |
| (b) | General Requirements                 | : IS/IEC 60079-0: 2004     |
| (c) | Intrinsically safe electricals       | : IS/IEC 60079-11 : 2006 & |
| (d) | Flameproof construction              | : IS/IEC 60079-1: 2007     |

IDENTIFICATION MARK  
DGMS APPROVAL No. 22 OF 2017

Dear Sir,

In reference to the field trial permission issued vide letter No. 1805/EHQ dated 12.11.2013, subsequent field trial extensions & based on the performance report received from Moonidih Colliery of M/s. Bharat Coking Coal Ltd., Dhanbad and further to the letters referred above, subject to the compliance of following conditions (Annexure-A) and test reports as referred in Annexure-B, approval is hereby accorded to the above equipment for use in belowground coal mines for a period of five (05) years from the date of issue of this letter.

The application for renewal should be made at least three (03) months before the date of expiry of the approval.

Yours faithfully,

Enc: Annexure A&B

(Prasanta Kumar Sarkar)  
Director General of Mines Safety

**ANNEXURE-A**

Approval No. .... of 2017 issued vide Directorate's letter no. .... /EHQ dated .....

Conditions for Approval under Regulation 208(3) of the Coal Mines Regulations, 2017, for Flameproof and Intrinsically safe electrical and other mechanical equipment (as mentioned in Annexure-A) associated with Roadheader EBZ-160 manufactured by M/s. Zhongzhou Coal Mining Machinery (Group) Co. Ltd., China for use in belowground Coal Mines in the name of M/s. Bharat Coking Coal Ltd. as site, equipment and user specific at Moonidih Project.

1. A report from a certification body (as per Clause 13.4 of Approval Policy-2015, Second Revision 05.05.2016) indicating the status, health and integrity of protection, safety features etc., conforming to relevant standards shall be submitted at the time of renewal of approval.
2. The relevant provisions of the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 shall be complied with in all matters relating to the installation, operation and maintenance of the equipment.
3. The user shall maintain coordination with the supplier/manufacturer to get themselves fully apprised of any difficulty with regard to the use, maintenance and operation of the equipment.
4. The user in consultation with the supplier/manufacturer, shall frame a code of practice to provide the guidance to persons employed for installation, operation and maintenance of Roadheader and associated equipments, as well as to provide safety and health of persons so employed.
5. Any replacement of parts required for maintenance of the equipment which are directly or indirectly related to the flameproof features thereof shall be supplied by the manufacturer as and when required.
6. The flameproof electrical equipment associated with the machine shall be checked by the Electrical Supervisor of the mine for their compliance as per standards. The condition of cables in the machine shall be checked at the beginning of each working shift and the findings thereof entered in a bound-paged book maintained for that purpose shall be duly signed by the Electrical Supervisor with the date.
7. All covers, doors/access covers of the electrical equipment mounted on the equipment, on opening/removal which may expose live internal conductors, shall have warning instructions either by raised lettering or by other suitable means against such opening/removal of covers, doors and access covers, without isolating supply of energy to the equipment from its source.
8. The electric supply to the machine shall be controlled from flameproof Gate-end-Box/Load Center with intrinsically safe supply for control circuit, of suitable rating, along with sensitive earth leakage protection.
9. The plug and socket assembly affixed to the motor/panel, if provided, will be so interlocked as to prevent removal of plug from the socket while alive.
10. The electrical and mechanical personnel who may be entrusted with the responsibility for the use, maintenance and operation of the machine shall be given adequate training.

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11. (a) The user shall maintain the records of the test reports from the testing laboratory with the lab certified drawing, an extract of the condition & special conditions, maintenance schedule, if any, recommended by the testing laboratory in their test report(s) so as to maintain safety features of apparatus/equipment.  
(b) The user shall also maintain the records of copy of factory test report along with drawings, instruction manual on the installation, operation and maintenance of the equipment and spares parts catalogue etc.
12. The user shall furnish the performance report of the equipment directly to this Directorate after one (01) year of actual use.
13. (a) The design of the electrical circuit shall not be changed without obtaining prior approval from this Directorate.  
(b) Conspicuous warning inscriptions against opening the cover of the main enclosure or of any apparatus which gives access to the flameproof enclosures on live parts or which is designed to receive cable attachment unless the supply to the unit is isolated at source, shall be affixed permanently on the respective part to ensure that all live parts within the unit are made dead and safe.
14. Spare parts shall be made readily available, as and when required for proper maintenance of the equipment.
15. Any failure in the equipment shall be intimated to this Directorate.
16. All sensing devices shall be regularly tested and, routinely calibrated or verified to ensure correct operation and a record of the same shall be maintained.
17. All electrical and mechanical safety critical components that are essential to the operation of the automatic shutdown system or emergency stop system shall be replaced or overhauled at intervals recommended by the manufacturer and a record of the same shall be maintained.
18. The temperature and humidity of surrounding air at the equipment installed location shall be maintained as per the recommendations of the manufacturer, by providing suitable ventilation.
19. The cables in Machine shall conform to requirement of provisions of the DGMS Tech. Circular (Electrical) No. 12 dated 25.05.2015 and DGMS Tech. Circular (Electrical) Approval No. 01 dated 19.02.2016 in addition to the special requirement, if any, specifically for the safe operation of the machine.
20. Any modification/alteration to the machine that might be considered necessary at a later date in the interest of safety or/and efficient handling, operation, maintenance and maneuverability of the machine shall be carried out upon being so directed.
21. The fire resistant hydraulic fluid shall conform to the standards and parameters as prescribed in the DGMS/Mech/Tech.Cir (Approval) No. 02, Dhanbad, dated 13.02.2015.
22. The high pressure hydraulic hoses supplied with the machine shall conform to the standards and parameters as prescribed in the DGMS/Mech/Tech.Cir (Approval) No. 04, Dhanbad, dated 13.02.2015.

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23. An officer of this Directorate may at any time draw a sample and get it tested at the cost of the user in whose favour approval is accorded. If the test reports are not satisfactory, this approval shall be deemed to be suspended.
24. The cable entry devices, threaded adaptors and stopping plugs shall be suitable for the equipment and be considered as a part of equipment (not a component). The cable entry device and cabling methods used shall be suitable for their intended duty and for the special type of cable used in mining. Such cable entry devices shall be duly certified as per relevant IS/IEC standards.
25. The approval of the subject equipment is with regard to Ex standards mentioned herein. Other relevant standards applicable for assessment of its electrical parameters required under type test have not been taken into consideration.
26. All circulars/general approvals issued by DGMS from time to time, relevant to the equipment shall also be complied with.
27. The approval is accorded for a period of **five (05) years from the date of issue of this letter.**
28. If at any time any of the conditions subject to which this approval has been granted, is violated or not complied with, this approval shall be deemed to have been revoked with immediate effect.
29. The above approval may be amended or withdrawn at any time, if considered so necessary in the interest of safety and is being issued without prejudice to any other provisions of law which may be or may become applicable at any time.

  
(Prasanta Kumar Sarker)  
Director General of Mines Safety

**Annexure-B**

List of Flameproof and Intrinsically safe electrical equipment to be associated with Roadheader EBZ-160 manufactured by M/s. Zhengzhou Coal Mining Machinery (Group) Co. Ltd., China for use in belowground Coal Mines under Regulation 208(3) of the Coal Mines Regulations, 2017 issued vide Directorate's letter no. .... /EHQ dated. ....

Sl. No	Description of the component	Manufacturer's name (M/S)	Test Report No. /DGMS approval Nos.
1.	FLP Electrical control Box Model No. KX01-245/1140(660)F-4, Rated at 1100V, 50-Hz, 265A, B-Class	Shanghai Chuangli Mining Equipment Co. Ltd.	ERTL(E)/TEST/2009/0116 /06-09 Date 08/06/2010
2.	Three Phase Flameproof Induction Motor, Model No.:YBUD-160/80-1/8, Rated at 1100V, 50Hz, 160/80KW, 1482/739RPM, 99/65A, H-Class, Water cooled	Fushun Coal Mining Motor Manufacture Co., Ltd	ERTL(E)/TEST/2009/0126 /06-09 Date 29/04/2010
3.	Three Phase Flameproof Induction Motor Model No.: YBU-75, Rated at 1100V, 50Hz, 75KW, 1480RPM, 48A, H-Class, Air cooled	Fushun Coal Mining Motor Manufacture Co., Ltd	ERTL(E)/TEST/2009/0122 /06-09 Date 30/04/2010
4.	Mining Flameproof Locomotive Light Model No. DGY9/24I(A), Rated at 24V, 50Hz, 0.37A, 9W LED, Cast Iron	Hengshui Lide Technology Development Co. Ltd.	FRTL(E)/TEST/2009/0017 /05-10 Date 02/08/2010
5.	Mining Flameproof Emergency Stop Button, Model No.: B2A24-0.1/24-L, Rated at 220V, 50Hz, 5A, Duty cycles S2	Tianjing Zhongmei Coal Mine Mechanical and Electrical Co. Ltd.	FRTL(E)/TEST/2009/0020 /05-10 Date 05/08/2010
6.	Mining Flameproof Electric Bell Model No. BALI-127 Rated at 127V, 50Hz, 50W, 0.4A, Cast Iron	Zhejiang Huaxia Flameproof Electric Co. Ltd.	FRTL(E)/TEST/2009/0019 /05-10 Date 15/07/2010
7.	IS Power Supply Type- DXI-12	Qingdao Tianxun Electric Co. Ltd.	CIMFR/TC/P/H209 Dated: 18.06.2013
8.	IS Control box designated by type-CX17-12	Qingdao Tianxun Electric Co. Ltd.	CIMFR/TC/P/H227 Dated: 28.06.2013
9.	Optical Coupling Separator type-MG-CCU	Qingdao Tianxun Electric Co. Ltd.	CIMFR/TC/P/H208 Dated: 18.06.2013
10.	IS Remote Transmitter as designated by type-K1D28	Qingdao Tianxun Electric Co. Ltd.	1. CIMFR/TC/P/H180 Dated: 10.05.2013 2. SMR(K)/T & M-TR/13-14/012
11.	Isolated Barrier as designated by type-GS8092-EX	Shanghai Chenzhu Instrument Co. Ltd.	CIMFR/TC/P/H182 Dated: 10.05.2013

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12.	IS methane sensor as designated by type- G101	Qingdao Tianxun Electric Co. Ltd.	CIMFR/TC/P/H181 Dated: 10.06.2013
13.	YDB FLP Oil cooled Motorized Pulley rated at 11KW, 1100V, 7.7A, 4 Pole, 147DRPM, 50Hz	Huzhou Motorized drum co. Ltd.	CIMFR/TC/P/H-430 Dated: 27.09.2013
14.	FLP Transwitch unit (Combined rated at 500KVA)	Mine Line Pvt. Ltd.	Approval No. 560 of 2007
15.	FLP cable coupler and Adaptor rated upto 6.6KV and upto 600A model no. R61/R62/R53	Mine Line Pvt. Ltd.	Approval No. 458 of 1999
16.	1100V, 250A Delta FLP Bolthess Gate End Box (with DVS 10 CB vaccum contactor)	Mine Line Pvt. Ltd.	Approval No. 451 of 1997
17.	FLP 1.1KV, 300A Plug & Socket type – DV/R/PS-2	Mine Line Pvt. Ltd.	Approval No. 521 of 2004

(Prasanta Kumar Sarkar)  
Director General of Mines Safety