



Under Jurisdiction of Nagpur Court only
वेस्टर्न कोलफील्ड्स लिमिटेड
Western Coalfields Limited
 (मिनीरत्न कंपनी)(A Miniratna Company)
 (कोल इंडिया लि. की अनुषंगी कंपनी)
 (A Subsidiary of Coal India Limited)



सामग्री प्रबंधन विभाग

email- gmmm.wcl@coalindia.in
CIN - U10100MH1975GOI018626

Deptt. of Material Management

/FAX: 0712 -2510284
www.westerncoal.in

पंजीकृत कार्यालय : कोयला विहार, सिविल लाइन्स, नागपुर (महाराष्ट्र)- 440001 / Regd. Off.: Coal Estate, Civil Lines, Nagpur (MS) - 440001

SO. NO. 12000110922151**Dt: 24-02-2023****SUPPLY ORDER**

प्रति,

M/s. BEML LIMITED
 23/1 BEML SOUDHA
 4TH MAIN S R NAGAR BANGALORE
 Pin - 560027

By Speed Post / email

Vendor Code: 10006588
 Vendor Category: Manufacturer
 MSE Status : Non MSE
 Email: mtt@beml.co.in
 Mobile no: 9440600172

Dear Sir,

Sub : Formal Supply Order for Supply, Installation and Commissioning of 280 HP Tyre Mounted Motor Grader Model BEML BG 825 along with Spares and Consumables for initial 12 months and subsequent 36 months of operation beyond 12 months Guarantee period from the date of commissioning of equipment

Ref : 1.Our open tender enquiry no. WCL-Hq-Pur-sp-k-ra-e010-2022-23, opened on 02-11-2022 (Tender id : 2022_WCL_256794_1), PBO on 05-12-2022

- Your offer vide Bid id no : 878898 dt. 27-10-2022.
- Our Letter vide no: WCL/MM/2022/Sec-I/981 dt. 31-12-2022
- Your Letter vide no: BEML/MNM/WCL/BG825/22-23/008 Dt: 05-01-2023
- Our Letter vide no: WCL/MM/2022/Sec-I/1075 dt. 20-01-2023
- Your Letter vide no: BEML/MNM/WCL/BG825/22-23/041 Dt: 24-01-2023
- E-office-ref no: E-719507

This has reference to above. We are pleased to place our formal supply order on you for Supply, Installation and Commissioning of of 280 HP Tyre Mounted Motor Grader Model BEML BG 825 along with Spares and Consumables for initial 12 months and subsequent 36 months of operation beyond 12 months Guarantee period from the date of commissioning of equipment, as per the price, scope of supply, technical specifications and terms and conditions stipulated below and general terms and conditions enclosed

Sl no	Item Description	Unit Price (Rs. / No / Set)	Order Qty	Extended Value Rs.
	Tyre Mounted Motor Grader 280HP BEML Make; Model - BG825 powered by BEML BS6D140EG Engine along with Standard Accessories, Standard Tools, Spares and Consumables for 12 months of warranty period and thereafter Spares and Consumables for 36 months guarantee period. Scope of Supply and detailed Technical Specifications as per Annexure - 4 & 5 enclosed			
1	COST OF EQUIPMENT	25650000.00	3 nos	76950000.00
2	PACKING AND FORWARDING , INSURANCE CHARGES	0.00		0.00
3	FREIGHT CHARGES	0.00		0.00
4	TOTAL COST OF EQUIPMENT (1+2+3)	25650000.00		76950000.00
5	GST ON COST OF EQUIPMENT @ 18%	4617000.00		13851000.00
6	INSTALLATION AND COMMISSIONING	40000.00		120000.00
7	GST ON INSTRALLATION AND COMMISSIONING@ 18%	7200.00		21600.00

8	Total Cost of Equipment (Including GST)	30314200.00		90942600.00
9	SPARES AND CONSUMABLES FOR INITIAL 12 MONTHS OF OPERATION DURING THE WARRANTY PERIOD (List of Spares and consumables per each equipment is enclosed as Annexure -1a)	3524011.00		10572033.00
10	GST ON INITIAL SPARES AND CONSUMABLES (as per Annexure -1a)	661643.88		1984931.64
11	TOTAL CAPITAL COST	34499854.88		103499564.64
12	SPARES AND CONSUMABLES for 2 nd year operation of the Equipment (List of Spares and consumables per each equipment is enclosed as Annexure – 1b)	4859095.00	3 Sets	14577285.00
13	GST ON 2ND YEAR SPARES AND CONSUMABLES (as per Annexure – 1b)	929821.90		2789465.70
14	SPARES AND CONSUMABLES for 3 rd year operation of the Equipment (List of Spares and consumables per each equipment is enclosed as Annexure – 1c)	11986565.00		35959695.00
15	GST ON 3RD YEAR SPARES AND CONSUMABLES (as per Annexure – 1c)	2475538.50		7426615.50
16	SPARES AND CONSUMABLES for 4 th year operation of the Equipment (List of Spares and consumables per each equipment is enclosed as Annexure – 1d)	5428618.00		16285854.00
17	GST ON 4TH YEAR SPARES AND CONSUMABLES (as per Annexure – 1d)	1074222.44		3222667.32
20	TOTAL REVENUE COST	26753860.84		80261582.52
21	GRAND TOTAL (Total Order Value)	61253715.72		183761147.16

Total Procurement Value : Rs. 18,37,61,147.16

(Rupees Eighteen Crores Thirty Seven Lakhs Sixty One Thousand One hundred and forty seven and Sixteen paise only)

OTHER TERMS & CONDITIONS:

- Prices:** Firm and on F.O.R. destination basis, inclusive of Packing, forwarding Charges, freight and Transit insurance charges. Safe arrival of the Goods to the Consignee is the responsibility of the supplier. Installation and commissioning Charges shall be paid extra @ Rs. 40,000.00 per equipment + GST @ 18%.

2.GST: GST shall be paid extra as applicable at the time of Dispatch within the stipulated delivery period. Input Tax Credit benefit shall be availed by WCL for 2nd year to 4th year Spares and Consumables. You have to submit GST compliant Invoice along with the supplies. In case of spares and consumables (to be supplied for 1+ 3 years), GST applicable is different for different items, as given in the List enclosed as Annexure -1a to 1d as applicable at the time of delivery. In case WCL is unable to avail ITC or any liability arises to WCL due to failure on the part of supplier, the entire amount including Interest (If any) borne by WCL shall be recovered from you

The current rate of GST is as under:

Equipment : 18%.
Spares and consumables : As indicated in List as per Annexure 1a to 1d (item-wise)

3. Delivery schedule:

A) For Equipment and Initial 12months Spares and Consumables: Supply, Installation and commissioning of all the 3 nos Motor Graders along with the standard accessories, standard Tools and Spares and Consumables for initial 12 months operation of the Equipment at the Project site is to be completed within Six (6) months from the date of placement of order. However, delivery shall be reckoned from 10th day from the date of order ie upto 06-09-2023. The date of commissioning Motor Graders at our project site shall be treated as the date of delivery.

B) For Spares and Consumables for 2nd, 3rd and 4th Year : Supply of Spares Parts & Consumables in accordance with the year wise schedule as per Annexure 1b & 1c for the for 2nd, 3rd Operation of the Equipment

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[Signature]

SO no: 12000110922151 dt. 24-02-2023 on M/s BEML Limited

after completion of 1 year warranty from the accepted date of commissioning, shall be made by you in minimum three lots in consultation with the user project during each respective year .

For the 4th Year, Spares and consumables as per Annexure 1d shall be supplied based on the actual requirement of the Spares / Consumables in consultation with Staff Officer (Excv) of the concerned Area and the payment shall be accordingly made by WCL without any binding on WCL to accept all the listed spares and consumables for the 4th year.

Note : (a.) No material should be supplied beyond the specified period, unless specific approval has been obtained from the purchaser.

(b.) Safe arrival of the equipment and other items at site is the responsibility of the supplier.

Normally extension of delivery period will not be granted. However, in case of extension of delivery period becomes essential, the supplier will send their request for extension of delivery period to the purchaser before expiry of delivery period. In the event of failure to supply the ordered material within the stipulated delivery schedule, you must obtain extension of delivery period, with or without liquidated damage, before dispatch/supply of ordered goods. Supplies made without obtaining extension of delivery period shall be liable for non-acceptance at the stores.

Grace Period: A grace period of 25% of original delivery period or 21 days, whichever is earlier, unless specifically disallowed will be applicable.

Where supplies are made within the grace period, there is no necessity for any extension in delivery period and the paying authorities shall make payment without any amendment to the contract delivery period. No liquidated damages are leviable in respect of supplies made within the grace period. The extra expenditure, the purchaser may have to incur on account of increase/fresh imposition of GST/CST/VAT, Excise/Customs Duty etc. which takes place within the above grace period will also not be recoverable from the suppliers.

The grace period is allowed as a matter of grace and is not intended to operate as extension of the delivery period. The grace period will only apply to the original contract delivery period / refixed delivery period and will not be applicable once an extension of delivery has been granted.

4. Consignee and Allocation: The Order Goods shall be consigned to Depot Officer, Regional Stores of Respective WCL Areas as per the details given below:

SI No	Area	Project	Quantity (Nos)	Consignee Address
1	Wani North	Ukni Deep OC	1	The Depot Officer, Regional Stores, Western Coalfields Limited, Wani North Area , PO: UKNI, Tahsil: WANI, Dist : Yavatmal (MS)Pin : 445 304
2	Wani	Neeljay Exp Deep OC	1	The Depot Officer, Regional Stores, Western Coalfields Limited, Wani Area; PO: Ghugus, Dist: Chandrapur (MS) Pin: 442505
3	Nagpur	Gondegaon Ghatrohan	1	The Depot Officer, Regional Stores, Western Coalfields Limited, Nagpur Area PO: SILEWARA COLLIERY, Dist. Nagpur (M.S.)Pin:441 109

WCL GSTIN no for Maharashtra State (M.S.): 27AAACW1578L1ZW

5. Pre Dispatch Inspection / Final Inspection : Final Inspection shall be carried by Consignee at Site. However, WCL reserves its right to get the Equipment inspected before dispatch by the representative of GM(Excv) I/C, WCL Hqrs or any other agency appointed by WCL. In case it is decided to carry out pre dispatch inspection by WCL's representative then equipment has to be dispatched to Consignee project within 15 days or earlier from the date of inspection after clearance by WCL's representative.

6. Payment Terms:

A. For Payment of equipment and consumable spares and consumables for first 12 months of warranty period from the date of commissioning of the equipment

- i) 80% value of the equipment and consumable spares and consumables for first 12 months of warranty period from the date of commissioning of the equipment and 100% taxes and duties and other charges excluding erection & commissioning charges shall be made within 21 days after receipt and acceptance of materials at site at the consignee's end and acceptance of Performance Bank Guarantee valid till 3 months after the completion of 60 months period from the date of commissioning of all the equipment covered in the contract.
- ii) Balance 20% payment including erection & commissioning charges shall be made after successful completion of erection, testing, commissioning and final acceptance of the equipment (along with the accessories) upon presentation of successful commissioning certificate, signed by the concerned officials of the Project and counter-signed by the Area General Manager, where the equipment has been deployed and confirmation of receipt of spares and consumables for first 12 months of warranty period from the date of commissioning of the equipment by the paying authority.
- iii) Freight charges shall be paid at actual subject to ceiling of the price indicated above against documentary evidence..

B. For Payment of spares and consumables for 36 months after the warranty period of 12 months from the date of commissioning of the equipment: 100% value of the Spares and Consumables supplied as per scope of supply and 100% taxes and duties and other charges shall be made within 21 days after receipt and acceptance of materials at consignee's end.

7. Paying Authority: General Manager (Fin), Western Coalfields Limited, Hqrs, Nagpur 440001.- for Equipment and 1st Year Spares.

AFM, of respective area for Spares and consumables for 2nd year to 5th year.

8. Supply Point:

For Equipment : Supply and Billing will be from
M/s. BEML Limited
BEML Nagar, Kolar Gold Fields – 563 115
Karnataka, India. PH: 08153 279006 : GSTIN: 29AAACB8433D1ZU
SAP VENDOR CODE: 10006654

For Spares and Consumables : Supply and Billing will be from
BEML Limited, Mamidwar Tiles factory compound,
Ghugus Road, Padoli, Chandrapur – 442 406, Maharashtra state, India
PH: 07172 -287230 GSTIN: 27AAACB8433D1ZY
SAP VENDOR CODE: 10003079

Note - Address of the supply point for spares and consumables mentioned above may change in future at the time of billing, however GST remains same

9. EFT Details of the supplier: As per the Bank Mandate Enclosed as **Annexure '2'**, as submitted by you along with offer.

10. SUBMISSION OF BILLS:

Submission of Documents for Payment for equipment: You are required to submit the following documents along with bills to the paying authority through Consignee:

- a. Four copies of the Supplier's invoice, Pre-Receipted and Stamped showing Contract Number, Goods description, quantity, unit price, total amount and GST No. of Ultimate Consignee.
- b. Receipted Challan/ Consignment Note of all the consignments.
- c. Manufacturer's Test / Inspection Certificate as applicable
- d. Manufacturer's Warranty /Guarantee Certificate.
- e. Lowest Price Certificate
- f. Copy of Performance Bank Guarantee
- g. Documentary evidence for freight charges up to the destination (as applicable).
- h. Any other document(s) required as per contract.

Submission of Documents for Payment for spares and consumables as per scope of supply:

For payment for Spares and consumables, you are required to submit the following documents along with bills to the paying authority:

- Four copies of the Supplier's invoice, Pre-Receipted and Stamped showing Contract Number, Goods description, quantity, unit price, total amount and GST No. of Ultimate Consignee.
- Receipted Challan/ Consignment Note of all the consignments.
- Lowest Price Certificate
- Any other document(s) required as per contract.

11. Mode of dispatch: All the stores securely packed are to be dispatched by road transport to the consignee on Freight paid basis.

12. Security Deposit: Not Applicable (exempted being PSU)

13. Guarantee/ Warranty: As per the terms and conditions indicated at Part C- C-7, C-8, C-9 and Part D -cl no: 7 and 8 and other relevant guarantee / warranty clauses as indicated in the Technical Specifications of Annexure - 4 enclosed

14. Performance Bank Guarantee: You have to submit performance bank guarantee for 10% of the order value (landed cost) ie value of the equipment plus value of 1st, 2nd, 3rd and 4th year spares and consumables, amounting to **Rs 1,83,76,115.00** (Rupees One Crore Eighty Three Lakhs Seventy Six Thousand One Hundred and Fifteen only) which shall be valid for a period of 51 months (48 months + 3months) of from the date of Commissioning of Equipment to cover the guarantee period and as a coverage towards non performance towards the Guaranteed availability as per the contract and the same shall be released on receipt of satisfactory performance throughout the guarantee period. The PBG extension if any shall be done on or before expiry of original date of expiry of bank guarantee. The Bank Guarantee shall be released after successful completion of the guarantee/warranty period after confirmation from GM(EXCV)HOD, WCL(HQ)s Any short fall of performance availability, deduction shall be made as per technical specification. No payment shall be made without submission of performance Bank Guarantee. PBG can be submitted Equipment wise also.

The Bank Guarantee to be issued by the issuing bank on your behalf in the favour of "Western Coalfields Ltd " shall be in paper form as well as issued under "Structured Financial Messaging System"(SFMS), the format of which is attached as Annexure-4

The Procedure for submission of Bank Guarantee / verification is as indicated at Security Deposit Clause above.

In case any amount of PBG is en-cashed as penalty as per the effect and duration of Guarantee of the contract, the supplier shall replenish the same immediately so that the value of the PBG does not fall below the specified level (i.e. 10% of the landed value), at any point of time during entire contract period.

The Amount of PBG should be maintained by the supplier for 10% of order value throughout the performance period. In the event of failure to do so, WCL reserves the right to recover the required Amount from any amount payable to the supplier/ pending bills from WCL/ CIL or any subsidiary of CIL or to recover same from the balance Amount of Bank Guarantees for same/ any other Equipment(s), supplied by the firm.

15. Liquidated Damages:

(a) In the event of failure to deliver or dispatch the equipment/stores within the stipulated date/period in accordance with the terms and conditions and the specifications mentioned in the supply order and in the event of breach of any of the terms and conditions mentioned in the supply order, the Purchaser shall have the right:

(Signature)

(Signature)

- (a) To recover from the successful bidder as agreed liquidated damages, a sum not less than 0.5% (Half Percent) of the price of any equipment/ stores which the successful tenderer has not been able to supply as aforesaid for each week or part of a week during which the delivery of such stores may be in arrears limited to 10% (Ten Percent) of the total contract value, or
- (b) To purchase elsewhere after due notice to the successful tenderer on the account and at the risk of the defaulting supplier, the equipment/stores not supplied or others of similar description without cancelling the supply order in respect of the consignment not yet due for supply, or
- (c) To cancel the supply order or a portion thereof, and if so desired to purchase the equipment/ stores at the risk and cost of the defaulting supplier and also,
- (d) To extend the period of delivery with or without penalty as may be considered fit and proper. The penalty, if imposed, shall not be more than the agreed liquidated damages referred to in clause (a) above.
- (e) To forfeit the security deposit full or in part.
- (f) Whenever under this contract any sum of money is recoverable from and payable by the supplier, the Purchaser shall be entitled to recover such sum by appropriating in part or in whole by deducting any sum or which at any time thereafter may become due to the successful tenderer in this or any other contract. Should this sum be not sufficient to recover the full amount recoverable, the successful tenderer shall pay the Purchaser on demand the remaining balance. The supplier shall not be entitled to any gain on any such purchase.

For the purpose of the calculation of the liquidated damages amount, the basic Free Delivery at Site price shall be considered. For direct imports, the CIP price at Final Place of destination will be considered. Taxes and duties shall not be taken into account for calculation of LD. However, when prices indicated in the order are inclusive of taxes and duties, such prices will be taken for calculation of LD.

Note: GST at the applicable rate shall applicable on the Liquidated Damages

(b) Denial Clause:

In case of extension of delivery period , any increase in statutory duties and/or upward rise in prices due to price variation clause and/or exchange rate variation clause, is to be borne by the seller during the extended delivery period, while purchaser reserves its right to get any benefit of downward revisions in statutory duties, PVC and exchange rate variation clause.

Regarding increase in statutory taxes and duties during the extended period, the same shall be admissible provided WCL gets 100% Input credit for those taxes and duties; otherwise increase in the statutory taxes and duties shall not be paid to the seller. However, the decrease in statutory taxes and duties shall be availed by WCL.

16. Force Majeure Clause: If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, freight embargoes or act of God (hereinafter referred to "events") provided, notice of the happening of any such event is given by either party to the other within 21 days from the date of occurrence thereof neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non- performance or delay in performance, and deliveries under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, provide further that if the performance in whole or part or any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, either party may at its option terminate the contract provided also that if the contract is terminated under this clause, the purchaser shall be at liberty to take over from the contractor at a price to be fixed by the CIL / Subsidiary Company, which shall be final, all unused, undamaged and acceptable materials, bought out components and stores in course of manufacture in the possession of the contractor at the time of such termination or such portion thereof as the purchaser may deem fit excepting such materials, bought out components and stores as the contractor may with the concurrence of the purchaser elect to retain."

In such a situation, the supplier shall promptly notify the purchaser in writing of such conditions and the cause thereof, duly certified by the local Chamber of Commerce or Statutory authorities, the beginning and end of the causes of the delay, within twenty one days of occurrence and cessation of such Force Majeure Conditions. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

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For delays arising out of Force Majeure, the supplier will not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure

17. Risk Purchase Clause:

In the event of failure of the supplier to deliver or dispatch the stores within the stipulated date/period of the supply order or in the event of breach of any of the terms and conditions mentioned in the supply order/ contract, WCL shall have the right to purchase the stores from elsewhere after due notice to the defaulting supplier at the risk and cost of the defaulting supplier. The cost as per risk purchase exercise shall be recovered from the Earnest Money Deposit/ Security Deposit/ Performance Security of the supplier and/or bills submitted by the supplier against the same contract or any other contract pending in the same Subsidiary Co. and/or in any other Subsidiary Companies / CIL.

Risk Purchase Action shall be initiated as a last resort, if the supplier has failed to deliver despite having been given adequate and proper notice to discharge its obligations and under any of the following conditions:

- a) When the supplier fails to deliver the materials even after extending the delivery period.
- b) When the supplier fails to respond to purchaser's request for supply of the materials and fails to provide any genuine and bonafide reason for the delay in supply.
- c) When the supplier breaches any of the terms and conditions of the supply order/ contract and as a result fails to execute the order satisfactorily.

18. Lowest Price Certificate : You have undertaken that the prices quoted by you for the ordered items are the lowest prices as applicable to any other Organization / Ministry / Department of the Govt, of India or Coal India Ltd. and /or its Subsidiaries or other PSU or any other private organization and a certificate to this extant to be submitted alongwith the Invoice

19. Price Fall Clause:

"You have undertaken that you have not offered to supply / supplied / is not supplying same or similar product / systems or sub systems at a price lower than that offered in the present bid in respect of any Organization / Ministry / Department of the Govt, of India or Coal India Ltd. and /or its Subsidiaries or other P S U or any other private organization during the currency of the contract and if it is found at any stage that same or similar product / systems or sub systems was supplied by the bidder to any Organization / Ministry / Department of the Govt, of India or Coal India Ltd. and /or its Subsidiaries or other PSU or any other private organization at a lower price during the currency of the contract, then that very price will be applicable to the present case and the difference in the cost would be refunded by the bidder to buyer, if the contract has already been concluded .

- (i) The currency of contract will mean the period till completion of supply.
- (ii) The bidder shall have to submit a copy of the last (latest) purchase order for the tendered / similar item received by them from any Organization / Ministry / Department of the Govt, of India Coal India Ltd. and /or its Subsidiaries or other PSU or any other private organization, along with the offer.

(iii) It shall be responsibility of the supplier to inform the purchaser of offer to supply / supply of the ordered / similar item (s) at a lower rate to any Organization / Ministry / Department of the Govt, of India or Coal India Ltd. and /or its Subsidiaries or other PSU or any other private organization during the currency of the contract.

(iv) The supplier shall submit a certificate along with the bill(s) that it has not offered to supply / supplied the ordered / similar item (s) at a lower rate to any Organization / Ministry / Department of the Govt, of India or Coal India Ltd. and /or its Subsidiaries or other PSU or any other private organization. "

20. Settlement of Disputes through Court of Law of Competent Jurisdiction: The Courts in whose territorial jurisdiction the place from where contract is being issued is located i.e. Nagpur shall be competent to deal with any matter arising out of this purchase Order/Contract . Therefore any disputes/claims arising out of the contract entered into with the suppliers will be subject to the jurisdiction of the Nagpur court of law

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21. Arbitration : In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs) /Port Trusts inter se and also between CPSEs and Government Departments / Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22.05.2018."

22.Pre-contract Integrity Pact: Already signed and submitted by you along with offer and shall be applicable for this contract

23. General Conditions of Contract: All other terms and conditions shall be as per the NIT. This order shall also be governed by the General Conditions of Contract attached as Annexure-7, unless and otherwise specified above.

This order is being placed on the basis of terms and conditions already accepted by you as per the NIT terms. You may acknowledge the receipt of this order within 15 days from the date of receipt of this order.

Yours faithfully

(Signature)
24/02/23
उप. प्रबंधक (सामग्री प्रबंधन)
वेकोलि, मुख्यालय, नागपुर

(Signature)
24/02/2023
मुख्य प्रबंधक (सामग्री प्रबंधन)
वेकोलि, मुख्यालय, नागपुर

Enclosures: -

1. Annexure 1 – Details of Spares and Consumables - 1st year to 4th Year
2. Annexure 2 –Bank Mandate Form of the supplier for Bank Details
3. Annexure – 3 PBG format
4. Annexure – 4 Technical Specifications
5. Annexure - 5 Additional Technical Specifications
6. Annexure - 6 General Terms and Conditions of the Contract

Copy to :

1. GM(Excv) HOD/ GM(Fin)-I / GM(P&P), WCL(HQ), Nagpur
2. AGM / SO(MM) / SO(Excv)/AFM / Depot Officer, WCL Wani North / Wani / Nagpur Areas
3. Chief. Manager(Fin)CP, WCL Hqrs
4. Chief Manager(MM) / Admin- WCL hqrs
5. GM(MM) of CIL & Other Subsidiary of CIL (NCL / SECL/ ECL/ CCL / BCCL / MCL)
6. Independent External Monitors:
 - i.) Shri Sudhir Kumar, IAS(Retd), Flat no 8022, ATS – One Hamlet, Sector- 104, PO Maharshi Nagar, Noida – 201304, Email sukuag@hotmail.com, Mo No 9560430245
 - ii.) Shri. Anil Kaushal, ITS(Retd, A-1/245, GF, Janakpuri, New Delhi - 110058, Email: kaushal.anil17@gmail.com and Mo No 8800028118

SO no: 12000110922151 dt. 24-02-2023 on M/s BEML Limited

Indent details: Approved Consolidated Indent / PR no: 1200000222 released on 23-02-2023 as per the details given below:

SN	PROJECT	AREA	ALLOCATION(QTY)	Area PR no
1	Ukni Deep OC	Wani North	1 Nos	1200013889
2	Gondegaon Ghatrohan OC	Nagpur	1 No	1200000041
3	Neeljay Exp Deep OC	Wani	1 No	1200000148

Budget Certification Details :

Capital Budget: Budget is certified Vide Diary No. FAWCL/CAP/BC/2022-23/HEMM/12/16/44, Dated.23.02.2023 for Rs.10,34,99,565.00.

Provisional Revenue Budget

- 1) For F.Y 2024-25 provisional budget is certified vide diary No. BC/WCL/REV/GM(EXCAV)/2024-25/HEMM SPARES/12/17/44, Dated.23.02.2023 for Rs.1,73,66,751/- only.
- 2) For F.Y 2025-26 provisional budget is certified vide diary No. BC/WCL/REV/GM(EXCAV)/2025-26/HEMM SPARES/12/18/44, Dated.23.02.2023 for Rs.4,33,86,311/- only.
- 3) For F.Y 2026-27 provisional budget is certified vide diary No. BC/WCL/REV/GM(EXCAV)/2026-27/HEMM SPARES/12/19/44, Dated.23.02.2023 for Rs.1,95,08,522/- only.

Area	Project	2nd Year	3rd Year	4th Year	Total
		FY-2024-25	FY-2025-26	FY-2026-27	
		Rs	Rs.	Rs.	Rs.
Wani	Nijai Exp Deep OC	5788916.90	14462103.50	6502840.44	26753860.84
Nagpur	Gondegaon Ghatrohan OC	5788916.90	14462103.50	6502840.44	26753860.84
Wani North	Ukni Deep OC	5788916.90	14462103.50	6502840.44	26753860.84
		17366750.70	43386310.50	19508521.32	80261582.52

(Note: The Revenue Budget is the Provisional Budget . Respective Areas to obtain the Revenue Budget for the Spares and Consumables supplied during the respective year of supply as per the order.

(Signature)
24/02/2023
उप. प्रबंधक (सामग्री प्रबंधन)
वेकोलि, मुख्यालय, नागपुर

(Signature)
24/2/2023
मुख्य प्रबंधक (सामग्री प्रबंधन)
वेकोलि, मुख्यालय, नागपुर

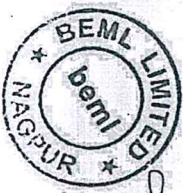
CONSUMABLE SPARES FOR 1ST YEAR OF OPERATION PER EQUIPMENT

Model: BG925 Motor Grader

Customer : M/s. WCIL

Sl.No	Part.No	Description	Unit Sale Price	Total Qty reqd for 1st year / Eqpt	Extended Price for 1st Year	HSN Code	GST Rate	GST Value
19	C600212000	TRANSMISSION OIL C4 SAE30 GR (PER LTR)	237.00	210	49,770.00	27101980	18%	8,958.60
20	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	221.00	420	92,820.00	27101980	18%	16,707.60
21	C600203001	BEML TANDEM CASE OIL, T30 (PER LTR)	240.00	840	2,01,600.00	27101980	18%	36,288.00
22	G600204000	BEML GEAR OIL-G90, (FD & CRG) (PER LTR)	245.00	420	1,02,900.00	27101990	18%	18,522.00
23	C600304000	LITHIUM BASE GREASE EXTR. PR.GD-2 (PER KG)	377.00	182	68,614.00	27101990	18%	12,350.52
TOTAL VALUE IN RUPEES FOR 1ST YEAR					35,24,011.00			6,61,643.88

रमेश कुमार / RAMESH KUMAR
 3rd Floor, Uthya Building, J.C. Road
 4th Floor, Uthya Building, J.C. Road
 5th Floor, Uthya Building, J.C. Road
 BANGALORE - 560002



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Model: BG825 Motor Grader

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF OPERATION PER EQUIPMENT

Customer : M/s. WCL

S/No	Part No	Description	Unit Sale Price	Total Qty/reqd for 2nd year/ Eqp	Extended Price for 2nd Year	HSN Code	GST Rate	GST Value
1	WA9652	ELEMENT HYDRAULIC	1,067.00	6	6,402.00	87089900	28%	1,792.56
2	452PTB0027	T/M FILTER ELEMENT	11,419.00	6	68,514.00	84314930	18%	12,332.52
3	985TK70723	HYD. BREATHER ELEMENT	2,342.00	3	7,026.00	87089900	28%	1,967.28
4	125FL92676	FUEL STRAINER	930.00	6	5,580.00	84314200	18%	1,004.40
5	41Z5181063	PAPER INSERT	39.00	12	468.00	84099990	28%	131.04
6	41Z5181071	O-RING, ROTOR	130.00	12	1,560.00	84099990	28%	436.80
7	41Z5181088	O-RING, HOUSING	176.00	12	2,112.00	84099990	28%	591.36
8	CPF0601412	GASKET, BANJO	360.00	36	12,960.00	84099990	28%	3,628.80
9	31Z5180743	CARTRIDGE OIL FILTER	1,330.00	12	15,960.00	84099990	28%	4,468.80
10	51Z7185684	CARTRIDGE, PRE FILTER	6,301.00	6	37,806.00	84099990	28%	10,585.68
11	51Z7185698	CARTRIDGE, FINE FILTER	6,994.00	6	41,964.00	84099990	28%	11,749.92
12	00Z0091097	PREMIXED ACF 210 Liters	36,118.00	2	72,236.00	34031900	28%	20,226.08
13	41Z1200244	AIR CLEANER ELEMENT	9,048.00	6	54,288.00	84099990	28%	15,200.64
14	41Z6181098	V BELT FAN	6,083.00	2	12,166.00	84099990	28%	3,406.48
15	0412021933	V-BELT ALTERNATOR	872.00	3	2,616.00	84099990	28%	732.48
16	41Z9900829	TAPPET SETTING KIT	12,695.00	1	12,695.00	84099990	28%	3,554.60
17	452WAB0012	GET KIT, CUTTING EGDE	1,11,419.00	24	26,74,056.00	84314930	18%	4,81,330.08
18	C600230001	ENGINE OIL 15W40 CH4 GR (PER LTR)	202.00	420	84,840.00	27101980	18%	15,271.20
19	C600212000	TRANSMISSION OIL C4 SAE30 GR (PER LTR)	256.00	210	53,760.00	27101980	18%	9,676.80

For Sign: NAGESH KUMAR
Sr. Manager / Sr. Officer / General Manager (Marketing)
Bengaluru Office / BEML Limited



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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

S/No	Part No	Description	Unit Sale Price	Total Qty. reqd for 2nd year / Eqp	Extended Price for 2nd Year	HSN Code	GST Rate	GST Value
20	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	239.00	420	1,00,380.00	27101980	18%	18,066.40
21	C600203001	BEML TANDEM CASE OIL, T30 (PER LTR)	269.00	840	2,17,560.00	27101980	18%	39,160.80
22	C600204000	BEML GEAR OIL-G90, (FD & CRG) (PER LTR)	265.00	210	55,650.00	27101990	18%	10,017.00
23	C600304000	LITHIUM BASE GREASE EXTR.PR.GD-2 (PER KG)	407.00	182	74,074.00	27101990	18%	13,333.32
24	452ZZ00095	HOSE ASSY	1,499.00	1	1,499.00	84314930	18%	269.82
25	452EC02028	HOSE (Alt. P/N: 2350311310)	2,128.00	1	2,128.00	84314930	18%	383.04
26	452EC61094	HOSE	1,911.00	1	1,911.00	84314930	18%	343.98
27	452HS02094	Hose Assy	8,145.00	1	8,145.00	84314930	18%	1,466.10
28	452PT02101	Hose Assy (Alt. P/N:2351613180)	7,804.00	3	23,412.00	84314930	18%	4,214.16
29	CHH3022010	Hose Assy	148.00	2	296.00	84314930	18%	53.28
30	CHH2201214	Hose Assy	2,135.00	1	2,135.00	84314200	18%	384.30
31	CHS0700115	Seal Oil (Alt. P/N:0701200115)	2,885.00	1	2,885.00	84314930	18%	519.30
32	CHH3024125	Hose Assy	368.00	1	368.00	84314930	18%	66.24
33	CRB0100252	Breather (Alt. P/N:0703000252)	1,609.00	1	1,609.00	84314930	18%	289.62
34	CHS0600130	Seal Oil.	3,680.00	1	3,680.00	84314200	18%	662.40
35	452HC00049	STG. Cylinder seal Kit	9,138.00	2	18,276.00	84314930	18%	3,289.68
36	452EG02614	Controller Assy, Shift tower (Alt. P/N:452EG03262)	27,544.00	1	27,544.00	84314930	18%	4,957.92
37	955EG11274	Relay	1,047.00	3	3,141.00	87089900	28%	879.48
		Hose assy	988.00	2	1,976.00	84314200	18%	355.68


 General Manager (Marketing)
 BEML LIMITED
 4th Floor, Unit Building, J.C. Road
 Bangalore - 560002



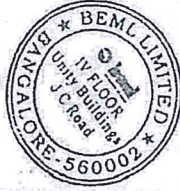
Model: BG825 Motor Grader

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF OPERATION PER EQUIPMENT

Customer : M/s. WCL

S/No	Part No	Description	Unit Sale Price	Total Qty reqd for 2nd year / Eqpt	Extended Price for 2nd Year	HSN Code	GST Rate	GST Value
39	950AS02707	Hose assy (Alt. P/N:452AS02089)	2,293.00	1	2,293.00	84314930	18%	412.74
40	452AS02494	Hose assy	3,235.00	1	3,235.00	84314930	18%	582.30
41	950AS02682	Hose assy (Alt. P/N:452AS02048)	2,481.00	4	9,924.00	87089900	28%	2,778.72
42	935AS03545	Solenoid Valve	3,859.00	1	3,859.00	87089900	28%	1,080.52
43	950SK00084	Unloader Valve repair Kit (Alt. P/N: 246808050000)	546.00	1	546.00	84314930	18%	98.28
44	950SK00181	Duel Brake Valve repair Kit (Alt. P/N:574333000000)	2,967.00	1	2,967.00	87089900	28%	830.76
45	574332000000	condensor auto drain valve repair kit	3,277.00	1	3,277.00	87089900	28%	917.56
46	950SK00076	Quadruple sys protection valve repair kit	1,222.00	1	1,222.00	84314930	18%	219.96
47	950SK00124	Double check valve repair kit (Alt. P/N:246808030000)	229.00	1	229.00	87089900	28%	64.12
48	950SK00132	Relay valve repair kit (Alt. P/N:365AS00118)	520.00	1	520.00	87089900	28%	145.60
49	950AS02368	Emergency Relay Valve R6	8,132.00	1	8,132.00	84314200	18%	1,483.76
50	CSD0100085	Seal oil (Alt. P/N:0714500085)	2,169.00	4	8,676.00	87089900	28%	2,429.28
51	452VVA31029	Guide	1,689.00	4	6,756.00	84314930	18%	1,216.08
52	CSD0100110	Seal Dust (Alt. P/N:0714500110)	2,762.00	4	11,048.00	84314200	18%	1,988.64
53	452SK00017	Control Valve Seal Kit (LH + RH)	3,787.00	2	7,574.00	84314930	18%	1,363.32
54	452HS03081	Hose Assy	4,241.00	1	4,241.00	84314930	18%	763.38
55	452HS64398	Hose Assy	153.00	1	153.00	84314930	18%	27.54
56	CHH3801006	Hose Assy (Alt. P/N:CHH1301606)	4,031.00	1	4,031.00	87089900	28%	1,128.68
57	CHH3601012	Hose Assy (Alt. P/N: CHH1701612)	4,282.00	1	4,282.00	84314930	18%	770.76

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 Name: *[Handwritten Name]*
 Designation: *[Handwritten Designation]*
 Address: *[Handwritten Address]*



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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF OPERATION PER EQUIPMENT

Model: **BG825 Motor Grader**

Customer : **M/s. WCL**

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 2nd year / Eqp ^t	Extended Price for 2nd Year	HSN Code	GST Rate	GST Value
58	CHH3800608	Hose Assy	3,992.00	1	3,992.00	84314930	18%	718.56
59	CHH2201248	Hose Assy	6,641.00	1	6,641.00	87089900	28%	1,859.48
60	CHH2220645	Hose Assy (Alt. P/N:0710220645)	6,252.00	1	6,252.00	87089900	28%	1,750.56
61	CHH2220614	Hose Assy	2,135.00	1	2,135.00	84314200	18%	384.30
62	CHH2220624	Hose Assy	2,087.00	1	2,087.00	87089900	28%	584.36
63	CHH0300204	Hose Assy (Alt. P/N:CHH0300404)	1,203.00	1	1,203.00	84314930	18%	216.54
64	CHH0540307	Hose Assy (Alt. P/N:0712340307)	1,430.00	2	2,860.00	84314930	18%	514.80
65	CPF1500305	Hose assy (Alt. P/N:CHH0300605)	943.00	3	2,829.00	84314930	18%	509.22
66	CHH0300315	Hose Assy (Alt. P/N:CHH0300615)	1,787.00	2	3,574.00	84314930	18%	643.32
67	CHH0300311	Hose Assy (Alt. P/N:CHH0300611)	1,885.00	2	3,770.00	87089900	28%	1,055.60
68	CHH0300423	Hose Assy (Alt. P/N: CHH0300823)	7,643.00	2	15,286.00	87089900	28%	4,280.08
69	950AS02528	Dual Brake Valve (Alt. P/N:778AS01043)	29,474.00	1	29,474.00	87089900	28%	8,252.72
70	451CV02037	Double relief valve Assy (Alt. P/N:2324057700)	97,221.00	1	97,221.00	84314930	18%	17,499.78
71	452HS02245	Pilot check Valve, Blade lift Cyl.	36,125.00	1	36,125.00	84314930	18%	6,502.50
72	5129901498	Oil temperature Sensor	43,307.00	1	43,307.00	84099900	28%	12,125.96
73	5129901481	Oil Pressure Sensor	37,121.00	1	37,121.00	84099900	28%	10,393.88
74	5129901481	Water Temperature Sensor	37,121.00	1	37,121.00	84099900	28%	10,393.88
75	3027181024	WATER SEPARATOR	2,988.00	1	2,988.00	84099900	28%	836.64
76	5129901521	ELECTRONIC FOOT PEDAL	37,430.00	1	37,430.00	84099900	28%	10,480.40



GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT.

Model: BG825 Motor Grader

Customer : M/s. WCL

S/No	Part No	Description	Unit Sale Price	Total Qty reqd for 3rd year/ Eqpt	Extended Price for 3rd Year	HSN Code	GST Rate	GST Value
1	WA9652	ELEMENT HYDRAULIC	1,120.00	6	6,720.00	87089900	28%	1,881.60
2	452PTB0027	TM FILTER ELEMENT	11,990.00	6	71,940.00	84314930	18%	12,949.20
3	985TK70723	HYD. BREATHER ELEMENT	2,459.00	3	7,377.00	87089900	28%	2,065.56
4	125FL92676	FUEL STRAINER	977.00	6	5,862.00	84314200	18%	1,055.16
5	41Z5181063	PAPER INSERT	41.00	12	492.00	84099990	28%	137.76
6	41Z5181071	O-RING, ROTOR	137.00	12	1,644.00	84099990	28%	460.32
7	41Z5181088	O-RING, HOUSING	185.00	12	2,220.00	84099990	28%	621.60
8	CPF0601412	GASKET, BANJO	378.00	36	13,608.00	84099990	28%	3,810.24
9	31Z5180743	CARTRIDGE,OIL FILTER	1,397.00	12	16,764.00	84099990	28%	4,693.92
10	51Z7185884	CARTRIDGE, PRE FILTER	6,616.00	6	39,696.00	84099990	28%	11,114.88
	51Z7185908	CARTRIDGE, FINE FILTER	7,344.00	6	44,064.00	84099990	28%	12,337.92
12	00Z0091097	PREMIXED ACF 210 Liters	37,924.00	2	75,848.00	34031900	28%	21,237.44
13	41Z1200244	AIR CLEANER ELEMENT	9,500.00	6	57,000.00	84099990	28%	15,960.00
	41Z6181098	V BELT FAN	6,387.00	1	6,387.00	84099990	28%	1,788.36
	0412021933	V-BELT ALTERNATOR	916.00	3	2,748.00	84099990	28%	769.44
	41Z9900829	TAPPET SETTING KIT	13,330.00	2	26,660.00	84099990	28%	7,464.80
17	452WAB0012	GET KIT- CUTTING EGDE	1,16,990.00	24	28,07,760.00	84314930	18%	5,05,396.80
18	CG00230001	ENGINE OIL 15W40 CH4 GR.(PER LTR)	218.00	630	1,37,340.00	27101980	18%	24,721.20



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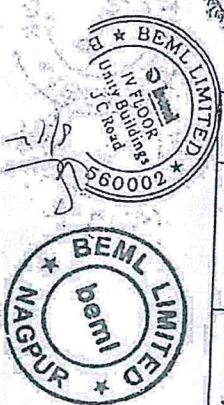
GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer: M/s. WCL

S/NO	Part No	Description	Unit Sale Price	Total Qty reqd for 3rd year / Eqp	Extended Price for 3rd Year	HSN Code	GST Rate	GST Value
19	G600212000	TRANSMISSION OIL C4 SAE30 GR (PER LTR)	276.00	210	57,960.00	27101980	18%	10,432.80
20	G600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	258.00	420	1,08,360.00	27101980	18%	19,504.80
21	G600203001	BEML TANDEM CASE OIL T30 (PER LTR)	280.00	840	2,35,200.00	27101980	18%	42,336.00
22	G600204000	BEML GEAR OIL -G90 (FD & CRG) (PER LTR)	286.00	210	60,060.00	27101990	18%	10,810.80
23	G600304000	LITHIUM BASE GREASE, EXTR. PR. GD-2 (PER KG)	440.00	182	80,080.00	27101990	18%	14,414.40
24	452E102003	CUSHION (All. P/N: 235011110)	1,227.00	2	2,454.00	84314930	18%	441.72
25	452E161037	CUSHION (All. P/N: 985E102029)	1,051.00	4	4,204.00	87089900	28%	1,177.12
26	452Z000095	HOSE ASSY	1,574.00	1	1,574.00	84314930	18%	283.32
27	452EC02028	HOSE (All. P/N: 2350311310)	2,234.00	1	2,234.00	84314930	18%	402.12
28	452EC61094	HOSE	2,007.00	1	2,007.00	84314930	18%	361.26
29	452TM0015R	Recon Transmission assy against exchange	43,54,875.00	1	43,54,875.00	84314200	18%	7,83,877.50
30	452SK01216	Brake Pad Kit (All. P/N: 4214305110)	42,194.00	1	42,194.00	84314930	18%	7,594.92
31	452HMO1007	T/M Pump	2,97,967.00	1	2,97,967.00	84314200	18%	53,634.06
	452HS02094	Hose Assy	8,552.00	1	8,552.00	84314930	18%	1,539.36
	452PT02101	Hose Assy (All. P/N: 2351613180)	8,194.00	3	24,582.00	84314930	18%	4,424.76
	CHH3022010	Hose Assy	155.00	2	310.00	84314930	18%	55.80
36	CHH2201214	Hose Assy	2,242.00	1	2,242.00	84314200	18%	403.56

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Annexure 1 (c)

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 3rd year / Eqpt	Extended Price for 3rd Year	HSN Code	GST Rate	GST Value
37	CHS0700115	Seal Oil (Alt. P/N:0701200115)	3,029.00	1	3,029.00	84314930	18%	545.22
38	CHH3024125	Hose Assy	386.00	1	386.00	84314930	18%	69.48
39	CRB0100252	Breather (Alt. P/N:0703000252)	1,689.00	1	1,689.00	84314930	18%	304.02
40	CHS0600130	Seal Oil	3,864.00	1	3,864.00	84314200	18%	695.52
41	452HC00049	STG. Cylinder seal kit	9,595.00	2	19,190.00	84314930	18%	3,454.20
42	452HC00081	Leaning Cyl seal kit	15,672.00	1	15,672.00	84314930	18%	2,820.96
43	452HC00057	Articulate Cyl Seal Kit	23,003.00	2	46,006.00	84314930	18%	8,281.08
44	452CO02543	Accelerator Cable	12,146.00	1	12,146.00	84314930	18%	2,186.28
45	955EG11274	Relay	1,099.00	3	3,297.00	87089900	28%	923.16
46	CHH0600208	Hose assy	1,037.00	2	2,074.00	84314200	18%	373.32
47	950AS02707	Hose assy (Alt. P/N:452AS02089)	2,408.00	1	2,408.00	84314930	18%	433.44
48	452AS02494	Hose assy	3,397.00	1	3,397.00	84314930	18%	611.46
49	950AS02682	Hose assy (Alt. P/N:452AS02048)	2,605.00	4	10,420.00	87089900	28%	2,917.50
50	935AS03545	Solenoid Valve	4,052.00	1	4,052.00	87089900	28%	1,134.56
	950SK00084	Unloader Valve repair kit (Alt. P/N: 246808050000)	573.00	1	573.00	84314930	18%	103.14
	950SK00181	Dual Brake Valve repair kit (Alt. P/N:574333000000)	3,115.00	1	3,115.00	87089900	28%	872.20
	950SK00076	condensor auto drain valve repair kit	3,441.00	1	3,441.00	87089900	28%	963.48
		Quadruple sys protection valve repair kit	1,283.00	1	1,283.00	84314930	18%	230.94



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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

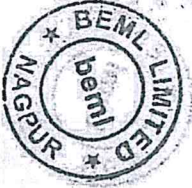
Model: BG825 Motor Grader

Customer: M/s. WCL

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 3rd year// Eqp	Extended Price for 3rd Year	HSN Code	GST Rate	GST Value
55	960SK00124	Double check valve repair kit (All. P/N:246809030000)	240.00	1	240.00	87089900	28%	67.20
56	960SK00132	Relay valve repair kit (All. P/N:355AS00118)	546.00	1	546.00	87089900	28%	152.88
57	960AS02356	Emergency Relay Valve R6	8,539.00	1	8,539.00	84314200	18%	1,537.02
58	CSD0100085	Seal oil (Alt. P/N:0714500085)	2,277.00	4	9,108.00	87089900	28%	2,550.24
59	452WA31029	Guide	1,773.00	4	7,092.00	84314930	18%	1,276.56
60	CSD0100110	Seal Dust (Alt. P/N:0714500110)	2,900.00	4	11,600.00	84314200	18%	2,088.00
61	CHS0700090	Seal Oil	2,565.00	1	2,565.00	87089900	28%	718.20
62	CHS0600075	Seal oil	1,709.00	2	3,418.00	84314930	18%	615.24
63	CHS0203050	Ring Back UP (Alt. P/N:0700103050)	2,084.00	8	16,672.00	84314930	18%	3,000.96
64	451HS12065	O-Ring (Alt. P/N:0700012065)	61.00	2	122.00	84314200	18%	21.96
65	DA2874	Strainer, HYD	3,112.00	1	3,112.00	84314200	18%	560.16
66	TA0113	Gasket	279.00	1	279.00	87089900	28%	78.12
67	452SK00017	Control Valve Seal Kit (LH + RH)	3,976.00	2	7,952.00	84314930	18%	1,431.36
68	452HC00032	Side Shift Cyl Seal Kit (Draw Bar)	17,574.00	1	17,574.00	84314930	18%	3,163.32
69	452HC00073	Blade lift Cyl Seal Kit	15,797.00	2	31,594.00	84314930	18%	5,686.92
70	452HC00024	Blade side shift cyl seal kit	17,480.00	1	17,480.00	84314930	18%	3,146.40
71	452HC00016	Power lift Cyl Seal Kit	18,570.00	1	18,570.00	84314930	18%	3,342.60
72	452HS03081	Hose Assy	4,453.00	1	4,453.00	84314930	18%	801.54

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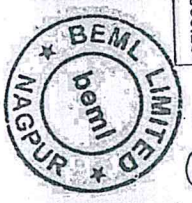
GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: EG825 Motor Grader

Customer : M/s. WCL

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 3rd Year / Eqpt	Extended Price for 3rd Year	HSN Code	GST Rate	GST Value
73	452HS64398	Hose Assy	161.00	1	161.00	84314930	18%	28.98
74	CHH3801006	Hose Assy (Alt. P/N:CHH1301806)	4,233.00	1	4,233.00	87089900	28%	1,185.24
75	CHH3601012	Hose Assy (Alt. P/N: CHH1701612)	4,496.00	1	4,496.00	84314930	18%	809.28
76	CHH3800608	Hose Assy	4,192.00	1	4,192.00	84314930	18%	754.56
77	CHH2201248	Hose Assy	6,973.00	1	6,973.00	87089900	28%	1,952.44
78	CHH2220645	Hose Assy (Alt. P/N:0710220645)	6,565.00	1	6,565.00	87089900	28%	1,838.20
79	CHH2220614	Hose Assy	2,242.00	1	2,242.00	84314200	18%	403.56
80	CHH2220624	Hose Assy	2,191.00	1	2,191.00	87089900	28%	613.48
81	CHH0300204	Hose Assy (Alt. P/N:CHH0300404)	1,263.00	1	1,263.00	84314930	18%	227.34
82	CHH0540307	Hose Assy (Alt. P/N:0712340307)	1,502.00	2	3,004.00	84314930	18%	540.72
83	CPF1500305	Hose Assy (Alt. P/N:CHH0300605)	990.00	3	2,970.00	84314930	18%	534.60
84	CHH0300315	Hose Assy (Alt. P/N:CHH0300615)	1,876.00	2	3,752.00	84314930	18%	675.36
85	CHH0300311	Hose Assy (Alt. P/N:CHH0300611)	1,979.00	2	3,958.00	87089900	28%	1,108.24
86	CHH0300423	Hose Assy (Alt. P/N: CHH0300823)	8,025.00	2	16,050.00	87089900	28%	4,494.00
87	452HS02077	Flow Control valve Assy (Alt. P/N: 2354012202)	38,596.00	1	38,596.00	84314930	18%	6,947.28
88	0867002001	Dust Indicator	566.00	1	566.00	84099990	28%	158.48
89	03429901473	MAGNETIC PICK UP SPEED SENSOR	56,842.00	1	56,842.00	84099990	28%	15,915.76
90	3025180832	THERMO. VALVE	9,176.00	1	9,176.00	84099990	28%	2,569.28

BEML LIMITED
IN FLOOR
Unity Building
C Road
BANGALORE-560099



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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

SLNO	Part No	Description	Unit Sale Price	Total Qty reqd for 3rd year/ Eqpt	Extended Price for 3rd Year	HSN Code	GST Rate	GST Value
91	51Z7184239	AUTO SHUT OFF VALVE (AIL P/N:51Z7185551)	20,772.00	1	20,772.00	84099990	28%	5,816.16
92	41Z6180474	THERMOSTAT	2,691.00	2	5,382.00	84099990	28%	1,506.96
93	41Z6180522	SEAL THERMOSTAT	1,022.00	2	2,044.00	84099990	28%	572.32
94	41Z6170446	GASKET	59.00	1	59.00	84099990	28%	16.52
95	41Z0000229	Recon Engine against failed engine	27,01,125.00	1	27,01,125.00	84099991	28%	7,56,315.00
96	451OS02294	Operator Seat Assy with Head rest	37,533.00	1	37,533.00	84314930	18%	6,755.94
97	452EG03246	I/O MODULE	1,09,176.00	1	1,09,176.00	84314930	18%	19,651.68
98	452EG02471	TOGGLE SWITCH	330.00	2	660.00	87089900	28%	184.80
99	452EG87333	PRESSURE SENSOR(AIR)	11,079.00	3	33,237.00	84314200	18%	5,982.66
100	985EG11152	FINAL DRIVE OIL TEMP SWITCH	477.00	1	477.00	87089900	28%	133.55
101	CHS0103098	ORING	473.00	1	473.00	84314930	18%	85.14
TOTAL VALUE IN RUPEES FOR 3RD YEAR					1,19,86,565.00			24,75,538.50

श्री गणेश / **NAKESH KUMAR**
 Sr. Superintendent / General Manager (Marketing)
 BEML LIMITED
 4th Floor, Unity Building, J.C. Road
 BANGALORE - 560 002.



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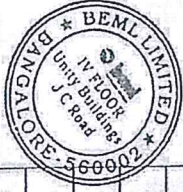
Annexure 1 (d)

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

S/No	Part No	Description	Unit Sale Price	Total Qty reqd for 4th Year / Eqpt	Extended Price for 4th Year	HSN Code	GST Rate	GST Value
1	WA9652	ELEMENT HYDRAULIC	1,176.00	6	7,056.00	87089900	28%	1,975.68
2	452PTB0027	T/M FILTER ELEMENT	12,590.00	6	76,540.00	84314930	18%	13,597.20
3	985TK70723	HYD. BREATHER ELEMENT	2,582.00	3	7,746.00	87089900	28%	2,168.88
4	125FL92676	FUEL STRAINER	1,026.00	6	6,156.00	84314200	18%	1,108.08
5	41Z5181063	PAPER INSERT	43.00	12	516.00	84099990	28%	144.48
6	41Z5181071	O-RING, ROTOR	144.00	12	1,728.00	84099990	28%	483.84
7	41Z5181088	O-RING, HOUSING	194.00	12	2,328.00	84099990	28%	651.84
8	CPF0601412	GASKET, BANJO	397.00	36	14,292.00	84099990	28%	4,001.76
9	31Z5180743	CARTRIDGE, OIL FILTER	1,467.00	12	17,604.00	84099990	28%	4,929.12
10	51Z7185884	CARTRIDGE, PRE FILTER	6,947.00	6	41,682.00	84099990	28%	11,670.96
11	51Z7185908	CARTRIDGE, FINE FILTER	7,711.00	6	46,266.00	84099990	28%	12,954.48
12	00Z0091097	PREMIXED AC F 210Liters	39,820.00	2	79,640.00	34031900	28%	22,299.20
13	41Z1200244	AIR CLEANER ELEMENT	9,975.00	6	59,850.00	84099990	28%	16,756.00
14	41Z6181098	V BELT FAN	6,706.00	2	13,412.00	84099990	28%	3,755.36
15	0412021933	V-BELT ALTERNATOR	962.00	3	2,886.00	84099990	28%	808.08
16	41Z9900829	TAPPET SETTING KIT	13,997.00	1	13,997.00	84099990	28%	3,919.16
17	452WAB0012	GET KIT- CUTTING EGDE	1,22,840.00	24	29,48,160.00	84314930	18%	5,30,668.80
18	C600230001	ENGINE OIL, 15W40 CH4 GR (PER LTR)	235.00	420	98,700.00	27101980	18%	17,766.00



KANESH KUMAR
 General Manager (Production)
 BEML LIMITED
 1st Floor, Unity Building,
 J.C. Road, Bangalore - 560002



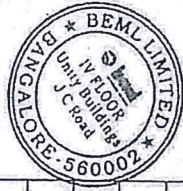
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Annexure 1 (d)

Model: BG825 Motor Grader

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION PER EQUIPMENT

Customer : M/s. WCL

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 4th year/ Eqpt	Extended Price for 4th Year	HSN Code	GST Rate	GST Value
19	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	279.00	210	58,590.00	27101980	18%	10,546.20
20	C600203001	BEML TANDEM CASE OIL T30 (PER LTR)	302.00	630	1,90,260.00	27101980	18%	34,246.80
21	C600204000	BEML GEAR OIL-G90 (FD & CRG) (PER LTR)	309.00	210	64,890.00	27101990	18%	11,680.20
22	C600304000	LITHIUM BASE GREASE,EXTR.PR.GD:2 (PER KG)	475.00	182	86,450.00	27101990	18%	15,561.00
23	452ZZ00095	HOSE ASSY	1,653.00	1	1,653.00	84314930	18%	297.54
24	452EC02028	HOSE (Alt. P/N: 2350311310)	2,346.00	1	2,346.00	84314930	18%	422.28
25	452EC61094	HOSE	2,107.00	1	2,107.00	84314930	18%	379.26
26	452PZ02029	SPIDER ASSY (Alt. P/N: 2352011110)	1,11,842.00	2	2,23,684.00	84314930	18%	40,263.12
27	452HS02094	Hose Assy	8,980.00	1	8,980.00	84314930	18%	1,616.40
28	452PT02101	Hose Assy (Alt. P/N:2351613180)	8,604.00	3	25,812.00	84314930	18%	4,646.16
29	CHH3022010	Hose Assy	163.00	2	326.00	84314930	18%	58.68
30	CHH2201214	Hose Assy	2,354.00	1	2,354.00	84314200	18%	423.72
31	CHS0700115	Seal Oil (Alt. P/N:0701200115)	3,180.00	1	3,180.00	84314930	18%	572.40
32	CHH3024125	Hose Assy	405.00	1	405.00	84314930	18%	72.90
33	CRB0100252	Breather (Alt. P/N:07030000252)	1,773.00	1	1,773.00	84314930	18%	319.14
34	CHS0600130	Seal Oil	4,057.00	2	8,114.00	84314200	18%	1,460.52
35	452HC00049	STG. Cylinder seal Kit	10,075.00	2	20,150.00	84314930	18%	3,627.00
36	955EG11274	Relay	1,154.00	3	3,462.00	87089900	28%	969.36

General Manager (Marketing)
BEML LIMITED
11th Floor
Unity Building,
J.C. Road
Bangalore-560002

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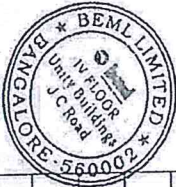
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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 4th year / Eqpt	Extended Price for 4th Year	HSN Code	GST Rate	GST Value
37	CHH0600208	Hose assy	1,089.00	2	2,178.00	84314200	18%	392.04
38	950AS02707	Hose assy (Alt. P/N:452AS02089)	2,528.00	1	2,528.00	84314930	18%	455.04
39	452AS02494	Hose assy	3,567.00	1	3,567.00	84314930	18%	642.06
40	950AS02682	Hose assy (Alt. P/N:452AS02048)	2,735.00	3	8,205.00	87089900	28%	2,297.40
41	935AS03545	Solenoid Valve	4,255.00	1	4,255.00	87089900	28%	1,191.40
42	950SK00084	Unloader Valve repair kit (Alt. P/N: 246808050000)	602.00	1	602.00	84314930	18%	108.36
43	950SK00181	Dual Brake Valve repair kit (Alt. P/N:574333000000)	3,271.00	1	3,271.00	87089900	25%	915.88
44	574332000000	condensor auto drain valve repair kit	3,613.00	1	3,613.00	87089900	28%	1,011.64
45	950SK00076	Quadruple sys protection valve repair kit	1,347.00	1	1,347.00	84314930	18%	242.46
46	950SK00124	Double check valve repair kit (Alt. P/N:246809030000)	252.00	1	252.00	87089900	28%	70.56
47	950SK00132	Relay valve repair kit (Alt. P/N:355AS00118)	573.00	1	573.00	87089900	28%	160.44
48	950AS02358	Emergency Relay Valve R6	8,966.00	1	8,966.00	84314200	18%	1,613.88
49	CSD0100085	Seal oil (Alt. P/N:0714500085)	2,391.00	4	9,564.00	87089900	28%	2,677.92
50	452WA31029	Guide	1,862.00	4	7,448.00	84314930	18%	1,340.64
51	CSD0100110	Seal Dust (Alt. P/N:0714500110)	3,045.00	4	12,180.00	84314200	18%	2,192.40
52	452HS03454	HYD PUMP ASSY	4,00,770.00	1	4,00,770.00	84314930	18%	72,138.60
53	452SK00017	Control Valve Seal Kit (LH + RH)	4,175.00	2	8,350.00	84314930	18%	1,503.00
54	452HC00073	Blade lift Cyl Seal Kit	16,587.00	1	16,587.00	84314930	18%	2,985.66



Mr. Srinivas Kumar
General Manager (Marketing)
BEML LIMITED
4th Floor, 1/C Road
Bangalore - 560002



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Annexure 1 (d)

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No	Part No	Description	Unit Sale Price	Total Qty reqd for 4th year/ Eqpt	Extended Price for 4th Year	HSN Code	GST Rate	GST Value
55	452HS03081	Hose Assy	4,676.00	1	4,676.00	84314930	18%	841.68
56	452HS64399	Hose Assy	169.00	1	169.00	84314930	18%	30.42
57	CHH3801006	Hose Assy (Alt. P/N: CHH1301606)	4,445.00	1	4,445.00	87089900	28%	1,244.60
58	CHH3601012	Hose Assy (Alt. P/N: CHH1701612)	4,721.00	1	4,721.00	84314930	18%	849.78
59	CHH3800608	Hose Assy	4,402.00	1	4,402.00	84314930	18%	792.36
60	CHH2201248	Hose Assy	7,322.00	1	7,322.00	87089900	28%	2,050.16
61	CHH2220645	Hose Assy (Alt. P/N: 0710220645)	6,893.00	1	6,893.00	87089900	28%	1,930.04
62	CHH2220614	Hose Assy	2,354.00	1	2,354.00	84314200	18%	423.72
63	CHH2220624	Hose Assy	2,301.00	1	2,301.00	87089900	28%	644.28
64	CHH0300204	Hose Assy (Alt. P/N: CHH0300404)	1,326.00	1	1,326.00	84314930	18%	238.68
65	CHH0540307	Hose Assy (Alt. P/N: 0712340307)	1,577.00	2	3,154.00	84314930	18%	567.72
66	CPF1500305	Hose Assy (Alt. P/N: CHH0300605)	1,040.00	3	3,120.00	84314930	18%	561.60
67	CHH0300315	Hose Assy (Alt. P/N: CHH0300615)	1,970.00	2	3,940.00	84314930	18%	709.20
68	CHH0300311	Hose Assy (Alt. P/N: CHH0300611)	2,078.00	2	4,156.00	87089900	28%	1,163.68
69	CHH0300423	Hose Assy (Alt. P/N: CHH0300823)	8,426.00	2	16,852.00	87089900	28%	4,718.56
70	5129901498	Oil Temperature Sensor	47,746.00	1	47,746.00	84099990	28%	13,368.88
71	5129901481	Oil Pressure Sensor	40,926.00	1	40,926.00	84099990	28%	11,459.28
72	5129901481	Water Temperature Sensor	40,926.00	1	40,926.00	84099990	28%	11,459.28

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4th Floor, Unity Building, J.C. Road
 Bangalore
 BEML LIMITED
 Bangalore
 Bangalore




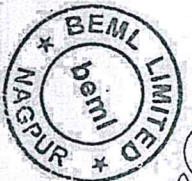
GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer: M/s. WCL

S/No	Part No	Description	Unit Sale Price	Total Qty reqd for 4th year / Eqpt	Extended Price for 4th Year	HSN Code	GST Rate	GST Value
73	30Z8281078	SELF STARTER	69,472.00	1	69,472.00	84099990	28%	19,452.16
74	52Z8200948	ALTERNATOR	65,749.00	1	65,749.00	84099990	28%	18,409.72
75	51Z9901546	POTENTIOMETER	55,516.00	1	55,516.00	84099990	28%	15,544.48
76	936CC01059	WIPER MOTOR	7,745.00	3	23,235.00	87089900	28%	6,505.80
77	CEK0120000	Key Switch (Alt. P/N:0808620000)	12,661.00	1	12,661.00	87089900	28%	3,545.08
78	958EG04198	LED LAMP YELLOW	2,259.00	2	4,518.00	87089900	28%	1,265.04
79	452EG87382	HEAD LIGHT (Low Beam LED TYPE)	35,368.00	4	1,41,472.00	87089900	28%	39,612.16
80	452EG87374	HEAD LAMP (high beam LED TYPE)	35,368.00	2	70,736.00	87089900	28%	19,806.08
81	955EG1274	RELAY	1,154.00	3	3,462.00	87089900	28%	969.36
82	985EG81912	Circuit Breaker, 20A	2,050.00	2	4,100.00	87089900	28%	1,148.00
83	985EG81891	Circuit Breaker, 10A	654.00	8	5,232.00	87089900	28%	1,464.96
84	985EG81883	Circuit Breaker, 5A	794.00	1	794.00	87089900	28%	222.32
85	CET0401175	Battery terminal +Ve	366.00	2	732.00	84314200	18%	131.76
86	CET0402160	Battery terminal -Ve	349.00	2	698.00	84314200	18%	125.64
87	953EG72117	Maintenance Free Battery 160AH	55,824.00	2	1,11,648.00	84314200	18%	20,086.64
88	452HS02188	Joint Assy (Alt. P/N: 2356014901)	22,316.00	1	22,316.00	84314930	18%	4,016.88
89	CHS0103098	ORING	497.00	1	497.00	84314930	18%	89.46
TOTAL VALUE IN RUPEES FOR 4TH YEAR					54,28,618.00			10,74,222.44


 Sr. Asst. / Manager (General Management)
 BEML LIMITED
 4th Floor, 1st Stage, 1st Cross,
 4th Floor, 1st Stage, 1st Cross, J.C. Road



BANK MANDATE FORM OF THE SUPPLIER FOR BANK DETAILS

ANNEXURE - 2

EFT MANDATE FORM
(Account/s Information form)

ELECTRONIC CLEARING SERVICE (CREDIT CLEARING) / REAL TIME GROSS SETTLEMENT (RTGS)/ NATIONAL ELECTRONIC TRANSFER (NEFT) / INTRA BANK ACCOUNT TRANSFER FACILITY FOR RECEIVING PAYMENTS:

A. DETAILS OF ACCOUNT HOLDER:

NAME OF ACCOUNT HOLDERER / FIRM	BEML LIMITED
COMPLETE CONTACT ADDRESS	33, CEMENT ROAD, SHIVAJI NAGAR, NAGPUR - 440010
MOBILE NUMBER / PH NO	9423683399
E-MAIL	mn@beml.co.in

B. BANK ACCOUNT DETAILS:

ACCOUNT NAME (Name appearing in your Cheque Book)	BEML LIMITED
BRANCH NAME WITH COMPLETE ADDRESS,	STATE BANK OF INDIA, MAIN BRANCH NAGPUR, KINGSWAY, NAGPUR -440001
BRANCH CODE	00432
COMPLETE BANK ACCOUNT NUMBER (Please note that the Bank Account of the Beneficiaries (vendor) must be in the name of the Firm as appeared in the tender.)	11172255258
IFSC CODE	SBIN0000432
TYPE OF ACCOUNT (SB/CURRENT/CASH CREDIT)	CURRENT ACCOUNT
MICR CODE OF BANK	440002002

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information I would not hold the user institution responsible. I have read the option invitation letter and agree to discharge responsibility expected or me as a participant under the scheme.



(.....) *Prachinjay*
Signature of Vendor



Date: 31.01.2022

Certified that the particulars furnished above are correct as per our records.

Handwritten signature
नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीएमएल लिमिटेड / BEML LIMITED
4 वीं तल, यूनिय बिल्डिंग्स, जे.सी. रोड
4th Floor, Unity Buildings, J.C. Road
बंगलुरु / BENGALURU - 560 002.

(Bank's Stamp)
Handwritten signature
Signature of Authorized signatory of the Bank

Handwritten signature

Handwritten signature

ANNEXURE - 3

Performance Bank Guarantee Format

..... (Name & address of the concerned subsidiary
..... Company / Purchaser Company)

Re: Bank Guarantee in respect of Agreement / Contract vide no. dated between Coal India Ltd. on behalf of (Name of concerned subsidiary Company) and (Name of Supplier Company){applicable for CIL Contracts}

Messersa Company / Firm having its office at No. (hereinafter called 'the Contractor')has entered into the Agreement / Contract / Purchase Order vide no dated.....(hereinafter called 'the said Agreement') with Coal India Limited, Kolkata on behalf of / Purchaser Company (Name of the concerned subsidiary Company)(hereinafter called 'the Company') to supply..... stores/ materials amounting to Rs.on the terms and conditions contained in the said Agreement.

The..... (Name of the Bank) (hereinafter called 'theBank')having its office at..... has at the request of the Contractor agreed to give the guarantee as hereinafter contained.

We.....(Name of the Bank) do hereby unconditionally agree with the Company that if the Contractor shall in any way fail to observe or perform the terms and conditions of the said Agreement or shall commit any breach of its obligations thereunder, the Bank shall on demand and without any objection or demur pay to the Company, the said sum of Rs.....or any portion thereof without requiring the Company to have recourse to any legal remedy that may be available to it to compel the Bank to pay the same or calling on the Company to compel such payment by the Contractor.

Any such demand shall be conclusive as regards the liability of the Contractor to the Company and as regards the amount payable by the Bank under this guarantee. The Bank shall not be entitled to withhold payment on the ground that the Contractor has disputed its liability to pay or has disputed the quantum of the amount or that any arbitration proceeding or legal proceeding is pending between the Company and the Contractor regarding the claim.

We, the Bank, further agree that the guarantee shall come into force from the date hereof and shall remain in full force and effect till the period that will be taken for the performance of the said Agreement which is likely to be the day of..... but if the period of Agreement is extended either pursuant to the provisions in the said Agreement or by mutual agreement between the Contractor and the Company, the Bank shall renew the period of the guarantee failing which it shall pay to the Company the said sum of Rs....., or such lesser amount out of the said sum of Rs.....as maybe due to the Company and as the Company may demand. This guarantee shall remain in force until the dues of the Company in respect of the said sum of Rs..... are fully satisfied and the Company certifies that the Agreement has been fully carried out by the contractor and discharges the guarantee.

The Bank further agrees with the Company that the Company shall have the fullest liberty without the consent of the Bank and without affecting in any way the obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend the time for performance of the said Agreement from

SO no: 12000110922151 dt. 24-02-2023 on M/s BEML Limited

time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the contractor and to forbear to enforce any of the terms and conditions relating to the said Agreement and the Bank shall not be relieved from its liability by reason of such failure or extension being granted to the contractor or through any forbearance, act or omission on the part of the Company or any indulgence by the Company to the contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provisions have the effect of relieving or discharging the Guarantor.

The Bank further agrees that in case this guarantee is required for a longer period and it is not extended by the Bank beyond the period specified above, the Bank shall pay to the Company the said sum of Rs..... or such lesser sum as may then be due to the Company and as the Company may require.

Notwithstanding anything herein contained the liability of the Bank under this guarantee is restricted to Rs.....only. The guarantee shall remain in force till the.....day of20... and unless the guarantee is renewed or a claim is preferred against the Bank within the validity period and/or the claim period from the said date, all rights of the Company under this guarantee shall cease and the Bank shall be released and discharged from all liability hereunder except as provided in the preceding clause.

The Bank Guarantee is operational for all purposes at Nagpur Branch, Maharashtra (Address & Branch Code ----)

The Bank has under its constitution power to give this guarantee and..... [(Name of the person(s)) who have signed it on behalf of the Bank has authority to do so.

Dated this.....day of20.....

Place.....

Signature of the authorized person(s)

For and on behalf of the Bank.

The Bank has under its constitution power to give this guarantee and.....(Name of the person) who has signed it on behalf of the Bank has authority to do so.

The details of beneficiary bank for sending details of BG under SFMS Platform is furnished below

Name of beneficiary and details	
Name	Western Coalfields ltd
Area	Head Quarter
Bank A/c No: / Cust ID of beneficiary	Current Account no: 005905018053; Customer Id: 556096497 ; ICICI Bank Ltd, Commercial Banking, 9C/A& 9C/B, Ground Floor, Shriram Towers, LIC Square, Nagpur - 440001, Maharashtra
IFSC code	ICIC0000059
Bank Manager Name & Ph no:	Kaoser Khan: Ph n: 0712-6627390
BG ADVISING MESSAGE - 760COV / 767COV via SFMS	
Field Number	Particulars
7035	ICICI0000059
7037	WCL556096497

Dated this.....Day of.....20...

Place

Signature of the authorized person

For and on behalf of the Bank

ANNEXURE- 4

TECHNICAL SPECIFICATIONS AND TECHNICAL TERMS AND CONDITIONS

PART- 'A'

A.1 Equipment Package.

The Supplier is required to provide a complete package of Equipment for the supply of Diesel powered, self-propelled, 280 HP Tyre Mounted Motor Grader, at coal mining projects of WCL, Nagpur as per the technical specification provided in Part -"D"

The Supplier is required to supply the equipment along with accessories, Consumables, Training, Installation, Testing & Commissioning at the coal mining project.

The package also includes Consumable Spare and Consumables for 12 months of warranty period from the date of commissioning of the equipment and thereafter spares and consumables for a period of 3 years (36 Months).

The scope and phasing of supply for the of Diesel-Powered **280 HP Tyre Mounted Motor Grader** is given in the "schedule of requirement."

A.2 Supplementary Items

The equipment shall be provided with comprehensive toolkit which shall include any special tools required of erection and commissioning of equipment. First fill of all oils, grease and lubricants needed for test, erection and commissioning of the equipment.

A.3 Information & Drawings & Manuals ;

At least one month before the schedule of installation date, the supplier shall provide not less than :

- (a)** Suitably illustrated copies of **Operating, Repair, and Maintenance instructions** for each type/ model of Equipment and accessories, written in the English language, substantially bound in book form :

Three copies to each Project site; and

One (1) copy each along with the soft copy to the concerned project In-charge, Area Manager, Staff Officer(Excvt), General Manager (Excvt) / HOD Subsidiary Hqts, and General manager (mm)/ HOD, Subsidiary Hqtrs

- (b)** Suitably illustrated copies of detailed Spare Parts Manuals for each type/ model of Equipment and accessories, written in the English language, substantially bound in book form :

Three copies to each Project site :and

One (1) copy each along with the soft copy to the concerned project In-charge , Area Manager, Staff Officer(Excvt), General Manager (Excvt) / HOD Subsidiary Hqts, and General manager (mm)/ HOD, Subsidiary Hqtrs

In addition to the Equipment drawings, where appropriate, the supplier shall supply detailed drawings (in the same number of copies) illustrating erection /assembly at site(s), foundation and accommodation, for such items as Drive Motors, switch installation etc.

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A.4 Erection/Assembly, commissioning and Performance Testing :

The Supplier shall provide the service of Specialist Technicians (Refer Part- C.3) and required manpower (Skilled /Semi-skilled /unskilled) to undertake the installation/ erection/ assembly, commissioning and any performance testing of the plant, equipment and accessories supplied. The purchaser will assist in providing necessary facilities like erection tools and tackles (supplied along with the equipment), cranes with operator and electricity during erection and commissioning.

The technicians shall remain at site following commissioning until all necessary personnel are fully conversant with the maintenance and operation of the equipment.

A-5 Training

I. The supplier in consultation to the project In-charge / HOD [Excavation] of the respective site shall make available experienced personnel to conduct training of engineers, supervisors, technician and operation personnel for specified periods mentioned in the table given in the "Schedule of Requirement of Services" from the date of issue of acceptance certificate of the equipment. The Training shall cover the following:

- a) Training on Simulator Module by the bidder at their works / suitable location in the India / suitable end user's location is **preferable** for Motor Grader training.
- b) Equipment system, safety and risk assessment.
- c) Equipment Operation and maintenance.
- d) Trouble shooting, localisation of fault, and their remedies covering :
 1. Electricals and Electronics.
 2. Mechanical
 3. Hydraulic system
 4. Lubrication system
 5. Pneumatic system (if applicable) etc.

Comprehensive training manuals with clear illustration shall be provided to each participant in English language. The training courses shall be conducted in both English and Hindi languages.

Details of purchaser's estimates of minimum training programme required for total number of equipment is described in Sec-V.

Note : The training shall be conducted in batches within warranty period from the date of commissioning of the first equipment in the respective project.

II. Provision of additional training within the contract period after completion of warranty period.

- i. The bidder shall give confirmation in their bid to impart training to the CIL personnel, in addition the contractual training provision, after completion of warranty period but at any time within the contract period.
- ii. The additional training will be as per the requirement of the user and shall cover the training scope same as per the mandatory training (within warranty period) of the contract.
- iii. The training will be on chargeable basis and additional payment to the supplier will be made at the same rates which have been indicated for mandatory training.

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PART - "B"

Specific Site Requirements

B.1 Project Specific Requirements

The equipment shall be suitable for use at the specific site projects of WCL under the climatic conditions detailed below:

B.1.1 Ukni OCP

The Opencast Project is owned by the Western Coalfields Limited, a wholly owned subsidiary of Coal India limited (the purchaser"). The Mine is located partly in the Chandrapur District of Maharashtra 60 KM from Chandrapur railway station.

B.1.2 Neeljai Exp Deep Sch OCP

The Opencast Project is owned by the Western Coalfields Limited, a wholly owned subsidiary of Coal India limited (the purchaser"). The Mine is located partly in the Chandrapur District of Maharashtra 35 KM from Chandrapur railway station

B.1.3 Gondagaon OCP

The Opencast Project is owned by the Western Coalfields Limited, a wholly owned subsidiary of Coal India limited (the purchaser"). The Mine is located partly in the Nagpur District of Maharashtra 35 KM from Nagpur railway station.

PART- 'C'

C. GENERAL REQUIREMENTS.

C.1 Geography and Climatic Conditions.

Elevation :The natural surface varies from 100m to 1000m above mean sea level.

Climate: The climate is sub-tropical to tropical dusty with a hot and humid atmosphere.

Monsoon rains occur in the period from June to October -

Ambient Conditions Relative humidity - Maximum 98%

Temperature - Minimum 0⁰ C to Maximum 50⁰ C

Rainfall: The mean annual rainfall is 1000 mm. 90 to 95% of which may fall in rainy season from June to October.

Wind: April to September - South to South Westernly

October to March - North Westernly

Speed - 8 Km per hr average and 100 Km per hour (max.).

C.2 Goods (Equipment & Machinery)

Detailed specifications of the equipment to be supplied are given in **Part "D"** of this section.

In general all items shall be -

Designed and constructed to handle without overload and for the working hours stated, the maximum volumes/rates specified.

Designed to facilitate ready access, cleaning, inspection, maintenance and repair of component parts.

Designed to facilitate rapid changeover of consumable items.

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The component parts of all items shall, wherever possible, be selected from the standard ranges of reputable manufacturers.

The Equipment and accessories shall be physically robust and where necessary capable of dismantling for transportation and ready re-assembly using simple tools. All equipment items provided shall be designed to be compatible within the proposed overall Scope of Supply.

All workmanship and materials shall be of first class quality in every respect.

All parts and surfaces which are exposed to corrosive environments shall be suitably protected to prevent any effects of corrosion or erosion.

C.3 Services ;

The supplier shall be responsible for the erection and commissioning of the equipment at site. The supplier shall depute qualified and competent engineer (s) and specialist technicians to supervise the entire assembly, erection and commissioning of equipment free of cost.

C.4 Standard:

The design, supply, erection, testing and commissioning of all equipment under this contract shall in all respect comply with the requirement of this specification and with the appropriate current Indian standards and codes, or relevant standards issued by the bureau of Indian standards or International Standard Organization, or any other equivalent International Standards , which correspond to specific ISO/ Indian standards indicated in the technical specification. Such equivalent International Standards are to be supported by documentary evidence certifying that offered standards are identical to the corresponding ISO/ Indian standards.

The equipment shall comply with requirements of the Statutory Government Authorities, including Director General of Mines Safety (DGMS) having jurisdiction over the Equipment and its use.

The system of units for all measurements shall be the **System International Units (S.I.)**.

C.5 Suppliers Responsibility.

The purchaser requires that the Supplier shall accept responsibility for the provision of complete operable and compatible Equipment and systems within the Scope of Supply. This document identifies only the major items required for the installation and the Supplier shall ensure that the total supply includes all necessary equipment for it to function effectively and safely. Any additional items the Supplier considers necessary to ensure compliance with such requirements shall be identified and included.

If the Supplier observes that this specification documents contains any anomalies, ambiguities, flaws, errors or omissions, the supplier shall immediately bring these to the attention of the Purchaser but not later than 15 days prior to the due date of opening.

The supplier shall be responsible for the testing and commissioning of the equipments and ensure that it meets the requirements as specified. The commissioning and setting to work of the whole equipments supply package shall be carried out under the supervision of the Supplier in conjunction with the Purchaser's nominated personnel.

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C.6 Spares Parts Provision:

C.6.1.a. Availability of Spares parts : All items and equipment proposed shall be of current design and manufacture. The supplier shall warrant that sufficient spares and servicing facilities will be available to maintain the equipment in use throughout its life.

C.6.1.b. Bought out assemblies and Sub-assemblies :

The supplier is required to furnish the details of all major bought out items as indicated in the technical specification against "Information to be provided by the bidder" .

The bought out items of the following category which are applicable to the Model of 280HP Motor Grader Offered by the Bidder is required to be furnished:-

Engines, Transmissions, Transmission pump, Suspensions, Air conditioning Spares, Ac/DC Motors and Generators, Auto electrical Items, Universal Joint assemblies, Drive lines (including Torque converter, PTO Assembly, Differential Assembly, Final Drive Assembly and its spares) Hydraulic Pumps, Hydraulic Motors, Hydraulic Cylinders, Brake parts, Brake systems, Feed and Propel Chains, Auto lubrication system, Auto fire detection and suppression system, Tyre inflation Parts, Instruments, gauges, Air Compressor, Hydraulic control valves, Fuel Injection pump, Travel device Assly, Electrical Control panel and other safety devices/sensors (as per application).

C.6.2 Provision of spare parts :

C.6.2.1 Within the Contract Price, the Purchaser shall agree to purchase all Operational, Maintenance and standby/ contingency Spare Parts, consumable items, Wear Materials, maintenance tools and special tools (herein after collectively referred to as "**Spare Parts**" unless the context specifies otherwise), in accordance with the supplier's recommendations for **48 (Forty eight) Months** from the date of issue of commissioning certificate. Similarly, within the contract price, the purchaser shall also agree to purchase consumable items (hereinafter referred to as "**Consumables**"), in accordance with the supplier's recommendations for **48 (Forty Eight) Months** from the date of issue of Commissioning certificate. The schedule of supply of spares and consumables shall as indicate in the schedule of requirements, **Section-V**. In addition, the supplier shall provide **Spares parts and Consumables** for commissioning.

Consumables shall include items such as Oils, Lubricants and fluids also. Tyres and trailing cable are not included in consumables.

The supplier shall submit for 48 months [Number of contract year (warranty-12 months +Guaranteed availability period-36 months) i.e. Four (4) Years-**280HP Motor Grader**] -separate schedules showing spare parts and consumables proposed to be supplied by them in each 12 (twelve) months period from the date of commissioning of the equipment project-wise in order to comply with the provisions herein contained.

C.6.2.2

In the event that the Spare Parts and Consumables, as maintained by the Supplier, in any way fall short of actual requirements during the period for which they are said to be adequate, the supplier shall provide such additional spare parts and consumables as are necessary at final destination. Such additional spare parts and consumables shall be provided by the supplier to the Purchaser, **free of all costs** and shall be transported to Site by air freight internationally and by air, rail or fast road transport within India.

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C.6.2.3 In the event that the spares parts, Insurance items, and consumables, as recommended by the Supplier, are in excess of actual requirement, the Purchaser may at its option:

- a) Retain such excess spares parts and consumables as, in its discretion, it may elect to do so.
- b) Require the supplier to reprocess or repatriate or otherwise dispose of such excess spares parts and consumables in exchange of payment to the Purchaser of the contract Price of spare parts and Consumables concerned.

The purchaser shall notify the Supplier, in writing of its requirements under this clause within thirty (30) days of completion of the period referred to in Clause C.6.2.1 hereof.

C.6.2.4 In the event that the operation of the plant is inhibited or frustrated as a direct result of lack of Spare parts and Consumables pursuant to clause C.6.2.2 hereof, then the period referred to in clause 'C.6.2.1' hereof shall be extended by a period of not less than the period during which operation as aforesaid was inhibited or frustrated.

C.6.2.5 The supplier shall not be liable for the supply of additional Spare parts and Consumable, nor to extend the period referred to in Clause C.6.2.1 hereof, if and to the extent that, additional Spare Parts and consumables are required by reasons of unforeseen accidents, negligence or misuse on the part of the purchaser.

C.6.2.6. The assessment of the supplier of the Spare parts & Consumable requirements shall be based upon the expected working hours per year i.e. **2000 +/- 500 (Two thousand plus or minus Five Hundreds)**, as defined in the individual Equipment Specifications included in the technical specification.

C.6.3 Emergency Spare parts.

C.6.3.1 Emergency spare parts required by the purchaser to repair breakdowns shall be dispatched to the site by the supplier by the fastest, practicable means as directed from time to time by the purchaser.

C.6.3.2 For the purpose of Clause no C.6.2.6, "Emergency spare parts" shall mean those spare parts or components required by the purchaser to repair any item of Plant supplied pursuant to the contract in the event of a breakdown not attributable to a failure covered by guarantee or a failure of the supplier to provide adequate Spare Parts or consumables.

C.6.3.3. payment in respect of supply and delivery of such Emergency spare parts shall be made promptly, retrospectively, by the purchaser, in a manner consistent with the terms of payment described in the contract.

C.6.3.4 Lifetime Spare Parts.

The supplier undertakes and guarantees to produce and maintain stocks, to be available for purchase by the Purchaser under separate agreements of all Spare Parts and Consumables as may be required for maintenance and repair of the equipment throughout its working life. In the event that the Supplier wishes to terminate production of such Spare Parts, the Supplier shall:

(a) give not less than six months' notice in writing of its intention to terminate production in order to permit the Purchaser reasonable time in which to procure needed requirements and

(b) immediately following termination, provide to the Purchaser at no cost, manufacturing drawings material specifications and all necessary permissions to facilitate manufacture of the spare parts elsewhere.

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(c) Any change in part no or superseded part number should be informed to the HOD of Excavation department / MM department of subsidiary hqrs. and the project site wherever the equipment is operating.

In any event, the Supplier shall not seek to terminate manufacture of spare parts for a period of not less than 15 (Fifteen) Years from taking over or the life time of the equipment whichever is later.

C.6.4. Oil, Lubricants and Fluids :

The Supplier shall provide to the purchaser a detailed schedule of all necessary Oils, Lubricants & fluids for operation and maintenance of the equipment. The schedule shall indicate estimated annual consumption and specify the appropriate international standard number or the name and reference number of equivalent available in India considered to be acceptable by the supplier.

C.6.5 General :

C.6.5.1 Nothing in this clause C.6 shall relieve the supplier of any guarantee, Availability, performance or other obligations or liabilities under the contract.

C7 Guaranteed Availability

The guaranteed availability shall be as per 'Clause9 - Performance Guarantee' for 280HP Motor Graders below :

SN1 Equipment	Minimum Annual Guaranteed Percentage Availability (In %)	1 280HP Tyre Mounted Motor Grader[Engine net power range - (270 HP to 290HP)] complete in all respects	85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period
Equipment	Minimum Annual Guaranteed Percentage Availability (In %)	1 280HP Tyre Mounted Motor Grader[Engine net power range - (270 HP to 290HP)] complete in all respects	85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period
Equipment	Minimum Annual Guaranteed Percentage Availability (In %)	1 280HP Tyre Mounted Motor Grader[Engine net power range - (270 HP to 290HP)] complete in all respects	85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period
1 280HP Tyre Mounted Motor Grader[Engine net power range - (270 HP to 290HP)] complete in all respects	85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period		
1 280HP Tyre Mounted Motor Grader[Engine net power range - (270 HP to 290HP)] complete in all respects	85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period		
280HP Tyre Mounted Motor Grader[Engine net power range - (270 HP to 290HP)] complete in all respects	85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period		
85% - for 36 months from date of commissioning.	80% - for remaining 12 months of contract period			
80% - for remaining 12 months of contract period				
80% - for remaining 12 months of contract period				
80% - for remaining 12 months of contract period				

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80% - for remaining 12 months of contract period
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C.7.1 Introduction

C.7.1.1 The supplier shall guarantee that the equipment supplied pursuant to this contract shall be available for use by the Purchaser and shall meet the performance criteria specifications at the level and in accordance with the terms and conditions of the Availability Guarantee herein contained.

C.7.1.2 Where equipment supplied under the Contract fails to meet the criteria of the Availability Guarantee, the Supplier shall, at its own cost, provide suitably qualified and experienced personnel at site to demonstrate to the purchaser's satisfaction that the required level of availability can be achieved and maintained.

C.7.1.3 The supplier shall provide the services of such personal at Site within (7) days of notification by the purchaser that the availability criteria have not been met in any one (1) month.

C. 7.2 Guarantee

C.7.2.1 The supplier shall guarantee that the equipment supplied pursuant to the Contract shall be available to the Purchaser at the level hereinafter defined to perform to criteria of not less than that defined in the Technical Specifications incorporated in the Contract.

C 7.2.2 The Supplier shall guarantee that the equipment shall be available to perform its duty to minimum criteria and to the minimum availability percentage level as defined in the equipment specifications included as the Attachment to the Technical specifications.
The method of assessment applied shall be as follows :

Method of Assessment :

The following calculation shall determine the availability of the equipment

$$\% \text{ Availability} = \frac{(\text{Scheduled Available time} - \text{Down time})}{\text{Scheduled Available time}} \times 100$$

Scheduled Available time shall equate to 24 hours daily.

Down time shall mean all hours of work lost due to mechanical, electrical or other failure, including:

a) routine servicing and maintenance in accordance with the manufacturer's published recommendations, including changing oils, oil filters and air filters; lubrication; changing identified consumable or wear parts.

b) planned preventive maintenance programmes,

It shall not however include :

i. Damage due to abusive use or incorrect operation methods by the Purchaser.

ii. Accidents.

iii. Strikes or stoppage of work by the purchaser's personnel

iv. Natural disaster.

v. Lack of spare parts not attributable to a failure of the supplier, it's Agents or Representatives.

Down time shall also specifically include all hours lost due to failures determined to be guarantee failures.

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The Supplier shall provide a schedule of maintenance required to carry out (a) and (b) above for the first five years (warranty + Guaranteed availability period) of operation and **shall state the number of hours required to carry out each maintenance task**. The time stated shall, with the agreement of the Purchaser, form the basis of assessment of availability.

The schedule of tasks and time will be reviewed periodically by the purchaser and the Supplier, jointly, to monitor the practicality of the schedule.

The Purchaser will assist the Supplier, without relieving the Supplier of any other obligations under the Contract, to achieve the guaranteed availability by:

1. Providing normal and proper maintenance, including preventive maintenance in accordance with the Supplier's standards/ published recommendations, and making all necessary repairs using only spare parts provided by the Supplier in accordance with the requirements specified in part C6.
2. Providing co-operation to all Suppliers' authorized representatives, complying with all reasonable procedural suggestions to improve efficiency of machine operation or reduce downtime.
3. Where appropriate, providing and maintaining such conditions as :
 - Proper Electrical Supply
 - Terrain Area
 - Bench preparation
 - Reasonable Floor Conditions.
4. Providing all Suppliers' authorized representative access at all reasonable times to the machine service and repair facilities.

Maintaining a log book for each shift wherein the working hours, breakdown hours, maintenance hours, idle hours etc. shall be recorded. This record will be available for examination and signature by the Supplier's representative.

C.7.3 Effect and Duration of the Performance Guarantee :

C.7.3.1 This guarantee shall become effective on the day on which the Equipment is commissioned at the Site. Commissioning shall be evidenced by the issue of the Purchaser's Acceptance Certificate.

B.7.3.2 The guarantee shall remain effective for 48 months from the date of commissioning irrespective of the Hours operated by the equipment during the period of the guarantee.

B.7.3.3 Compensation for not achieving guaranteed Availability:

In the event that the Equipment fails to achieve the Availability herein provided, measured over each twelve (12) months period, the Supplier shall be liable for and pay to the Purchaser, as liquidated damages, a sum equal to as indicated hereunder for each equipment against the PGB submitted by the bidder as per clause-2 of SCC

- a) 1 % of the delivered landed price of the equipment including the price of spares & consumables for 12 months period for reduction in every percentage or part thereof from the Guaranteed Availability for the first 5%.

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- b) **10 %** of the delivered landed price of the equipment including the price of spares & consumables for 12 months period for reduction beyond 5% from the Guaranteed Availability.

C.8 Deemed Breakdown :

When the supplier is unable to supply the replacement of a failed part during the contract period, and if the machine is commissioned by using the spare from the stock of the project, the period after 21 days till the supplier replaces the part under warranty shall be treated as "**Deemed Breakdown**" (the credit for keeping machine available shall not be given to the supplier).

The supplier shall not in any way be allowed to take out spare parts from other equipment, which are under breakdown and covered within the scope of this contract. However, CIL in the interest of work reserve the rights to advise the supplier to commission the breakdown equipment covered under this contract by taking out spare parts from other breakdown equipment. Nevertheless, during this period also, the equipment shall be treated as 'Deemed Breakdown' till the supplier replaces the spare parts.

C.9 Composite Warranty/ Guarantee

The Bidder shall warrant that the equipment supplied under this contract is:--

- a) In accordance with the contract specifications.
- b) The equipment shall have no defects arising out of design, material or workmanship & the Complete Equipment shall be warranted for 12 months from the date of commissioning. Any defect arising observed on this account will have to be attended immediately.
- c) The supplier must ensure that there is no major breakdown due to manufacturing/ design defects during the warranty period. In case such breakdown occurs, **the purchaser reserves the right to extend the warranty period suitably.**

The warranty shall cover the total equipment so that comprehensive responsibility lies only with the equipment supplier although components may be supplied by different supplier to the bidder.

C.10 Quality Assurance

C.10.1 The Supplier should furnish in detail its quality assurance plan for various stages of manufacture. The Quality Assurance plan shall comply with an internationally recognised quality assurance standard such as ISO 9000 **or equivalent.**

C.10.2 The Supplier shall provide facilities to Purchaser or their authorised representatives for progress inspection during manufacture at his works and furnish all test data available in this regard for quality control, both for bought out items and his own manufactured items.

C.10.3 The Purchaser or his agent, when so required by him, shall also be provided with samples of "bought-out" materials for the purposes of undertaking independent tests which independent tests shall be at the expense of the Purchaser.

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PART D:- EQUIPMENT SPECIFICATIONS

Equipment Specification of a Tyre mounted motor Grader (Engine Net Power Range 270 HP- 290 HP)

●1. Scope of Specification:

This specification is intended to cover the technical requirements for the design, manufacture, testing, delivery, on-site erection and commissioning for a diesel engine powered, pneumatic tyred Motor Grader of 270HP-290HP. (201.34KW-216.25KW).

2. References:

The following International Standards are referred to in, and form part of, the Specification. The superseded or equivalent standards, if any, to any of the following ISO standards if offered are to be supported by documentary evidence in form of copies of the equivalent standards certifying that offered standards are identical to the corresponding ISO standards of NIT.

ISO2867	Earth-moving machinery-Access systems
ISO3449	Earth-moving machinery-Falling-object protective structures- Laboratory tests and performance requirements
ISO3450-	Earth-moving machinery-Braking System of rubber-tyred machines- System and performance requirements and test procedures
ISO 3457	Earth-moving machinery - Guards and shields - Definitions and specifications
ISO 3471	Earth-moving machinery-Roll-over protective structures-Laboratory tests and performance requirements
ISO5010	Earth-moving machinery - Rubber tyred machines- Steering requirements
ISO6014	Earth-moving machinery - Determination of ground speed
ISO6405-1	Earth-moving machinery - Symbols for operator controls and other displays-Part1:Common symbols
ISO6405-2	Earth-moving machinery - Symbols for operator controls and other displays - Part2:Specific symbols for machines, equipment and accessories
ISO6682	Earth moving machinery - Zones of comfort and reach for controls
ISO6750	Earth-moving machinery-Operation and maintenance-Format and content of manuals
ISO7129	Earth-moving machinery-Tractors with dozer, graders, tractor scrapers-Cutting edges-Principal shapes and basic dimensions
ISO 7457	Earth-moving machinery -Determination of turning dimensions of wheeled machines
Earth-moving machinery -	Determination of turning dimensions of wheeled machines
ISO 7464	Earth-moving machinery - Method of test for the measurement of draw bar pull
ISO9249	Earth-moving machinery-Engine test code -Net power
ISO10570	Earth-moving machinery-Articulated frame lock-Performance requirements
ISO10968	Earthmoving machinery- Operator's controls
ISO5006	Earth-moving machinery -- Operator's field of view - Test method and performance criteria

●3. Design Criteria:

The Motor Grader shall be capable of continuous operation for protracted periods on a system of 3 shifts each of 8 hours duration per day through out the year in hard, highly abrasive, blasted sandstone/rock having a density after blasting of 1,800 kg/m³.

The Motor Grader will be used for construction/maintenance of haul roads in open cast projects and for other maintenance jobs at open cast mines of (name of subsidiary). The Motor Grader shall have the following working ranges:

- a. Blade length-equal or more than 4800mm
- b. Blade Height-equal or more than 680mm

- c. Blade thickness-equal or more than 25mm
- d. Blade Lift above ground-equal or more than 400mm
- e. Shoulder Reach, (left side)-equal or more than 2150mm
- f. Shoulder Reach, (right side)-equal or more than 2150mm
- g. Turning Radius, Outside Front Tyres- equal or less than 8150mm

•4. Technical Requirements:

4.1 Engine:

The Motor Grader shall be powered by a direct injection 4-stroke turbo-charged diesel engine of 270HP – 290 HP (201.34 KW – 216.25 KW) measured between 1700 and 2200 r/min atleast at one RPM according to ISO9249.

The engine shall be provided with 24V electrical starting, dry type 2 stage air cleaner with dust evacuator, dust level indicator and 2 stage fuel filter with water separator.

The engine shall have a water jacket cooling system, thermo- statically controlled, using an engine driven water pump, with the cooling water re-circulated through a heavy-duty radiator. The system shall be capable of providing sufficient cooling to allow the engine to continuously operate at full rated output at the maximum ambient temperature. The radiator cap shall be fastened with body with the help of suitable capacity chain/locking arrangement.

The moving parts of the engine shall be lubricated by an engine driven oil pump with full flow oil filtration and cooling.

The engine shall be provided with a heavy-duty pan guard/suitable protection as per manufacturer design.

The engine is to be fuel efficient with electronic controlled governor system. The engine shall be environment friendly with minimum **EPA TIER-I** or above standard certified. However, higher environmental standard, if any, shall be applicable as per notification of Govt. of India at the time of tendering / supply. Certificate for EPA Tier-I or above from engine manufacturer is to be enclosed.

4.2 Transmission:

Hydra shift / automatic transmission consisting of planetary gear drives and hydraulically operated multiple disc type clutches equipped with suitable valves for developing minimum 6 forward and 6 reverse speeds. Suitable gear shifting locking device to prevent accidental machine start should be provided.

Suitable protection of the transmission pan from external damage should be provided. The pan guard should be designed to minimize accumulation of dirt and debris.

In the case of any other alternative type of Transmission, the system must be clearly defined and illustrated

4.3 Final Drive:

SuitableFinalDriveofprovendesignshouldbeprovided.FinalDrivesuchprovidedmust be clearly illustrated

4.4 Steering:

Full hydraulic orbitrol power steering system shall be provided. Minimum Frame articulation angle of 15 degree left and right should be there.

4.5 Hoses:

All hoses shall be grouped as far as possible and suitably clipped to reduce damage from scuffing. Fire resistant /retarder hydraulic hoses in place of ordinary hoses to decrease the chance fire. All hoses and piping shall be protected from damage.

4.6 Brakes

Blade ✓

The service brakes shall be foot operated, air/ hydraulically actuated, oil disc brakes and of proven design. They should preferably be fully enclosed to prevent entry of dust and water, and designed for low maintenance.

The Parking Brake shall be Spring applied, air or hydraulically released, dry disc type/ oil disc type/ Caliper Type.

• **4.7 Tyre**

Tubeless ,rock duty, cut-resistant tyres of suitable size shall be provided.

4.8 Frame:

An articulated frame with a locking device which complies with ISO 10570 shall be provided.

● **4.9 Grader Attachment:**

4.9.1 Blade Circle

The blade circle should be an internal gear type of adequate diameter with uniform heat-treated teeth. Top & bottom raised wear surfaces will be provided to prevent the circle teeth from contacting the support shoes. The blade circle shall be hyd. Controlled to provide full 360 degree rotations in either direction and fitted with a mechanical lock operated from the operator's cab.

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• **4.9.2 Mould Board**

The mould board shall be heavy duty reinforced construction with wear resistant steel & replaceable & reversible end bits and side edges. Heavy duty hardened steel wear resistant cutting edges, which comply with ISO:7129 shall be provided. Blade side shift and tip control should be by means of hydraulic cylinders.

• **4.10 Hydraulic System**

All machine controls shall be hydraulically operated. The Motor Grader hydraulic system should be of proven design for efficient operation. The hydraulic pumps, motors and cylinders should be field proven large heavy duty type and have suitable in-built protection from surge, cavitations, loss of oil due to hose leakage or burst, etc. As far as practicable reputable single make pumps, motors, cylinders and valves, etc. shall be used in the machine. Adequate filtration of hydraulic oil shall be provided.

• **4.11 Fuel Tank**

The fuel tank shall be of sufficient capacity to allow 16 hours operation without re-fueling and be provided with a level indicator and a lock able hinged filler cap. Construction of the tank should be such that it provides for easy accumulation and drainage of water with minimum loss of fuel.

• **4.12 Operator's Station:**

A suitable Operator's Station shall be provided on the equipment as per Gazette notification issued by Chief Inspector of Mines vide F.No. Z-20045/01/2018/S&T(HQ) Dhanbad, the 1st October, 2018.

• **4.12.1 Operator's Cabin:**

A fully insulated, high-visibility, rigidly mounted, sound-suppressed, vibration-suppressed, air-conditioned, operator's cab with tinted safety glass should be so positioned to facilitate a clear and unrestricted view of the travel & work areas of the machine necessary for its intended use. The performance criteria shall be in accordance with ISO 5006. The sound level inside the cab shall be below 85dBA while the equipment is operating, and with the door closed. All operating controls, all monitoring, working signals and emergency switch to stop the engine should be conveniently located in consoles within easy reach of the operator and shall comply with ISO:6405-1, ISO:6405-2, ISO:6682 & ISO:10968. The operator's cab shall be provided with an emergency exit in addition to primary access path to the cabin.

Alternative opening (Emergency Exit): An alternative opening shall be provided on a side other than that of the primary opening. A window panel or another door is acceptable if they are easy to open or remove without the use of keys or tools. Latches may be used if they can be opened from the inside without the use of keys or tools. The breaking of a suitable size of glass pane is considered to represent a suitable alternative opening, provided that the necessary pane hammer, immediately

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accessible to the operator, is provided and stored in the cab. When the window panel is used as an emergency exit, it shall bear an appropriate marking.

Doors, Windows and flaps shall be securely held in their intended operating positions. Doors shall be retained at their intended operating positions by a positive engagement device. The front glass shall be fitted with motorized wind screen wipers and washers. The tank of the front glass washers shall be easily accessible.

Pipes and hoses that contain fluids at pressures exceeding 5MPa or temperatures above 60°C located inside the cab shall be suitably guarded.

Periodical maintenance of Air Condition system including gas refilling to be done by the supplier during the contract period.

• **4.12.2 Operator's Protective Structures:**

Grader shall be equipped with FOPS as per ISO-ISO 3449 & ROPS as per ISO3471/ISO 12117-2.

• **4.12.3 Operator's Seats:**

The Operator's Station shall be fitted with an ergonomically designed adjustable seat that supports the operator in a position that allows the operator to control the machine under the intended operating conditions. The seat and its suspension shall be so designed to reduce vibration transmitted to the operator to the lowest level that can be reasonably achieved.

Seat Belt for operator with reminder shall be provided as per DGMS circular no. DGMS (Tech) Circular No. 06 of 2020 Dhanbad dated 27.02.2020.

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• **4.12.4 Operator's Controls and Indicators:**

The controls shall be of suitable design and construction and arranged so that they are able to be operated with ease from the operator's seat and within the operator's force limits. Controls shall be laid out and designed to allow easy and safe operation based on the principle that a given direction of movement of any control produces a consistent and expected effect. The surfaces of frequently used pedals shall be fitted with skid resistant type materials.

Controls that can cause a hazard due to inadvertent activation shall be so arranged, deactivated or guarded as to minimize the risk—particularly while the operator is getting into or out of the operator's station. The deactivation device shall either be self-acting or shall act by compulsory actuation of the relevant device.

• **4.12.5 Starting and Stopping System:**

Grader shall be equipped with a starting and stopping device (e.g., key). The starting system shall have a provision for protection against unauthorized use. The starting and Stopping system shall be designed such that movement of the machine, shall not be possible, while starting or stopping the engine, without activating the controls.(e.g., Transmission Neutral-Engine Start safety arrangement)

• **4.13 Machinery House**

The Motor Grader shall be provided with a dust proof machinery house/suitable arrangement made of steel sheet supported by a steel structure and shall cover the engine & drive system. It shall be designed to give ready and safe access to personnel & equipment for maintenance.

In case non-slip type walkways and catwalks with handrails shall be provided in and around the machinery house, the operator's cab and service platforms that shall comply with International Standards.

• **4.14 Gauges and Indicators**

The following shall be provided:

- a) Water temperature gauge

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- b) Engine oil pressure gauge/indicator
- c) Air Pressure Gauge
- d) Fuel capacity gauge.
- e) Engine tachometer
- f) Engine hour-meter

In case any of these gauge(s) is / are not provided, then it may be adequately explained that how job of the same shall be accomplished in the offered product.

•4.15 Warning Alarms/Lights

The following audio/visual warning alarms shall be provided:

- a) Coolant level & temperature
- b) Engine oil pressure
- c) Converter/ **transmission** oil temperature (where applicable)
- d) Reversing alarm. It must be audio & visual both. Audio-visual alarm while reversing the equipment should have a flasher/blinker at the rear end of the vehicle.
- e) Brake Indicator light

•4.16 Electrical Equipment

The grade shall be provided with the following:

- a) 24V DC electrical system with suitably rated alternator of reputable make.
 - b) 24V Electrical starter motor of reputable make
 - c) Reputable make high capacity maintenance free batteries
 - d) Battery isolation switch
- All Electrical wires & sleeves are to be of fire resistant quality to decrease chance of fire.

Electrical wires are to be passed through flexible metallic conduit to avoid damage of insulation of the wire due to friction that may cause short circuit. All electrical circuits shall be protected by adequately rated fuses, which shall be easily accessible for maintenance.

•4.17 Lighting

Adequate LED lighting and illumination at strategic points both out side and inside of the machine shall be provided for visual observation and night shift operation. Details to be provided.

•4.18 Guards and Shields

Adequate guards and shields, which comply with International Standards shall be provided throughout the Motor Grader.

• 4.19 Fire Extinguisher

A fire extinguisher shall be provided on the 280HP Motor Grader, suitably mounted in heavy-duty bracket for ease of removal. The extinguisher shall be dry powder (cartridge type) with a minimum capacity of 5kg and shall comply with Indian Standard IS:15683 with latest amendment.

Bidder shall submit a Certificate as an undertaking that, a valid Test Certificate (valid as on the date of commissioning of the equipment at site) shall be submitted at the time of supply of equipment along with other documents, for Fire Extinguisher including Materials and Chemicals to be used in fire extinguisher from any Government or Government approved Laboratory in compliance with relevant Indian Standards as per DGMS Circular No. DGMS(Approval) CircularNo.02 dtd.08thJuly2013.

Periodical refilling of fire extinguisher to be done by the supplier within the contract period.

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•2.20 Fire Detection and Suppression System:

A suitable automatic fire detection and suppression system of reputed manufacturer (indigenous or imported), shall be provided on the equipment complying Clause-5 of DGMS (Tech) Circular No. 06 of 2020 dated 27.02.2020.

??Automatic fire detection and suppression system suitable for fire class A,B &C shall be provided in the fire prone zone of the Grader.

??Bidder requires submitting a schematic drawing indicating Plan of the system with relative position of items to be protected from fire.

??Fire detection and suppression of fire may be either total gas flooding or dry chemical powder base spray through nozzle strategically through an actuation cartridge, located to the targets, or combination of the two.

??Fire suppression agent used in neighbourhood of electrical appliances shall be clean and shall not damage electrical /electronic component.

??Fire suppression system shall be non-hazardous & safe for human and environment friendly. It should have quick cleanup and environmental sustainability.

??The sensor shall send the signal to the control unit integrated with a LED and /or alarm indicator to show the status of the detector.

??The system shall operate to supply adequate quantity of fire suppressing agent for effective fire fighting and to avoid re-ignition and suitably designed to extinguish the fire as per class of fire (A, B & C) of that location. The System shall operate only in active fire area.

??The system shall be actuated automatically by detection of fire and control unit to be installed within the Operator's cabin for automatic system operation.

??The system shall also have provision of actuating manually.

??The system shall provide facility for self-checking /testing/inspection without operating.

??The system should be capable for efficient operation in the extreme mining conditions with dust, dirt, water & vibrations.

The high-pressure storage vessels and hoses, if used with fire-fighting and fire suppression systems, shall conform to the requirements stipulated in the relevant Indian standards.

Bidder shall submit a Certificate as an undertaking that, a valid Test Certificate (valid as on the date of commissioning of the equipment at site) shall be submitted at the time of supply of equipment along with other documents, for AFDSS including materials and chemicals used in fire suppression system from any Government or Government approved Laboratory in compliance with relevant Indian Standards as per DGMS(Approval) CircularNo.02dated08th July2013.

Note: Periodical refilling and maintenance shall be done by the supplier during the contract period

•4.21 Safety Requirements

All safety features & devices as per Govt. Of India Gazette notification no. Z20045/01/2018/S&T (HQ) dated 01.10.2018, DGMS Circular No. DGMS (Tech) Circular No. 06 of 2020 Dhanbad dated 27.02.2020 and subsequent amendments ,if any , including following shall be provided in the equipment. Bidder shall submit a Certificate as an undertaking in this regard that all safety features and devices applicable for the subject equipment are incorporated in the equipment

The following safety features shall be provided in the equipment

- a. All function cut off switch
- b. Roll over protection.
- c. Fire resistant / fire retarder hydraulic hoses in place of ordinary hoses to reduce the chances of fire. All the sleeves and conduits in which cable/wire are laid shall be of fire resistant type.
- d. Seat belt & Seat belt reminder- Should comply as per requirement of Clause10 of DGMS Circularno: 06 of 2020 Dhanbad dated:27.02.2020
- e. Rear Vision Camera - Should comply as per requirement of Clause -1 of DGMS Circular no: 06 of 2020 Dhanbad dated: 27.02.2020
- f. Warning System for Operator Fatigue - Should comply as per requirement of Clause-2 of DGMS Circularno: 06 of 2020 Dhanbad dated: 27.02.2020
- g. Mirrors, right and left

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- h. Hot zones shall be separated from cold zone by providing guard.
- i. Exhaust pipes and turbocharger shall be adequately guarded.
- j. Vent valve on top of Hydraulic Tank should be able to be removed without any tool.
- k. Blind spot mirror
- l. Retro Reflective Reflectors on all sides for visibility of grader during night

●5 Special Guarantees

The following guarantee will apply for the different components from the date of commissioning:

- i. Body chassis & differential – 36 months or 10,000 hours (Whichever is earlier)
- ii. Complete engine system – 24 months or 6000 hours (whichever is earlier).
- iii. Transmission Assy. –24 months or 6000hrs (whichever is earlier)
- iv. Disc Brake–24 months or 6000 hours (whichever is earlier)

In case of failure of any of the above component within the special guarantee period, the supplier shall replace the same with a new one. However, in case of failure of any peripheral item of Engine and transmission e.g., fuel pump/turbocharger/ water pump / transmission pump etc. within the special guarantee period shall not be treated as failure of engine and transmission but the failed item is to be replaced with new assy. and should work up to completion of the special warranty period. No repair of such components or use of spares supplied against Clause:C6.2 shall be allowed within the special guarantee period.

However, spares supplied against Clause:C6.2 can be used for repair/replacement of above assemblies after attaining above mentioned special guarantee period as indicated against individual item.

●6 Performance Guarantee

In accordance with the provisions of clause C6.2.6of the technical specifications the expected working hours per annum are **2000(Two thousand)** hours. The expected working hours per annum as indicated are only approximate hours and may vary+/-500 hours.

In accordance with the provisions of clauses C 7.2.2 and C 7.3.2 of the technical specifications the supplier shall guarantee that the availability of each equipment shall be not less than 85%(eighty-five percent) annually foraperiodof36monthsfromthedateofaccepteddateofcommissioningand80%(eightypercent)annuallyfor following12 months.

●7 Health monitoring system:

The equipment shall be provided with suitable licensed, on-line, real time, monitoring interface facility, compatible for GPS-based transfer of equipment performance data to third party equipment management system.

The system shall have OBD Self-diagnostic & error alarm features and should capture the parameters of HMS module and other parameters not covered by HMS of the equipment to monitor the following minimum items:

- a) Working hour,
- b) Engine oil pressure & temperature
- c) Coolant temperature
- d) Coolant level
- e) Engine RPM

Checked



- f) Fuel level
- g) Transmission Oil temperature
- h) Hyd. oil temperature
- i) Hyd. Oil Level in the tank
- j) Engine electrical system -Battery voltage and Alternator output

This system shall have suitable memory capacity to store above measured data in batch form for at least one month period and shall have suitable port to download these data to a laptop / data storage system.

The supplier shall provide the following:

1. There has to be one integrated single online port for capturing all the vital data.
2. The real time interface telemetry port will be provided in the equipment
3. All the data shall be available in the individual form through single port and its communication protocol must be as per global standards.
4. There shall be no additional requirement of any data converter for data capturing like Analog to Digital and vice-versa etc.
5. There shall be integrated on board data management system as explained at point no.3 as above.
6. Permission to third party for interfacing, data collection through online port.
7. Signing of Non-disclosure agreement to protect intellectual property right on either side.
8. To provide full technical support to third party vendor for interpretation and defining parameters for individual alarm to monitor equipment vital data.
9. The HEMM equipment supplier should provide access to data as required by end user without any financial implication to third party.

This interface facility shall be made available till the working life of equipment. However, the supplier shall provide this interface facility during the contract period as a part of contract cost.

To ensure the satisfactory operation of above system, a tripartite agreement shall be signed by the user, supplier and the service provider of OITDS/ System Integrator.

•8 Expected life of major assemblies:

Manufacturer shall give expected life of major assemblies also in the Format given in Table below, duly signed.(Refer Annexure 5)

9. Information to be provided by the supplier: (Refer Annexure 5)

• 9.1 General: (Refer Annexure 5)

- ii. Details of nearest Depot/Warehouse and Service Facility available for the present offer
- ii. Details of special tools to be provided with the equipment.
- iii. Details of maintenance schedule.
- iv. Details of erection programmes

•9.2 Technical Details: (Refer Annexure 5)

- a) Latest engine performance curves showing net power, net torque and specific fuel consumption of the installed engine, measured according to ISO 9249.
- b) Maximum travel speed determined according to ISO6014.
- c) Drawbar pulls at 1km/h and zero speed measured according to ISO7464.
- d) Detailed technical descriptions of the motor grader
- e) Comprehensive commercial literature specifications, the content of which must comply with ISO 6747.

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- f) Details of major bought-out assemblies and sub-assemblies including manufacturer, types, etc.
- g) Detailed list of instrumentation, monitoring and alarm system
- h) Layout drawings and detailed descriptions of all hydraulic systems and components.
- i) Details & layout of automatic fire detection and suppression system

9.3 Dimensions, Weight and Performance Details: (All in SI unit wherever applicable) as per the details given below and also refer to Annexure 5

Parameter	Value
9.3.1 Dimensions :	
a) Maximum overall length (m)	10.010 m
b) Maximum overall width (m)	4.928 m
c) Maximum overall height (m)	4.00 m
d) Drawbar Height (m)	1.045 m
9.3.2 Working ranges	
a) Maximum Lift above Ground	490 mm
b) maximum drop below ground	680 mm
c) Blade tip range; Forward & Backward	49° forward, 5° backward
d) Maximum shoulder reach	Furnished below
i) Left	2400 mm
ii) Right	2400 mm
D.9.3.3 Weights :	
a. Shipping Weight of individual components.	Annexure-A of Annexure 5
b) Total operating weight	28000 Kg
D 9.3.4 Engine :	
a) Manufacturer & Model	BEML & BS6D140EG
b) Number of cylinders	6 Nos
c) Bore (mm)	140 mm
d) Stroke (mm)	165 mm
e) Displacement (mm)	15.24 Liters
f) ISO Net Power at _____ rpm in KW	209 Kw (280FHP) @ 2100 rpm
g) Maximum Torque at _____ rpm (NM)	1236 Nm (126 Kgm) @ 1400 rpm
9.3.5 Transmission :	
a) Manufacturer & Model	Annexure- B of Annexure 5
b) Type	Annexure- B of Annexure 5
c) Number of Gear speeds (forward and reverse)	Annexure- B of Annexure 5
d) Travel Speeds (forward and reverse)	
9.3.6 Final Drive	
a) Make	Annexure- C of Annexure 5

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b) Type	Annexure- C of Annexure 5
b) Ratio	Annexure- C of Annexure 5
9.3.7 Brakes	
9.3.7.1 Service Brakes	
a) Type	Annexure- D of Annexure 5
b) Actuating System	Annexure- D of Annexure 5
9.3.7.2 Parking Brake	
a) Type	Annexure- D of Annexure 5
b) Actuating System	Annexure- D of Annexure 5
9.3.8 Tyres:	
a) Make	MRF / JK / BKT / APOLLO
b) Size and type	18X25; Tubeless L-3 rock type
c) Tread	L-3 or G-3 type
d) Rim Size	13.00 VA X 25TB
e) TKPH	TKPH- 360
9.3.9 Steering	
a) Type and Make	Orbitrol, full hydraulic steering system & BEML
b) Articulation Angle	25 Degree
c) Total Steering Angle	50 Degree
d) Turning Radius	7.9 m
e) Emergency Steering method (if provided)	Electrically operated emergency steering will be provided
9.3.10 Hydraulic System	
a) Make & model, number, flow rates, operating pressures of pumps	Annexure- E of Annexure 5
b) Make, number and ratings of motors (where applicable)	Annexure- E of Annexure 5
c) Make & model, number, piston diameters, stroke lengths of cylinders	Annexure- E of Annexure 5
d) Relief valve operating pressures	Annexure- E of Annexure 5
9.3.11 Mould Board	
a) Length	4928 mm
b) Height	692 mm
c) Thickness	25 mm
9.3.12 Circle	
a) Circle Diameter (outer)	1.775 m
9.3.13 Front axle	
a) Type and make	Make: BEML
b) Ground clearance	Front Axle: 680 mm, Overall Eqpt: 440 mm
c) Oscillation Angle	32° (total)

Check



d) Front Wheel Leaning	18° (each side)
9.3.14 Electrical System :	
(a) Starter Make and Model	Annexure- F of Annexure 5
(b) Alternator make and model	Annexure- F of Annexure 5
(c) Batteries, numbers and ratings	Annexure- F of Annexure 5
d) Lighting Details	Annexure- F of Annexure 5

10. Documents to be submitted at the time of Equipment shipment (along with consignments of EACH Equipment) : -

- i. Suitably illustrated, Operation, Repair & Maintenance and Instructions Manuals for the complete Equipment, in English language - 3 sets;
- ii. Suitably illustrated detailed Spare Parts Manuals, covering all Plant, complete Equipment and Accessories - 3 sets
- iii. Detailed drawings illustrating erection / assembly, foundation requirement & drive motors, Transmission etc (if applicable) - 3 sets;
- iv. All the test certificates

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As per NIT Clause A.4

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

Erection/Assembly, Commissioning and Performance Testing

We M/s.BEML LIMITED undertake that we shall provide the service of Specialist Technicians (Refer Part- C.3) and required manpower (Skilled/Semi-skilled/unskilled) to undertake the installation/ erection/ assembly, commissioning and any performance testing of the plant, equipment and accessories supplied. The technicians shall remain at site following commissioning until all necessary personnel are fully conversant with the maintenance and operation of the equipment.

Date: 26.10.2022

Signature of the Tenderer



नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक(विपणन)/Dy. General Manager(Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
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बंगलूरु / BANGALURU - 560 027.

Seal of the Firm

Checked

BEML Corporate Office:

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बीईएमएल लिमिटेड
BEML LIMITED



Schedule 'A' Company under Ministry of Defence, Govt. of India
Defence & Aerospace | Mining & Construction | Rail & Metro

As per NIT Clause A.5

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

TRAINING

We M/s.BEML LIMITED undertake that after consultation to the project In-charge / HOD [Excavation] of the respective site we shall make available experienced personnel to conduct training of engineers, supervisors, technician and operation personnel for specified periods mentioned in the table given in the "Schedule of Requirement of Services" from the date of issue of acceptance certificate of the equipment. The Training shall cover the following:

- a) Training on Simulator Module by the bidder at their works / suitable location in the India / suitable end user's location is mandatory for Shovel, Dumper & Dozer (As applicable).
- b) Equipment system, safety and risk assessment.
- c) Equipment Operation and maintenance.
- d) Trouble shooting, localisation of fault, and their remedies covering:
 1. Electricals and Electronics.
 2. Mechanical
 3. Hydraulic system
 4. Lubrication system
 5. Pneumatic system (if applicable) etc.

Further we confirm

- i. To impart training to the CIL personnel, in addition the contractual training provision, after completion of warranty period but at any time within the contract period.
- ii. The additional training will be as per the requirement of the user and shall cover the training scope same as per the mandatory training (within warranty period) of the contract.
- iii. The training will be on chargeable basis and additional payment to the supplier will be made at the same rates which have been indicated for mandatory training.

Date: 26.10.2022



Signature of the Tenderer

नरेश कुमार / NARESH KUMAR
अ. मा. प्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
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Seal of the Firm

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ಬೆಂಗಳೂರು, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax: +91 80 22104099
ಇ-ಮೇಲ್: coord@beml.co.in @cmdbeml @BEMLHQ
CIN: L35202KA1964GOI001530, GST NO. 29AAAC8433D1ZU
www.bemlindia.in

As per NIT Clause C.6.3.4

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

LIFETIME SPARES PARTS

We M/s.BEML LIMITED undertake and guarantee to produce and maintain stocks, to be available for purchase by the Purchaser under separate agreements of all Spare Parts and Consumables as may be required for maintenance and repair of the equipment throughout its working life. In the event that the Supplier wishes to terminate production of such Spare Parts, the Supplier shall:

- give not less than six months' notice in writing of its intention to terminate production in order to permit the Purchaser reasonable time in which to procure needed requirements and
- immediately following termination, provide to the Purchaser at no cost, manufacturing drawings material specifications and all necessary permissions to facilitate manufacture of the spare parts elsewhere.
- Any change in part no or superseded part number should be informed to the HOD of Excavation department / MM department of subsidiary hqrs. and the project site wherever the equipment is operating.

Date: 26.10.2022



Signature of the Tenderer

नरेश कुमार / NARESH KUMAR
उप महाप्रबन्धक(विपणन)/Dy. General Manager(Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4 थां तल, युनिटी बिल्डिंग्स, जे.सी. रोड
4th Floor, Unity Buildings, J.C. Road
बंगलूरु / Bangalore

Chowdhury

ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ / Corporate Officer:

ಬೆಂಗಳೂರು, 23/1, 4ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಸಂಪುರ್ಣ ನಗರ, ಬೆಂಗಳೂರು - 560027. ದೂರವಾಣಿ ಸಂಖ್ಯೆ : +91 80 22223065

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ : +91 80 222104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax. +91 80 222104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN:L35202KA1964GOI001530, GST NO. 29AAACB8433D1ZU

www.bemlindia.in

Model: BG825

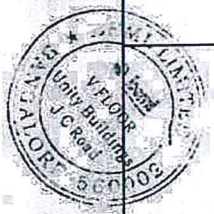
OIL & LUBRICANT CHART



Sl. NO.	RESERVOIR	PART NUMBER	GRADE OF OIL	CHANGE PERIOD (Hrs)		REFILL CAPACITY IN LITRES	*Annual average Consump.	RECOMMENDED BRANDS & SUPPLIER NAME				
				INITIAL	EVERY			BEML	IOCL	BPCL	HPCL	BALMER LAWRIE
1	ENGINE OIL	C600230001	SAE 15W40 CH4	250	250	38	525 L	BEML ENG. OIL 15W-40, CH-4	SERVO PRIDE XL15W-40 CH4	MAKOH4 15W-40	HP DIESELINO 15W-40 CH4 (BM)	BALMEROL EXCEL TURBO 15W-40
2	HYDRAULIC OIL	C600202001	SAE10W	250	1000	105	368 L	BEML HYD. OIL H10	SERVO ULTRA 10W	MAK HYDROL ULTRA 10W	HP HYLUBE X3-10W (BM)	PROTOMAC HYD. TC10
3	TRANSMISSION OIL	C600212000	C4 SAE30	250	1000	35	158 L	C4 SAE 30 TRANS. OIL	SERVO TRANS. C4 SAE 30	HYD TRANS. FLUID C4 SAE30		BALMEROL PROTOMAC C4 SAE 30
4	FINAL DRIVE	C600204000	SAE90 GL-5	250	1000	57	210 L	G90 GEAR OIL GL-5	SERVO GEAR SUPER 90	MAK SPIROL HD90	HP GEAR OIL XP 90 (BM)	BALMEROL PROTOMAC HP90 (SPL)
5	TANDEM CASE	C600203001	SAE30	250	1000	115 Each	788 L	BEML T/M OIL T30	SERVO T/M OIL TO-4 SAE 30	MAK TO-4 SAE30	HP POWER FLD TO-4, 30 (BM)	PROTOMAC TC30 (TO-4)
6	CIRCLE REVERSE GEAR CASE	C600204000	SAE90 GL-5	250	1000	15.5	52.5 L	G90 GEAR OIL GL-5	SERVO GEAR SUPER 90	MAK SPIROL HD90	HP GEAR OIL XP 90 (BM)	BALMEROL PROTOMAC HP90 (SPL)
7	GREASE FOR JOINTS	C600304000	NUGI (EP-2)	As and when required			182 Kg	C600304000	SERVO GEM EP2	MAK LANTHAXEP GREASE 2	LITHON EP-2	BALMEROL LIPREX EP2
8	Cooling System	00Z0091097	PREMIXED ACF	As and when required		58	420 L	PREMIXED ACF				

*Note: Average annual consumption calculated based on 3000 hours of operation per annum.

रतन कृष्ण / MADHUSH KUMAR
 4th Floor, Unity Buildings, J.C. Road
 बंगलुरु / BENGALURU - 560 002.



Handwritten signature and mark

As per NIT Clause C.7

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

GUARANTEED AVAILABILITY

We M/s.BEML LIMITED undertake that our Offered equipment modelBG825 Motor Grader shall meet the Guaranteed Availability mentioned in Clause no C.7 of NIT i.e., 85% for 36 months from the date of commissioning and 80% for remaining 24 months of contract period.

Date: 26.10.2022

Signature of the Tenderer



नरेश कुमार / NARESH KUMAR
असिस्टेंट मैनेजर (विपणन) / Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4 वां तल, यूनैटी बिल्डिंग्स, जे.सी. रोड
4th Floor, Unity Buildings, J.C. Road
बंगलूरु / BANGALURU - 560 002.
Seal of the Firm

Chodde

ಪ್ರಧಾನ ಕಛೇರಿ Corporate Office:

'ಬೆಮಲ್ ಸೌಧ', 23/1, 4ನೇ ಮುಖ್ಯರಸ್ತೆ, ಸಂಪನ್ಮೂಲ ನಗರ, ಬೆಂಗಳೂರು - 560027, ದೂರವಾಣಿ ಸಂಖ್ಯೆ : +91 80 22104099

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ : +91 80 22104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax. +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN: L35202KA1964GOI001530, GST NO. 29AAACB8433D1ZU

www.bemlindia.in



QUALITY ASSURANCE PLAN

MODEL: BG825 MOTOR GRADER
 CLIENT: M/s BEML LIMITED
 CUSTOMER:

QAP Ref: QAP/BG825/2022-23
 Date of issue: 24/06/2022

SL. NO.	COMPONENT	CHARACTER/ PARAMETER	NATURE OF CHECK	QUANTITY OF CHECK	ACCEPTANCE STANDARD	RECORDING FORMAT	INSPN. AGENCY		REMARKS
							PERF.	WIT. VERIFY	
1.	Engine	Make & Model SL.No and damages, if any Rated HP, Torque at rated speed	Visual Test Bench Performance	100%	BEML acceptance stds.	Test Certificate		1	
2.	Transmission	Make, Model, SL.No.	Visual	100%	BEML assembly stds.	Test Certificate		1	
3.	Hydraulic System	Tank pressure & leak checks	Visual	100%	BEML assembly stds.	Test certificate		2	
4.	Fuel system	Tank pressure & leak checks	Visual	100%	BEML assembly stds	Test Certificate		2	
5.	Checks on completed equipment								
a.	Engine	Engine High and Low Idle rpm. Engine Hi and Lo Idle pressures.	Measure Measure				2	1	
b.	Transmission	Effective Gear shifting / Forward & Reverse	Function check				2	1	
c.	Brakes	Service & Parking Brake	Function check	100%	BEML assembly stds.	JIR	2	1	
d.	Steering	Steering, leaning & articulation	Function check				2	1	
e.	Controls & Instruments	Electrical checks (working of accessories)	Function check				2	1	
		Proper routing of Wire Harness	Visual				2	1	
		Pressure Gauge, Temp. Gauge, Fuel Gauge, Electrical display monitoring system	Function				2	1	

Handwritten signature/initials



मरेश कुमार / MARESH KULMAR
 अप मरेश कुमार (विपणन) / Dy. General Manager (Marketing)
 बीएमएल लिमिटेड / BEML LIMITED
 4 वॉ फ्लोर, यूनैटी बिल्डिंग, जे.सी. रोड
 चालोत / BENGALURU - 560 002



SL NO	COMPONENT	CHARACTER/ PARAMETER	NATURE OF CHECK	QUANTITY OF CHECK	ACCEPTANCE STANDARD	RECORDING FORMAT	INSPN. AGENCY		REMARKS
							PERF	WIT	
f.	Work equipment operation	Blade lift	Function check	100%	BEML assembly stds	JIR	2	1	
		Blade rotation	Function check				2	1	
		Blade side shift	Function check				2	1	
		Blade tilt	Function check				2	1	
		Bank cutting	Function check				2	1	
h.	Safety devices, & Lighting System	Availability & functioning of safety features	Function / Check	100%	BEML assembly stds	JIR	2	1	
i.	Std. Accessories tools & Tackles	Standard tools & accessories	Visual / Check	100%	BEML assembly stds	JIR	2	1	
j.	Optional Items	Optional items as per Sale Order	Function / Check	100%	As per order terms	JIR	2	1	

Check

The QAP meets the requirements of ISO9001-2015 Quality Management System Standard. PERF: PERFORM WIT: WITNESS

Note : 1. CUSTOMER 2. BEML JIR - JOINT INSPECTION REPORT

SIGNATURE OF BEML REP. SIGNATURE OF CUSTOMER REP.

APPROVED BY	R.RAMESH DGM - CORPORATE QUALITY	SIGNATURE	DATE
		<i>[Signature]</i>	24.06.22



श्री राज कुमार / NARESH KUMAR
 Deputy General Manager (Marketing)
 BEML LIMITED
 4th Floor, Unity Buildings, J.C. Road
 Bengaluru / BENGALURU - 560 002

आर रमेश / R Ramesh
 Deputy General Manager (Quality)
 Bengaluru / Bengaluru / Corporate Quality

CERTIFICATE OF COMPLIANCE



INTERNATIONAL CERTIFICATION SERVICES PVT. LTD.

This is to certify that the
QUALITY MANAGEMENT SYSTEM of

BEML LIMITED, EQUIPMENT DIVISION

Belavadi Post Mysore - 570018, Karnataka, India.

has been assessed and registered as complying with the requirements of the following International Standard:

ISO 9001:2015

The Quality Management System applicable to:

Scope : Design & Development, Manufacture and Servicing of Off - Highway Dumpers,
Motor Graders, Water Sprinklers, Defence Equipments and Dredgers Spares.

Registration No. : RQ91/11038
Registered Date : 23rd November, 2021
Issue Date : 07th December, 2021
Expiry Date : 22nd November, 2024



QMS 009

ATTESTED BY M.
S. VIJAYAKUMAR
Advocate & Notary
430/A, 8th Cross, 1st Block
Jayanagar, Bangalore - 560 011
Mob: 98860 68343

Handwritten signature
S. VIJAYAKUMAR / NARESH KUMAR
INTERNATIONAL CERTIFICATION SERVICES / BEML LIMITED
4th Floor, Unity Buildings, J.C. Road
BANGALORE - 560 022



Director (Technical)

International Certification Services Pvt. Ltd.

Accredited by National Accreditation Board For Certification Bodies, India.

Validity of this certificate is based on periodic audits of the management system defined by the above scope and is contingent upon prompt, written notification of significant changes to the management system and/or its components thereof shall be immediately communicated to ICS.
Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2015 requirements may be obtained at www.icsasian.com/ www.icspl.org

Handwritten signature





ಬಿಇಎಂಎಲ್ ಲಿಮಿಟೆಡ್
बीईएमएल लिमिटेड
BEML LIMITED



Schedule 'A' Company under Ministry of Defence, Govt. of India
Defence & Aerospace | Mining & Construction | Rail & Metro

As per NIT Clause 4.1

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

ENGINE

We M/s.BEML LIMITED undertake that BEML Engine BS6D140EG in our Offered equipment model BG825 Motor Grader shall be environmentally friendly with minimum EPA tier-I or equivalent standard certified. However, higher environmental standard, if any, shall be applicable as per notification of Govt of India at the time of tender/supply. Certificate for EPA Tier-I is enclosed in the offer.

Date: 26.10.2022



Signature of the Tenderer

नरेश कुमार / NARESH KUMAR
ಇಯ ಮಾರ್ಕೆಟಿಂಗ್ (ವಿಪಣನ) / Dy. General Manager (Marketing)
ಬಿಇಎಂಎಲ್ ಲಿಮಿಟೆಡ್ / BEML LIMITED
4 ನೇ ತಲೆ, ಯುನಿಟಿ ಬಿಲ್ಡಿಂಗ್ಸ್, ಜಿ.ಸಿ. ರೋಡ್
4th Floor, Unity Buildings, J.C. Road
ಬೆಂಗಳೂರು / BENGALURU - 560 002.

Seal of the Firm

Kethole

ಕಾರ್ಪೊರೇಟ್ Corporate Office:

ಬೆಂಗಳೂರು, 23/1, 4ನೇ, ಸರ್ ರಾಮನಗರ, ಬೆಂಗಳೂರು - 560027, ದೂರವಾಣಿ ಸಂಖ್ಯೆ: +91 80 22104099

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +91 80 22104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax. +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN:L35202KA1964GOI001530, GST NO. 29AAACB8433D1ZU

www.bemlindia.in

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

To:
Western Coalfields Limited
Materials Management Department,
Coal Estate, Civil Lines
Nagpur - 440001 Maharashtra
Dear Sir,

Sub: Undertaking for AFDSS

Ref.: 1. NIT No.: WCL-Hq-Pur-spk-ra-e010-2022-23

2. Tender Id.: 2022_WCL_256794_1

We hereby undertake that a valid Test Certificate (valid as on the date of commissioning of the equipment at site) shall be submitted at the time of supply of equipment along with other documents, for AFDSS including materials and chemicals used in fire suppression system from any Government or Government approved Laboratory in compliance with relevant Indian Standards as per DGMS (Approval) Circular No. 02 dated 08th July 2013.

Date: 26.10.2022



Signature of the tenderer

नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4 वॉ तल, यूनिटी बिल्डिंग्स, जे.सी. रोड
बैंगलूर / BANGALORE - 560002

Seal of the Firm

Handwritten signature

Handwritten mark

ಪ್ರಧಾನ ಕಛೇರಿ Corporate Office:

'ಬೆಂಗಳೂರು', 23/1, 4ನೇ ಮುಖ್ಯರಸ್ತೆ, ಸಂಪನ್ಮೂಲ ನಗರ, ಬೆಂಗಳೂರು - 560027 ದೂರವಾಣಿ ಸಂಖ್ಯೆ: +91 80 2223065

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +91 80 22104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 2223065, Fax. +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN: L35202KA1964GOI001530, GST NO. 29AAACB8433D1ZU

www.bemlindia.in

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

To:
Western Coalfields Limited
Materials Management Department,
Coal Estate, Civil Lines
Nagpur - 440001 Maharashtra
Dear Sir,

Sub: Undertaking for Fire Extinguisher

Ref.: 1. NIT No.: WCL-Hq-Pur-spk-ra-e010-2022-23

2. Tender Id.: 2022_WCL_256794_1

We hereby undertake that a valid Test Certificate (valid as on the date of commissioning of the equipment at site) shall be submitted at the time of supply of equipment along with other documents, for Fire Extinguishers, including Materials and Chemicals used in fire extinguisher from any Government or Government approved Laboratory in compliance with relevant Indian Standards as per DGMS Circular No. DGMS (Approval) Circular No. 02 dated 08th July 2013

Date: 26.10.2022



Signature of the tenderer

नरेश कुमार / NARESH KUMAR
मुख्य प्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4 वां तल, यूनियटी बिल्डिंग्स, जे.सी. रोड
4th Floor, Unity Buildings, J.C. Road
बैंगलूरु / BANGALURU - 560 002.

Seal of the Firm

Handwritten signature

ಕರ್ಪೊರೇಟ್ ಆಫೀಸ್ / Corporate Office:

ಬೆಂಗಳೂರು, 23/1, 4ನೇ ಮುಖ್ಯರಸ್ತೆ, ಸಂಪನ್ಮೂಲ ಸಚಿವರ ಕಛೇರಿ, ಬೆಂಗಳೂರು - 560027, ದೂರವಾಣಿ ಸಂಖ್ಯೆ: +91 80 22223065

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +91 80 22104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax. +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN: L35202KA1964GOI001530, GST NO. 29AAAC88433D1ZU

www.bemlindia.in



ಬಿಇಎಂಎಲ್ ಲಿಮಿಟೆಡ್
बीईएमएल लिमिटेड
BEML LIMITED



Schedule 'A' Company under Ministry of Defence, Govt. of India

Defence & Aerospace | Mining & Construction | Rail & Metro

As per NIT Clause 4.12

Ref. MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

OPERATOR CABIN

We M/s.BEML LIMITED undertakes that suitable operator's station shall be provided on the equipment as per gazette notification issued by chief Inspector of mines vide F.No. Z-20045/01/2018/ S&T (Hq) Dhanbad, 1st October, 2018.

Date: 26.10.2022

Signature of the Tenderer

नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4 वॉ तल, युनिटी बिल्डिंग्स, जे.सी. रोड
4th Floor, Unity Buildings, J.C. Road
बैंगलूरु / BENGALURU - 560 002.

Seal of the Firm



ಪ್ರಧಾನ ಕಛೇರಿ Corporate Office:

ಬೆಂಗಳೂರು, ೨೩/೧, ೪ನೇ ಮುಖ್ಯರಸ್ತೆ, ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಸರ್ಕಾರ ಭವನ, ಬೆಂಗಳೂರು - ೫೬೦೦೦೨. ದೂರವಾರ್ತೆ ಸಂಖ್ಯೆ: +೯೧೮೦೨೨೨೨೦೬೩

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +೯೧೮೦೨೨೨೦೬೦೯

Handwritten signature

Handwritten mark



ಬಿಇಎಂಎಲ್ ಲಿಮಿಟೆಡ್
बी ई एम एल लिमिटेड
BEML LIMITED



Schedule 'A' Company under Ministry of Defence, Govt. of India

Defence & Aerospace | Mining & Construction | Rail & Metro

As per NIT Clause 4.15

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

WARNING SYSTEM

We M/s.BEML LIMITED undertake that warning systems shall be provided for SI.No. a to SI.No. e mentioned in Clause No.4.15 of NIT in our offered Equipment.

Date: 26.10.2022

Signature of the Tenderer

नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन)/Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4th floor, Unity Buildings, J.C. Road
बैंगलूरु / Bengaluru - 560 002
Seal of the Firm



Chudler

ಕರ್ಪೊರೇಟ್/Corporate Office:

ಬೆಂಗಳೂರು, 91/0, 9ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಸಂಸಂಗರಾಮನಗರ, ಬೆಂಗಳೂರು - 560092 ದೂರವಾರ್ತೆ ಸಂಖ್ಯೆ: +91080339330013

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +9108033009098



ಬಿಇಎಂಎಲ್ ಲಿಮಿಟೆಡ್
बीईएमएल लिमिटेड
BEML LIMITED



Schedule 'A' Company under Ministry of Defence, Govt. of India

Defence & Aerospace | Mining & Construction | Rail & Metro

Clause No. **D.4.21**

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

UNDERTAKING – SAFETY FEATURES

We hereby undertake that all safety features and devices, as per Govt. of India Gazette notification no. Z20045/01/2018/S&T (HQ) dated: 01.10.2018, DGMS Circular No. DGMS (Tech) Circular No. 06 of 2020 Dhanbad dated 27.02.2020 and subsequent amendments, if any, including the safety features in NIT clause No. 4.21 of part D, point no. (a) to (l)(wherever applicable) are incorporated in the offered BG825 Motor Grader.

Signature of the Bidder



ನರೇಶ್ ಕುಮಾರ್ / NARESH KUMAR
ಅಪ್ ಸಾ. ಪ್ರಾ. ಮ್ಯಾನೇಜರ್ (ವಿಪಣನ) / Dy. General Manager (Marketing)
ಬಿ.ಇ.ಎಂ.ಎಲ್ ಲಿಮಿಟೆಡ್ / BEML LIMITED
4 ನೇ ತಲೆ, ಯುನಿಟಿ ಬಿಲ್ಡಿಂಗ್ಸ್, ಜಿ.ಸಿ. ರೋಡ್
4th Floor, Unity Buildings, J.C. Road
ಬೆಂಗಳೂರು / BANGALORE - 560 002.
Seal of the Firm

ಪ್ರಧಾನ ಕಛೇರಿ / Corporate Office:

"ಬೆಂಗಳೂರು", ೨೩/೦, ಅನೇಮುಖ್ಯರಸ್ತೆ, ಸಂಪುಗುರಾಮನಗರ, ಬೆಂಗಳೂರು - ೫೬೦೦೨೨. ದೂರವಾಣಿ ಸಂಖ್ಯೆ: +೯೧೦೨೨೨೨೨೦೬೫

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +೯೧೦೨೨೨೦೦೪೦೯೯

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Schedule 'A' Company under Ministry of Defence, Govt. of India

Defence & Aerospace | Mining & Construction | Rail & Metro

As per NIT Clause 7

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference: WCL-Hq-Pur-spk-ra-e010-2022-23

PRODUCTIVITY & HEALTH MONITORING SYSTEM

We M/s.BEML LIMITED undertake that all requirements mentioned in Clause No.7. Productivity and Health Monitoring System will be provided on our offered Equipment BG825 Motor Grader.

Date: 26.10.2022

Signature of the Tenderer



नरेश कुमार / NARESH KUMAR
ಇಪ್ಪಿ ಸಿ.ಎಚ್.ಎಚ್.ಕೆ.ವಿ.ಎಂ.ಬಿ./Dy. General Manager(Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
4 ಥ್ ಫ್ಲೋರ್, ಯುನಿಟಿ ಬಿಲ್ಡಿಂಗ್ಸ್, ಜಿ.ಸಿ. ರೋಡ್
4th Floor, Unity Buildings, J.C. Road
ಬೆಂಗಳೂರು / BENGALURU - 560 002.

Seal of the Firm

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ಪ್ರಧಾನ ಕಛೇರಿ Corporate Office:

ಬೆಂಗಳೂರು, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, ದೂರವಾಣಿ ಸಂಖ್ಯೆ : +FOO022223065

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ : +FOO022104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax. +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN:L35202KA1964GOI001530, GST NO. 29AAACB8433D1ZU

www.bemlindia.in

Tender No.: WCL-Hq-Pur-spk-ra-e010-2022-23

EXPECTED LIFE OF MAJOR ASSEMBLIES
(As per TPS Clause No.D.8)

Sl.No.	Major Items	Expected Life in working hours
1	MAIN FRAME	More than 10000 Hours
2	ENGINE	6000 ~ 9000 Hours
3	TRANSMISSION	6000 ~ 9000 Hours
4	ELECTRICAL SYSTEM	3000 ~ 4000 Hours
5	BLADE CIRCLE	12000 ~ 15000 Hours
6	MOULD BOARD	10000 ~ 12000 Hours

*Expected life means life before first overhaul

नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीईएल लिमिटेड / BEM. LIMITED
4 वें तल, यूनियटी बिल्डिंग्स, जे.सी. रोड
4th Floor, Unity Buildings, J.C. Road
बैंगलूरु / BENGALURU - 560 002.



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EQUIPMENT POPULATION LIST DURING LAST 5 YEARS

Sl. No.	Company Name	Mine Name / Mine Location	Mine Type	Sl.No. of machines	Model	Capacity	DOC
1	ECL	ECL, GOPINATHPUR OCP, MUGMA AREA, JH	Coal	25174	BG825		20-10-2022
2	SCCL	SCCL, MANDAMARI, KALYANIKHANI, ADILABAD	Coal	25175	BG825		04-10-2022
3	NCL	"NCL, JAYANT COLLIERY"	Coal	25173	BG825		09-09-2022
4	NCL	"NCL, JAYANT COLLIERY"	Coal	25171	BG825		02-09-2022
5	NCL	"NCL, JAYANT COLLIERY"	Coal	25172	BG825		02-09-2022
6	NCL	"NCL, AMLORI"	Coal	25170	BG825		26-08-2022
7	NCL	"NCL, AMLORI"	Coal	25169	BG825		18-08-2022
8	NCL	"NCL, DUDHICHUA"	Coal	25168	BG825		26-07-2022
9	MCL	MCL BELPAHAR OCP, LAKHANPUR AREA	Coal	25164	BG825		29-06-2022
10	NCL	"NCL, DUDHICHUA"	Coal	25166	BG825		22-06-2022
11	NCL	"NCL, AMLORI"	Coal	25165	BG825		21-06-2022
12	NCL	"NCL, JAYANT COLLIERY"	Coal	25167	BG825		20-06-2022
13	WCL	WCL, MUNGOLI OCP, CHANDRAPUR, MH	Coal	25156	BG825		14-05-2022
14	SECL	SECL, DIPKA PROJECT	Coal	25152	BG825		02-05-2022
15	SECL	SECL, AMLAI	Coal	25161	BG825		02-05-2022
16	MCL	MCL, LINGRAJ OCP, DEULBERA, ANGUL DIST.	Coal	25162	BG825		26-04-2022
17	MCL	MCL, BALANDA	Coal	25163	BG825		26-04-2022
18	SCCL	SCCL, RAMAGUNDAM OCP-2	Coal	25160	BG825		11-04-2022
19	MCL	MCL ANANTA OCP, JAGANNATH ANGUL ODISHA	Coal	25159	BG825		29-03-2022
20	SCCL	SCCL, PKOC, MANUGURU, KHAMMAM	Coal	25151	BG825		24-03-2022
21	WCL	WCL, SILEWARA PROJECT	Coal	25157	BG825		22-03-2022
22	WCL	WCL, UKNI	Coal	25158	BG825		22-03-2022
23	SECL	SECL, DIPKA PROJECT	Coal	25154	BG825		01-03-2022
24	SECL	SECL, GEVRA AREA, PO. GEVRA, KORBA DIST.	Coal	25153	BG825		26-02-2022
25	SCCL	SCCL, IVROC, SATHUPALLI-TELANGANA	Coal	25148	BG825		16-02-2022
26	SCCL	SCCL, RAMAGUNDAM OCP-3	Coal	25149	BG825		27-01-2022
27	SCCL	SCCL, RAMAGUNDAM OCP-3	Coal	25150	BG825		27-01-2022
28	SCCL	SCCL, MANUGURU - OCP2	Coal	25146	BG825		19-01-2022
29	SCCL	SCCL, RG2OC3, GODAVARIKHANI, TELANGANA	Coal	25147	BG825		07-01-2022
30	SCCL	SCCL, RAMAGUNDAM OCP-2	Coal	25155	BG825		07-01-2022
31	BCCL	BCCL, DAHIBARI OCP, DHANBAD, JH	Coal	25145	BG825		29-12-2021
32	BCCL	BCCL, NICHITPUR OCP, SIJUA, AREA-5, DHN	Coal	25144	BG825		24-12-2021
33	SCCL	SCCL, RAMAGUNDAM OCP-1	Coal	25143	BG825		18-12-2021
34	SCCL	"SCCL, MANUGURU OCP1"	Coal	25138	BG825		18-11-2021
35	MCL	MCL, LAKHANPUR OCP, BANDHABAHAL, JHAESUGUDA	Coal	25128	BG825		15-11-2021
36	BCCL	BCCL, DAHIBARI OCP, DHANBAD, JH	Coal	25141	BG825		09-11-2021
37	BCCL	BCCL, BLOCK-II AREA, DHANBAD	Coal	25142	BG825		09-11-2021
38	MCL	MCL BELPAHAR OCP, LAKHANPUR AREA	Coal	25131	BG825		06-11-2021
39	BCCL	BCCL, GOVINDPUR AREA 3, NAWAGARH, DHANBAD	Coal	25140	BG825		06-11-2021
40	MCL	MCL BELPAHAR OCP, LAKHANPUR AREA	Coal	25130	BG825		03-11-2021

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नरेश कुमार / NARESH KUMAR
 अप. प्रमुख (विपणन) / Dy. General Manager (Marketing)
 बीएमएल लिमिटेड / BEML LIMITED
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 बंगलूरु / BENGALURU - 560 002.

EQUIPMENT POPULATION LIST DURING LAST 5 YEARS

Sl. No.	Company Name	Mine Name / Mine Location	Mine Type	Sl.No. of machines	Model	Capacity	DOC
41	BCCL	BCCL, BLOCK-II AREA, DHANBAD	Coal	25139	BG825	280HP MOTOR GRADER	26-10-2021
42	SCCL	SCCL, RAMAGUNDAM OCP-1	Coal	25137	BG825		18-08-2021
43	SCCL	SCCL, RAMAGUNDAM OCP-1	Coal	25136	BG825		12-07-2021
44	ECL	"ECL, RAJMAHAL"	Coal	25129	BG825		21-06-2021
45	CCL	CCL, GIDI C, ARGADA AREA, DIST RAMGARH,	Coal	25134	BG825		26-04-2021
46	SAIL	SAIL - RMD, BARSUA IRON ORE MINE, TENSA	Iron Ore	25135	BG825		13-04-2021
47	SAIL	SAIL BOLANI, RMD BOM, DIST. KEONJHAR, ODISHA	Iron Ore	25133	BG825		10-04-2021
48	MCL	MCL ANATHA OCP	Coal	25132	BG825		29-03-2021
49	MCL	MCL, LINGRAJ OCP, DEULBERA, ANGUL, DIST.	Coal	25127	BG825		21-02-2021
50	MCL	MCL, BALRAM OCP, HINGULA AREA, ANGUL, OR	Coal	25126	BG825		08-02-2021
51	MCL	MCL, BALRAM OCP, HINGULA AREA, ANGUL, OR	Coal	25125	BG825		03-02-2021
52	MCL	MCL, BALRAM OCP, TALCHER, SAMBALPUR, OR	Coal	25124	BG825		31-01-2021
53	WCL	WCL, UMRER OCM, UMRER PROLECT, NAGPUR DIST	Coal	25122	BG825		01-01-2021
54	WCL	WCL, PAUNI OCM, BALLARPUR, CHANDRAPUR	Coal	25123	BG825		28-12-2020
55	WCL	WCL, NAGLONE OCM, MAJRI AREA	Coal	25121	BG825		21-12-2020
56	WCL	WCL, PADMAPUR EXTN DEEP, CHANDRAPUR AREA	Coal	25120	BG825		12-12-2020
57	WCL	WCL, DURGAPUR DEEP EXPN, CHANDRAPUR AREA	Coal	25118	BG825		11-12-2020
58	WCL	WCL, DURGAPUR DEEP EXPN, CHANDRAPUR AREA	Coal	25119	BG825		29-11-2020
59	MCL	MCL LAJKURA	Coal	25116	BG825		08-08-2020
60	MCL	MCL, BASUNDHARA (W) OCP PROJECT	Coal	25117	BG825		24-07-2020
61	MCL	MCL SAMLESHWARI	Coal	25115	BG825		13-07-2020
62	MCL	MCL, BHARATPUR OCP, BALANDA, ANGUL DIST.	Coal	25113	BG825		10-07-2020
63	MCL	MCL, LINGRAJ OCP, DEULBERA, ANGUL DIST.	Coal	25112	BG825		07-07-2020
64	MCL	MCL, BALRAM OCP, HINGULA AREA, ANGUL	Coal	25114	BG825		28-06-2020
65	CCL	CCL RAJRAPPA, RAJRAPPA DIST, JHARKHAND	Coal	25111	BG825		21-03-2020
66	CCL	"CCL, PIPRAWAR AREA, DIST. CHATRA JHARKHAND.	Coal	25110	BG825		23-02-2020
67	ECL	ECL CBI OCP, KENDA AREA	Coal	25109	BG825		25-01-2020
68	ECL	ECL, SONEPUR BAZARI OCP, BURDWAN, WB	Coal	25108	BG825		20-01-2020
69	NALCO	NALCO, DAMANJODI MINES, ORISSA	Aluminium	25103	BG825		26-11-2019
70	WCL	WCL, KUMBARKHANE UG, WANI NORTH ARE, MH	Coal	25107	BG825		24-10-2019
71	WCL	"WCL, NILJAI - II"	Coal	25106	BG825		03-10-2019
72	CCL	C C L, ROHINI PROJECT, RANCHI	Coal	25105	BG825		29-09-2019
73	CCL	CCL, GIDI C, ARGADA AREA, DIST RAMGARH,	Coal	25104	BG825		08-09-2019
74	NMDC	"NMDC, DONIMALAI"	Iron Ore	25102	BG825		25-06-2019
75	ECL	ECL, S.P MINES AREA, PO. CHITRA, DEOGHAR	Coal	25101	BG825		23-06-2019
76	ECL	ECL, SONEPUR BAZARI OCP, BURDWAN, WB	Coal	25099	BG825		19-04-2019
77	SAIL	SAIL, BSP, DALLI RAJHARA	Iron Ore	25100	BG825		13-04-2019
78	ECL	ECL PANDAVESWAR, Burdwan	Coal	25098	BG825		06-04-2019
79	ECL	ECL, SONEPUR BAZARI OCP, BURDWAN, WB	Coal	25097	BG825		20-03-2019
80	SAIL	SAIL, RMD, MIOM, KIRIBURU, WEST SINGHBHUM	Iron Ore	25096	BG825		05-03-2019



नरेश कुमार / NARESH KUMAR
 उप. प्र. नि. प्र. अधिकारी (विपणन) / Dy. General Manager (Marketing)
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 4th Floor, Unity Buildings, J.C. Road
 बंगलूरु / BANGALURU - 560 002.

EQUIPMENT POPULATION LIST DURING LAST 5 YEARS

Sl. No.	Company Name	Mine Name / Mine Location	Mine Type	Sl.No. of machines	Model	Capacity	DOC
81	SECL	SECL,GEVRA AREA,PO: GEVRA,KORBA DIST:	Coal	25093	BG825		24-02-2019
82	SECL	SECL, KANCHAN OCP, JOHILLA AREA, MP	Coal	25095	BG825		15-02-2019
83	SECL	SECL SARAIPALLI PROJECT CG-495677	Coal	25094	BG825		02-02-2019
84	WCL	WCL,SASTI EXPN OCM BALLARPUR AREA SASTI	Coal	25092	BG825		24-12-2018
85	WCL	WCL,UMRER OCM, UMRER PROLECT,NAGPUR DIST	Coal	25091	BG825		19-12-2018
86	NMDC	"NMDC, BACHELI CHHATTISGARH	Iron Ore	25087	BG825		24-11-2018
87	NMDC	"NMDC, KIRANDUL CHATTISGARH	Iron Ore	25085	BG825		23-11-2018
88	WCL	WCL, BHATADI OCM, CHANDRAPUR	Coal	25088	BG825		22-11-2018
89	NMDC	"NMDC, DONIMALA"	Iron Ore	25084	BG825		21-11-2018
90	WCL	WCL, PENGANGA OCP,WANI AREA,PO GHUGUS	Coal	25086	BG825		20-11-2018
91	WCL	WCL,PADMAPUR RCE CHANDRAPUR AREA DURGAP	Coal	25090	BG825		20-11-2018
92	WCL	WCL, JUNAD, WANI-NORTH, CHANDRAPUR, MH	Coal	25089	BG825		17-11-2018
93	ECL	"ECL, RAJMAHAL"	Coal	25080	BG825		05-04-2018
94	ECL	ECL, SONEPUR BAZARI OCP, BURDWAN, WB	Coal	25081	BG825		26-03-2018
95	CCL	CCL, ARGADA	Coal	25077	BG825		16-03-2018
96	CCL	CCL RAJRAPPA, RAJRAPPA DIST, JHARKAHAND	Coal	25082	BG825		05-03-2018
97	CCL	CCL, JARANGDIH, KATHRA AREA, DIST BOKARO	Coal	25083	BG825		27-02-2018
98	WCL	WCL,GAURI DEEP OCM BALLARPUR AREA,SASTI	Coal	25073	BG825		06-01-2018
99	WCL	WCL, PAUNI OCM, BALLARPUR, CHANDRAPUR	Coal	25076	BG825		03-01-2018
100	WCL	WCL, MUNGOLI OCP, CHANDRAPUR, MH	Coal	25078	BG825		27-12-2017
101	WCL	"WCL, NEW MAJRI"	Coal	25079	BG825		14-12-2017

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नरेश कुमार / NARESH KUMAR
 ज्य. महाप्रबन्धक (विपणन) / Dy. General Manager (Marketing)
 बीएमएल लिमिटेड / BEML LIMITED
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**DETAILS OF NEAREST DEPOT/WAREHOUSE & SERVICE FACILITIES
AVAILABLE FOR THE PRESENT OFFER**

MAJOR DEPOT/ WAREHOUSE & SERVICE FACILITY

MAJOR DEPOT/WAREHOUSE			SERVICE FACILITY		
LOCATION	CONTACT NOS.	INVENTORY VALUE	LOCATION	TYPE OF FACILITY AVAILABLE	NO. OF ENGINEERS
BEML Warehouse At KGF At Mysore	08153-263280/ 263320 0821-2402202	Approx Total Rs.150 Crores at various Warehouse/ depots	BEML :- Asansol, Neyveli, Chandrapur, Dhanbad, Bilaspur, Sambalpur, Bhubaneswar, Ranchi, Kolkata, Singrauli, Hyderabad.	All these Regional / District offices have service set up with experienced service personnel, required instrument and tools to attend major & minor service problems. Kolkata and Bilaspur has got service center for overhauling major sub-assemblies.	Adequate number of qualified, trained Engineers and Technicians are located at Asansol, Neyveli, Chandrapur, Dhanbad, Ranchi, Bilaspur, Sambalpur, Bhubaneswar, Kolkata and at various other Regional / District offices of BEML.
BEML depots at Asansol	0341-2252480/ 2252870				
Neyveli	04142 - 268517				
Singrauli	07805-				
Chandrapur	27239207172-				
Dhanbad	287760				
Bilaspur	0326-2222385/ 2200180				
Sambalpur	07752-252142				
Ranchi	0663-2533023				
Kolkata	0651-2544054				
Udaipur	033-24015286/ 24010780				
Hyderabad	0294-2452055 040-23221396				

Location of Regional Service Centre:

- Kolkata
- Bilaspur
- Hyderabad
- Singrauli
- Delhi

The total Engineers / Technicians employed to service the equipment either at the facility or on site is 42 personnel for WCL projects.

Training Facilities:

- Centre of Excellence, KGF
- Service Training Centre, KGF
- Service Training Centre, Mysore

Handwritten signature/initials in blue ink.

नरेश कुमार / NARESH KUMAR
 उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
 बीएमएल लिमिटेड / BEML LIMITED
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STANDARD TOOL LIST - BG825 MOTOR GRADER

(Per Equipment)


Sl.No	Material	Description	Q/E	UNITS
1	451TI11023	ENGG. PATTERN SCREW DRIVER - 8 X 150 MM	1	NO
2	451TI11226	SLIP JOINT PLIER 200 MM L	1	NO
3	451TI11234	RATCHET HALF INCH SQ DR	1	NO
4	451TI11259	UNIVERSAL JOINT - 1/2" SQ DR	1	NO
5	451TI11275	EXTN. BAR - 1/2" SQ. DR. - 250 MM	1	NO
6	451TI11283	SWIVEL HANDLE 1/2 IN SQ DR	1	NO
7	452TI02006	DOUBLE ENDED OPEN JAW SPANNER	1	SET
7.1	451TI11048	D.E.O.J. SPANNER - 8 X 10 MM	1	NO
7.2	451TI11056	D.E.O.J. SPANNER - 12 X 14 MM	1	NO
7.3	451TI11064	D.E.O.J. SPANNER - 13 X 17 MM	1	NO
7.4	451TI11072	D.E.O.J. SPANNER - 19 X 22 MM	1	NO
7.5	451TI11081	D.E.O.J. SPANNER - 24 X 27 MM	1	NO
7.6	451TI11097	D.E.O.J. SPANNER - 30 X 32 MM	1	NO
7.7	452TI11021	D.E.O.J. SPANNER - 36 X 41 MM	1	NO
7.8	452TI11038	D.E.O.J. SPANNER - 46 X 50 MM	1	NO
7.9	955TI11088	D.E.O.J. SPAN - 18X19 MM	1	NO
7.10	955TI11071	D.E.O.J. SPAN - 16X17 MM	1	NO
8	452TI11005	ALLEN WRENCH - 10 MM	1	NO
9	452TI11013	S.E.O.J. SPANNER - 75 MM	1	NO
10	935TI11774	HEX SCREW DRIVER	1	NO
11	985TI01002	TOOL BOX	1	NO
12	985TI11103	THICKNESS GAUGE	1	NO
13	985TI11111	GREASE GUN WITH SUITABLE NOZZLE	1	NO
14	985TI11128	BAR	1	NO
15	985TI11322	PHILIPS SCREW DRIVER - 8 X 150 MM	1	NO
16	CFB0223040	BOLT HEX HD. M30X140 - 3.5C.P - GR.10.9	1	NO
17	CFN0123026	NUT HEX M30 X 25.6 - 3.5CP - GR-10	1	NO
18	452TI02039	ALLEN KEY SET	1	SET
18.1	985TI11777	ALLEN KEY 4mm	1	NO
18.2	985TI11282	ALLEN WRENCH - 6 MM	1	NO
19	935TI11425	T HANDLE	1	NO
20	452TI11087	BI-HEX SOCKET 1" SQ DRIVE 80mm	1	NO

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STANDARD TOOL LIST - BG825 MOTOR GRADER

(Per Equipment)

Sl.No	Material	Description	Q/E		UNITS
21	935TI02191	TYRE INFLATION KIT	1		SET
21.1	935TI03009	TYRE INFLATOR	1	NO	-
21.2	935TI11782	ADOPTOR	1	NO	-
22	990TI11094	ALLEN KEY 3/16"	1		NO
23	901908035	WRENCH FILTER	1		NO
24	451TI02065	BI-HEX SOCKET 3/4" SET	1		SET
24.1	451TI11307	3/4" SQ DR SOCKET - 41 MM (BIHEX/HEX)	1	NO	-
24.2	985TI11922	BI HEX/ HEX SOCKET 1" SQ DRIVE - 36 mm	1	NO	-
24.3	985TI11914	3/4" SQ DR BI-HEXAGONAL SOCKET 32 MM	1	NO	-
24.4	985TI11906	BI-HEX/ HEX SOCKET 3/4" SQ DR 30 MM	1	NO	-
24.5	985TI11899	BIHEX/ HEX SOCKET 3/4" SQ DR 27 MM	1	NO	-
24.6	985TI11882	3/4" BI-HEXAGONAL SOCKET 24 MM	1	NO	-
25	452TI02022	BI HEX. SOCKET SET 1/2"	1		SET
25.1	451TI11178	BI-HEX SOCKET 1/2" SQ.DRIVE - 22 MM	1	NO	-
25.2	451TI11161	BI-HEX SOCKET 1/2" SQ.DRIVE - 19 MM	1	NO	-
25.3	451TI11153	BI-HEX SOCKET 1/2" SQ.DRIVE - 17 MM	1	NO	-
25.4	451TI11145	BI-HEX SOCKET 1/2" SQ. DRIVE - 14MM	1	NO	-
25.5	451TI11137	BI-HEX SOCKET 1/2" SQ.DRIVE - 13 MM	1	NO	-
25.6	451TI11129	BI-HEX SOCKET 1/2" SQ.DRIVE - 10MM	1	NO	-
26	451TI02073	RING SPANNER SET	1		SET
26.1	452TI11079	RING SPANNER 36x41mm	1	NO	
26.2	955TI11266	RING SPANNER 30x32 MM	1	NO	
26.3	955TI11241	RING SPANNER 24x27 MM	1	NO	
26.4	955TI11209	RING SPANNER 18x19 MM	1	NO	
26.5	955TI11193	RING SPANNER 16x17 MM	1	NO	
26.6	955TI11177	RING SPANNER 12x13 MM	1	NO	


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Chakraborty

ELECTRONIC DIAGNOSTIC TOOL

Model: BG825 Motor Grader

Description	Project wise		
	Wani North	Wani Area	Nagpur
Laptop with Compatible Software with all accessories	01 Set	01 set	01 Set

=== XXX ===


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MAINTENANCE SCHEDULE

Model: BG825

PERIODIC MAINTENANCE SCHEDULE

GROUP	TYPE OF P.M.	DETAILS OF P.M.	HRS. REQD.
1	Daily Checks	Walk around check for oil leaks and loose fasteners. CHECK: Oil, Coolant level & Grease level, Grease at all points, Air cleaner restriction & clean element if required, Battery condition & function of Auto electrics and belt tension & adjust. DRAIN: Sediments form Fuel tank & Water separator.	15 Minutes per Shift
2	Initial 250 hours	Change: Hydraulic oil and filter element, Transmission oil, Final Drive oil, Tandem case oil and circle reverse gear case oil. Check: Engine valve clearance & adjust	5
3	Every 250 hours	Change: Engine lube oil & lube oil filter. Check: pH value of coolant, Check Air cleaner elements, Fan / Compressor Belt Tension Check: T/M oil level, Hyd. tank oil level, final drive, tandem case and Circle gear case oil level. Check: Crank case breathers and clean if required.	4
4	Every 500 Hrs.	Change: Fuel pre filter & fine filter, Transmission element and Air cleaner elements.	2
5	Every 1000 Hrs.	Change: Hydraulic oil and filter element, Transmission oil, Final Drive oil, Tandem case oil and circle reverse gear case oil. Change: Hydraulic Breather Element. Check: Drive shaft bolts torque and correct.	5
6	Every 2000 Hrs.	Check: Engine valve clearance check & adjust Check: CBM of engine along with oil sample. Clean: Crank case breathers	4

PREVENTIVE MAINTENANCE SCHEDULE:

GROUP	TYPE OF P.M.	DETAILS
A	Initial 50 hrs.	Grease at all points. Check Hydraulic oil, Transmission oil, Final Drive oil, Tandem case oil and circle reverse gear case oil, front wheel spindle bearing oil.
B	Every 2000 hrs.	Check for leakages and pressure checking of all systems. This will be carried out along with 2000 hrs periodical maintenance.
C		Replacement of end bits, cutting edges as and when required. This will be (Depending on wear) done concurrently with respective periodic maintenance.

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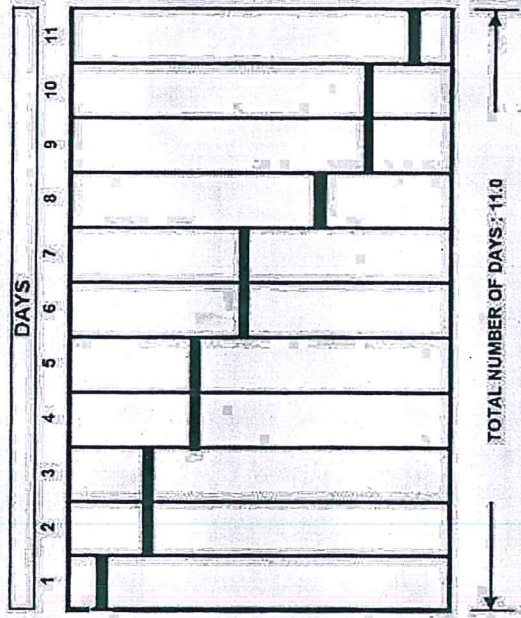
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ERECTION CHART FOR BG825 MOTOR GRADER



TOTAL NUMBER OF DAYS: 11.0

ACTIVITIES

- 1 M/C UNLOADING
- 2 INVENTORY OF CONSIGNMENT
- 3 TYRES MOUNTING
- 4 INITIAL CHECK OF ALL OILS AND LUBRICANTS
- 5 START AND CHECK
- 6 EQUIPMENT LOAD TEST
- 7 EQPT. DELIVERY

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Note: The above schedule is indicative only.

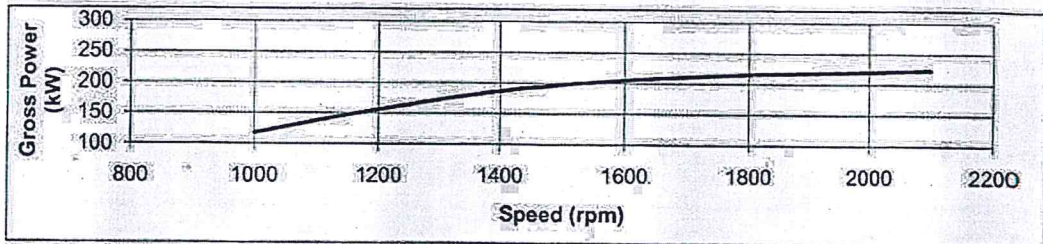
Erection work will be commenced after receipt of full consignment at site and commissioning will be completed within the period specified (i.e. 21 days) in the NIT.



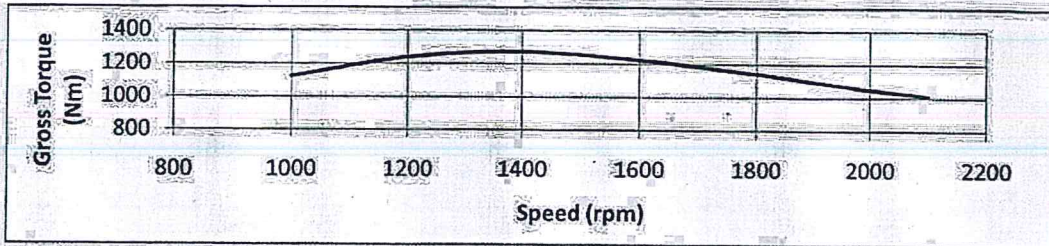
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 श्री प्रमुख (विद्युत)/Dy. General Manager(M.EERING)
 श्रीमंत लिमिटेड / BEML LIMITED
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BEML LTD, INDIA Engine Division, Mysore	Engine Model : BS6D140EG	Ref.Curve No. : 140EG-013
Engine Performance Curve for BS6D140EG :	Equipment Model : BG825	Date : Dec - 2014
Displacement : 15.24 Litre	Aspiration : Turbocharged	No.of.Cylinders : Six, In-Line
Bore : 140 mm	Stroke : 165 mm	Fuel System : Bosch Ltd India, & Control System by Heinzmann, Germany

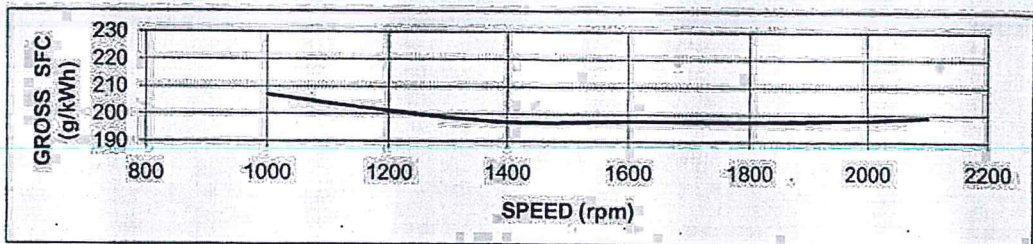
Gross Power - kW



Gross Torque - Nm



Gross SFC - g/kWh



Speed (rpm)	1000	1200	1400	1600	1800	2000	2100
Gross Power (kW)	117	156	187	205	216	222	224
Gross Torque (Nm)	1121	1240	1274	1225	1143	1060	1019
Gross SFC (g/kWh)	207	201	197	197	197	198	199

NOTES: Production tolerance: Within +/- 5% Engine Performance as per ISO 9249

Chakraborty

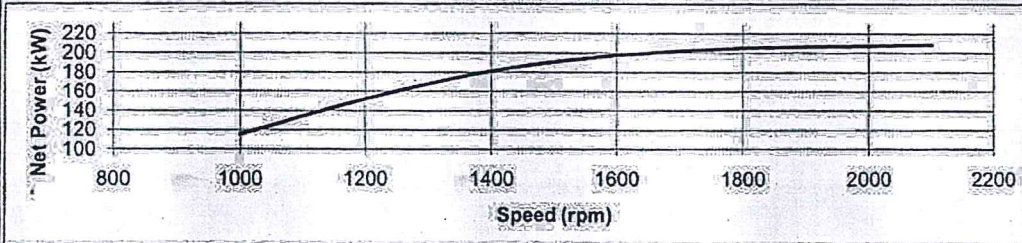
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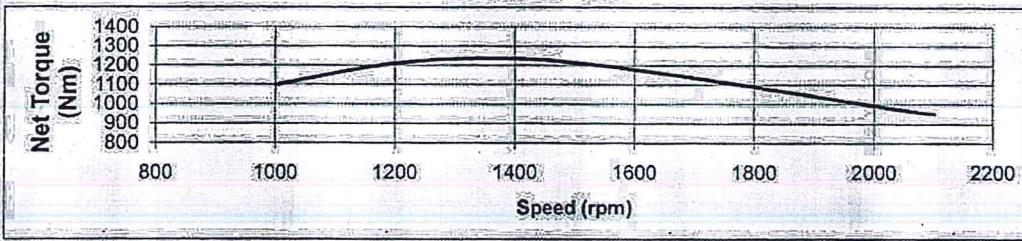


BEML LTD, INDIA Engine Division, Mysore	Engine Model : BS6D140EG	Ref.Curve No. : 140EG-013
Engine Performance Curve for BS6D140EG :	Equipment Model : BG825	Date : Dec - 2014
Displacement : 15.24 Litre	Aspiration : Turbocharged	No.of.Cylinders : Six, In-Line
Bore : 140 mm	Stroke : 165 mm	Fuel System : Bosch Ltd India, & Control System by Heinzmann, Germany

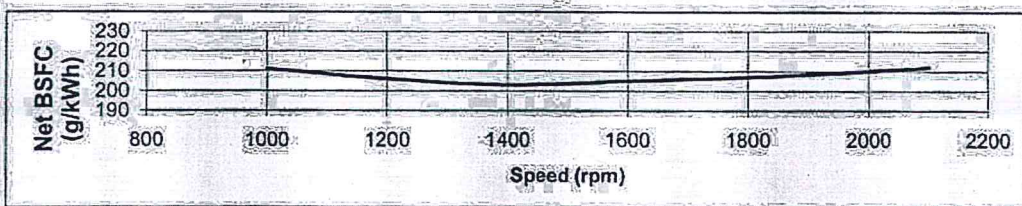
Net Power - kW



Net Torque - Nm



Net BSFC - g/kWh



Speed (rpm)	1000	1200	1400	1600	1800	2000	2100
Net Power (kW)	115	152	181	198	205	208	209
Net Torque (Nm)	1100	1210	1236	1180	1090	992	950
Net BSFC (g/kWh)	211	206	203	205	207	210	212

Note: Net performance curve is derived from gross power curve by deducting the accessory power

NOTES: Production tolerance: Within +/- 5 % Engine Performance as per ISO 9249

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BG825, BS6D140EG, Rated Power 209kW (280hp) @ 2100 rpm, 140EG-013													
Engine Speed, rpm	Gross Torque, Nm	Gross Power, kW	Gross Power, hp	Gross Torque Rise, %	Accs. Power, Fan - kW	Accs. Power, Alt - kW	Accs. Power, Muffler - kW	Total Accs. Power, kW	Net Torque, Nm	Net Power, kW	Net Power, hp	Gross SFC, g/kWh	Net BSFC, g/kWh
2100	1014	223	299	25	10.0	2.9	1.20	14.1	950	209	280	199	212
2000	1052	220	295		8.6	2.8	1.10	12.6	992	208	279	198	210
1800	1143	216	289		6.3	2.8	1.00	10.1	1090	205	275	197	207
1600	1225	205	275		4.4	2.4	0.77	7.6	1180	198	265	197	205
1400	1274	187	250		3.0	2.0	0.51	5.5	1236	181	243	197	203
1200	1240	156	209		1.9	1.6	0.32	3.7	1210	152	204	201	206
1000	1121	117	157		1.1	1.0	0.19	2.2	1100	115	154	207	211

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Check

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BEML Limited
Diesel Engine Exhaust Emission Data

ENGINE

Make & Model : BEML & BS6D140EG BORE : 140mm
 Eqpt Model : BG825 Stroke : 165mm
 Type : 4 stroke, 6 Cylinder, Diesel Displacement : 15.24 lit
 Aspiration : Turbocharged
 Compression Ratio : 15:1
 Engine Rating : 280 HP @ 2100 rpm

EXHAUST EMISSION DATE

Test Cycle : ISO 8178, C1-8 Mode.

Weighted mass emission expressed as g/kw-h

Emission component	Test result *	Tier-I Limits
NOx (oxides of Nitrogen as NOx)	8.1	9.2
HC (Total unburned Hydrocarbons)	0.65	1.3
CO (Carbon monoxide)	2.2	11.4
PM (Particulate Matter)	0.4	0.54

TEST CONDITIONS *

Emission date recorded on the engine during study—state engine speed ($\pm 25RPM$) with load ($\pm 2\%$) and at less than 2 meters from engine exhaust.

Fuel used : HSD (High speed diesel)

Fuel temperature : $37 \pm 3^\circ C$

Engine correction factor : As per ISO-9249

CO, HC, NOx measured on dry basis

Emission meas. Instrument model & make :

NOx, HC & CO : Make : HORIBA, Japan

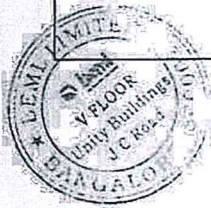
Model : MEX A ONE RS-EGR

PM : Make : HORIBA, Japan

Model : MDLT-ONE

- i) Emission values may slightly fluctuate based on instrumentation and engine to engine variability.
- ii) Engine operation with excess air intake or exhaust restriction beyond published maximum limit, or with improper maintenance, may also result in elevated emission levels.

***At BEML Engine test cell under standard conditions.**



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महादेव नेल्लूरु
 MAHADEV NELLUR
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 Deputy General Manager
 इंजन डिजाइन एवं विकास
 Engine Design & Development
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Maximum travel speed determined according to ISO 6014:

Model: BG825 Motor Grader

- 44.9 km/hr in forward direction.
- 47.9 km/hr in reverse direction.



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Choke



D.9.2.c:Maximum Drawbar Pull as per ISO 7464:

Model: BG825

Maximum Drawbar pull at 1 Km/Hr speed	14100 Kgs
Maximum Drawbar pull at 0 Km/Hr speed	14420 Kgs

*

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Abolga



BG825 MOTOR GRADER

DESCRIPTION :

BG 825 Motor grader is a machine used principally for shaping rough and fine finish grading. It can also perform digging, ripping, bank cutting, pushing huge loads and removing the snow. They can perform above and other assignment with a variety of attachable work tools.

GENERAL CONSTRUCTION :

The frame is made up of front and rear structures. The tough rear frame consists of two cross-welded members supporting the engine, transmission and drive gears. The drive is through tandem wheels at rear. Cabin is mounted on the rear frame for excellent visibility and control. Torsion resistant front frame is single arched and supports front axle. The blade is attached to a circle which is hung from the overhead frame and pulled by a drawbar fastened to the front frame. It also houses hydraulic piping. The frame can be articulated by 25°, which provide good maneuverability and lesser turning radius. The following three excellent basic operating posters are available to meet varying operations needs.

- a) Straight frame with main frame centered and only front wheels used for steering is best for long-pass blading.
- b) Articulated turn uses the full frame 25° articulation, along with around 50° front wheel steering angle and unlocked tandem drive train differential for shortest turning radius.
- c) Crab or Offset steering helps compensate for side drift when turning a windrow, keeps tandem on firm footing when cleaning a wet ditch, increases the stability for slide slope work and side thrust when using snow wing.

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Chokle

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POWER TRAIN :

Powered by compact BEML heavy duty, 4-stroke, direct injection, water-cooled engine Model BS6D140EG which provides best combination of power and fuel efficiency. The power from engine is transmitted to the hydro-shift transmission with 8 forward and 8 reverse speeds. In the transmission in response to the load and forward-reverse rotation direction, the speed shifting are done by a single lever. The power is transmitted to the Final drive through the drive shaft. Further, power is separated into left and right perpendicular direction and transmitted to the Tandem drive through the rear axle. The tandem transmits the power to the wheel by a chain and the machine starts moving.

BRAKES :

The equipment is provided with wet multiple disc brakes and lock/unlock differential to deliver smoother, safer operation. Powerful wet multiple-disc brakes employed on all tandem wheels prevent heat build-up during frequent, heavy duty braking action. The lock/unlock differential includes a wet multiple-disc clutch, which can be smoothly locked or unlocked even when the machine being steered. Air actuated multiple disc brakes on 4-rear wheels, are sealed for adjustment free operation. Parking brake is of dry disc type.

HYDRAULICS :

Hydraulic system mainly consists of hydraulic reservoir, triple gear pump, control valve, flow divider valves, check valves, safety valve, hydraulic motor and cylinders.

The pump drives oil from hydraulic reservoir suction strainer provided in the hydraulic reservoir. The first module of the triple gear pump caters oil to the steering cylinder through priority flow divider valve and orbitrol steering valve. Priority flow divider valve provides oil depending on the load requirement. An inbuilt Relief Valve in the priority flow divider valve limits the max. Operating pressure of steering system to 175 kg/cm². Double Relief Valve is also provided in the steering circuit to protect the system from shock loads.

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The second module of the Triple Gear Pump supplies oil to LH blade lift cylinder, Ripper control cylinder (if equipped), Blade Side shift cylinders, Power Tilt cylinder and Circle rotation motor, through LH Direction control valve.

Similarly the third module of the pump supplies oil to Drawbar side shift cylinder, Articulation cylinders, Leaning cylinders and RH blade lift cylinders, through RH direction control valve. One service spool is also provided in the RH control valve.

An inbuilt Relief valve is provided in each LH & RH directional control valves to limit the maximum operating pressure of work implements to 210 kg/cm².

Pilot operated check valves & safety valves are provided in the hydraulic circuit to prevent the system from over loading. Hydraulically operated clutch plates arrangement is provided to lock the blade rotation whenever the blade is being operated under load.

All the return oil from different work implements and different valves is filtered through return line filter provided in the hydraulic reservoir.

FRAME :

The equipment is built on two articulated frames. Two hydraulic cylinders articulate the two frames. Torsion resistance, box sectioned frame constructed with high strength steel totally avoid buckling/bending under severe working.

Front and rear frames are steel-plate-welded and connected with an articulation pin. One piece frame designed for the front frame houses hydraulic pipes and offers excellent front visibility for precise operations.

BLADE EQUIPMENT :

The blade is attached to a circle that is hung from the overhead frame and pulled by a drawbar fastened to the front of the 'A' shaped, 'U' sectioned press formed construction for maximum strength and machined to provide accurate adjustment and precision blading. The draw-bar is fastened to the front of the frame by a ball and socket joint and supported at the rear by two lift cylinders.

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Hydraulically controlled internal gear type circle with induction hardened teeth is supported by six adjustable guide shoes carried on draw bar for smooth 360° rotation.

Mould board-Box-section constructed with wear resistant steel. Reversible overlay side bits are attached to it.

The moldboard on the Motor Grader is connected to circle by fastening to circle knees. A notched tilting rack is provided on the circle knees to enable to be tilted forward or backward with relation to the circle knees.

Blade performance-The operator can position the blade at the desired bank-cutting angle up to 90° on either side without leaving the operator's compartment. The high blade rotating speed facilitates quick blade changes for increased productivity. A large shoulder reach and manual tip control allow the operator to match the 280HP. Articulated type motor grader to the most demanding application. The major design advantage of the cutting edges fitted on to the moldboard is to have long life on all operating conditions.

Cabin fitted on the rear frame is spacious, comfortable and sound suppressed Rops is provided for operator safety. The cabin is fitted with tinted glass, rear view mirrors, front and rear windshield washer and wipers for superb working comfort and visibility.

Ergonomically arranged instruments, control levers and pedal boost for operation efficiency. Standard 5-way fully adjustable seat with armrest provides the comfortable position for each operator's need.

TYRES :

The equipment is provided with 18.00 x 25 - 12PR (L-3/G-3) tubeless rock type tyres of reputed make.

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Contd...5/

Chokla

GENERAL :

Smooth machine starting, precise finishing operation is ensured with provision of inching pedal. Accidental machine starts are prevented by a gear shift lock device and engine starts only when the shift lever is set in the parking position. The finger tip control of a smooth, electrically controlled transmission provides high maneuverability.

Electronic display monitoring system (**Centralized display & control system**) facilitates daily maintenance checks and alerts the operator in the event of malfunctioning.

Tandem case swings upto 15° assuring high machine stability, positive traction during operation.

See-saw motion from front axle : If one of the front wheels runs over a rock or dips into a hole, the see-saw motion of the front wheel axle about the center pin ensures that the assembly remains horizontal.

Improved forward drive leaning mechanism :

This mechanism shifts the front wheels to the left or right by utilizing a conical rolling action by putting the front wheel at an angle according to the load on the blade, lateral slipping of the front wheels is reduced during operation, thereby facilitating easier forward drive. The leaning mechanism also reduces the turning circle. Reverse Elliot type with a center ground clearance of 680 mm, oscillates 15° up and down & assures stable machine travel. Front wheel leaning is 18° on each side.

Electric-over hydraulically controlled differential lock – unlock device is provided. The differential locking arrangement can be used whenever the differential action is not required.

INCHING FACILITY :

Inching feature is provided through inching pedal which ensures smooth and precise finishing operation.

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Check

BG825

MOTOR GRADER



- : High Performance
- : More Productivity
- : Smooth Operation
- : Operator Comfort



Flywheel power (net)	: 209 KW (280 hp) @ 2100 rpm
Blade Length	: 4928 mm
Operating Weight	: 28,000 kg

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BG825

MOTOR GRADER

Salient Features:

Performance :

- With its high engine horse power and operating weight BG825, is ideal for heavy duty road construction / maintenance jobs at mining yards and demanding job sites.

Productivity :

- High Power BEML engine, high performance blade equipment and frame articulation ensure high productivity.

Operating Ease :

- The finger tip control of a smooth , electrically controlled transmission provides high maneuverability.

Comfort :

- Rear Frame Mounted Operator's compartment enables greater viewing ease of the machine's travelling direction. Operator's comfort is enhanced by adjustable oil suspension seat and rubber pad mounted Operator's compartment. Electronic display monitoring system facilitates daily maintenance checks and alerts the operator in the event of malfunction.

ENGINE

Make	BEML
Model	BS6D140EG
Type	Diesel, 4-Stroke, Water Cooled, Overhead Valve, turbocharged, direct injection, Electronically controlled speed governor.
Flywheel Power	209 kW(280 hp) @ 2100 rpm (SAE J1349)
No. of Cylinders	6, Inline
Bore X Stroke	∅ 140 x165 mm
Displacement	15,240 cc
Electricals	
Alternator	24V, 80A / 100A
Starting Motor	24V, 7.5 kW
Battery	2X12V, 160 Ah

TRANSMISSION

Make	BEML							
Type	Hydro shift Transmission							
Travel speeds (km/h) at rated engine rpm								
	1st	2nd	3rd	4th	5th	6th	7th	8th
Forward	4.0	5.4	8.0	11.5	15.8	21.4	31.3	44.9
Reverse	4.3	5.8	8.5	12.2	16.9	22.8	33.4	47.9
Max Drawbar pull	14,420kg							

AXLES

Front Axle	
Type	Reverse Elliot - Type
Oscillation Angle	32° (total)
Front Wheel Leaning	18° (each side)
Rear Axle	Full-floating rear axle is made of forged heat treated steel.

FINAL DRIVE

Type	Double - reduction final drives of spiral bevel gears with electric - over hydraulically controlled differential lock-unlock device and planetary gear, roller-chain tandem drives for four rear wheels.
Tandem	Tandem case swings up to 15 degree assuring high machine stability and positive traction during operation.

BRAKES

Service Brake	Foot operated, oil disc brakes, air actuated on 4 rear wheels and sealed for adjustment-free operation. Two crossed brake lines for sure braking
Parking Brake	Mechanical, dry, disc type actuated on transmission output shaft, spring applied and air released.

STANDARD ACCESSORIES

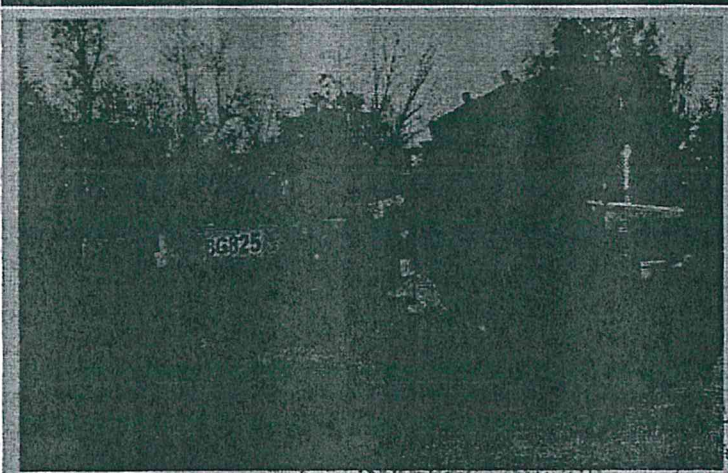
Adjustable console and work-equipment control levers. Adjustable seat. Horn. Back-up alarm. Stop and tail lamps. Panel lamp. Pilot check valves for blade lift. Blade tipping. Front wheel leaning. Drawbar side shift and frame articulation cylinders. Turn single lights. Front working lights. Rear working lights. Head lights. Rear view mirrors. Front pull hook. Rear Drawbar. Fire extinguisher.

OPTIONAL ATTACHMENTS

Rear Mounted Ripper : Four, Parallel linkage type, with hydraulically controlled raise and lower functions. this ripper can be used to dig out rocks or hard ground not removed by a scarifier.

No. of shanks	3
(max. 4 shanks installable)	
Max. digging depth	480mm
Max. lift above ground	675mm
Max. digging width	2,980mm
Additional weight	2,585 kg

Push plate. Tyre inflation kit, AC Cabin. Auto lube system, Auto fire suppression system, ROPS mounted rear and front lamp.



General Manager (Marketing)
BEML LIMITED
4th Floor, Unity Buildings, J.C. Road
BENGALURU - 560 002.

Circle

HYDRAULICS

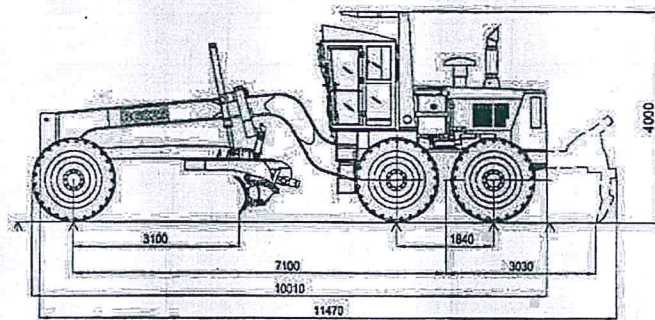
Hydraulic pumps	
Type	Three gear pump (tandem) type
Capacity (total)	268 l/min (steering, work equipment control LH and RH)
1st Pump	131 l/min - steering
2nd pump	74 l/min - control LH work equipment
3rd pump	63 l/min - control RH work equipment
Hydro shift transmission pump	
Type	Gear type
Capacity	133 l/min
Differential pump	
Type	Gear type
Capacity	17 l/min
Hydraulic motor	
Type	Piston type hydraulic motor
Output power (for blade rotation)	49kW (66 hp)
Hydraulic cylinders	
Type	Double acting piston type, each connected to pilot check valve for positive cylinder action.
Operation Qty. in numbers	
Blade lifting	2 (without pilot check valve)
Blade side shifting	1
Drawbar side shifting	1
Front wheel leaning	1
Blade tipping	1
Frame articulation	2
Front wheel steering	2
Control valves	
Type	5-spool type, two valves (LH & RH) with built-in relief valve
Relief valve settings	
Work equipment	210 kg/cm ²
Steering	175 kg/cm ²
Transmission	31 kg/cm ²

STEERING

Type	Orbitrol, full hydraulic steering system
Cylinders	
Type	Double acting
Quantity	2 nos.
Max. steering angle	50° left and right of front wheels
Frame articulation angle	25° left and right
Min. turning radius (Frame articulated)	7.9m

WHEELS

Front & rear tyres	18.00 x 25 - 12PR(L-3) rock-type tubeless tyres
Rims	13.00 VA X 25TB
Inflation pressure	2.6 kg/cm ² max.



ROPS and Cabin (low-profile type), push-plate and rear mounted ripper are optionally available
Material and Specifications are subjected to change without notice, Illustrations may include optional equipment & accessories.

SYSTEM REFILL CAPACITIES

Systems	Capacity (Liters)
Coolant	58
Fuel tank	500
Engine	38
Transmission	35
Tandem case (each side)	115
Final drive case	57
Hydraulic oil	105

BLADE RANGE

All blade movements and positions can be hydraulically controlled from the operator's seat.

Max. lift above ground	490mm
Max. drop below ground	680mm
Max. shoulder reach : Left	2,400mm
: Right	2,400mm
Max. bank cutting angle	90°
Hydraulic blade tip	49° forward, 5° backward
Cutting angle	25.5° - 84°

BLADE EQUIPMENT

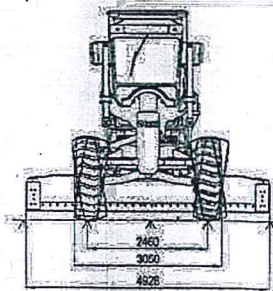
Drawbar	
Type	A-shaped, U-section press-formed and welded construction for maximum strength.
Circle	
Type	Internal gear type, hydraulically controlled with six guide shoes for 360° smooth rotation.
Circle diameter (outer)	1,775mm
Mould Board	
Type	Box-section construction with wear resistant steel, hydraulic blade side shift and tip control. Reversible overlay end bits, side edges are attached.
Length X height	4928mm X 662mm X 25mm (min.) (curved edge std.)
X thickness	4876mm X 653mm X 25mm (min.) (straight edge opt.)
Blade Base	3,100mm
Blade Load	13,720kg
Cutting Edges -	
Type	Curved / Straight type cutting edges as per ISO:7129
No. of cutting edges	2 (Curve cutting edge), 4 (Straight cutting edge)
Length X height X thickness	
	2438mm X 203mm X 19mm (Curve cutting edge)
	1219mm X 130mm X 22mm (Straight cutting edge)

FRAMES

Type	Frames are articulated by two hydraulic cylinders. Box sectioned front and rear frames are of steel plate welded construction and connected with an articulation pin. One-piece frame design for the Front Frame, in which hydraulic pipings are installed.
Front frame section	350mm (width) X 400mm (height)

OPERATING WEIGHT

On front wheels	8,400 kg
On rear wheels	19,600 kg
Total weight (approx.)	28,000 kg



GROUND CLEARANCE - 440mm

BG825

TECHNICAL SPECIFICATIONS

BEMAL LIMITED
4th Floor, Unity Buildings, J.C. Road
BENGALURU - 560 002

बी ई एम एल लिमिटेड BEML LIMITED

A Govt. of India Miniratna Company Under Ministry of Defence

Business Network

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F + 91 80 22963278/516/280/164

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E-mail: servicehq@beml.co.in

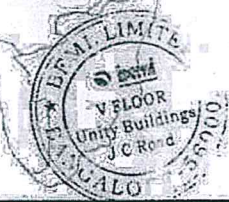
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Ramagundam Opp. SCCL 11A Mines, Manthani, (PO) Jallaram, GK - 505 184, Karimnagar Dt. Andhra Pradesh T + 91 8728 248299 / F + 91 8728 244578 E-mail: ramagundam@rm.beml.co.in
Udaipur 20-B, Uchhab Bhawan, Bedia Road, Fatehpura, Udaipur - 313 004, Rajasthan T + 91 294 2452053, 2452055 / F + 91 294 2452054 / E-mail: udaipur@rm.beml.co.in

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DELHI / SINGRAULI T + 91 11 23715538 / 7805 266334 / F + 91 7805 267282 / E-mail: mise@rm.beml.co.in
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Grader From BEML:

BG405A

BG605

BG605A-1

BG605X

BG825



MAJOR BOUGHTOUT ITEMS

Model: BG825

Sl. No.	Part Number	Item Description	Manufacturer	Manufacturer Address
1	41Z0000204	EG - Engine (BS6D140EG)	M/s BEML, Engine Division	M/s BEML, Engine Division, Mysore-570018
2	452TM80015	Transmission Assy	M/s BEML	M/s BEML, EM Division, KGF, Karnataka
3	452HM01007	Transmission Pump	M/s BEML	M/s BEML, H&P Division, KGF, Karnataka
4	452FD01003	FINAL DRIVE & TANDEM ASSY	M/s BEML	M/s BEML, EM Division, KGF, Karnataka
5	2353012110	TUBELESS TYRES	MRF	# 124, Greams Road, Chennai - 600006
6	452WT03013	WHEEL RIMS	JK BKT APOLLO WHEELS INDIA	JK Tyre & Industries Limited, Vikrant Tyre Plant-1, KRS Road, Metagalli, Mysore-570016. C/15, Trade world, Kamala Mills Compound, Senapati Bapat MARG, Lower Parel, Mumbai-400 013. VILLAGE LIMDA, Wagnodia Taluk, Vododara-391760 Wheels India Ltd., Sriprembadur plant, Singaperumal Koil, Survey No. 449/A1, Sriprembadur-602105
7	452AC01049	AIR CONDITIONING SYSTEM	RED DOT EUROPE LTD MILLENNIUM RED DOT PRIVATE LIMITED	ONE GADDARD ROAD, WHITE HOUSE INDUSTRIAL ESTATE, ISOWICH, SUFFOLK, IP1 5NP, UK B-28, 3RD CROSS, ITI INDUSTRIAL ESTATE, MAHADEVAPURA, BENGALURU
8	452FPB1376	AUTOMATIC FIRE DETECTION & SUPPRESSION SYSTEM	SOUTHERN ELECTRONICS ASSOCIATED ENGINEERS	16A, Phase 1, Peenya Industrial Area, Bangalore-58. Associated Engineers Industries; Automatic Fire protection system, Plot No: P2/4, IDA, Uppal industrial area, 500039
9	452ALB0043/452ALB0051	AUTO LUBRICATION SYSTEM	AUTOMATION CONTROLS SKF ENGINEERING AND LUBRICATION PVT LTD. (Formerly known as LINCOLN HELIOS)	AUTOMATION CONTROLS, Plot No. K-10/2, NAGPUR, 440016 Plot no. 249 & 250 Bommasandra Indl area, phase-3, Hosur road, Bengaluru -560099.

Reddy

[Signature]



रमेश कुमार / RAJESH KUMAR
 अप म्यानेजर (डिप्टी) / Dy. General Manager (M. Keing)
 बीएमएल लिमिटेड / BEML LIMITED
 4 वॉ फ्लोर, यूनैटी बिल्डिंग, जे.सी. रोड
 4th Floor, Unity Buildings, J.C. Road
 बेंगलूरु / BENGALURU - 560 002.


MAJOR BOUGHTOUT ITEMS



Model: BG825

Sl. No.	Part Number	Item Description	Manufacturer	Manufacturer Address
10	640000464800-ARTICULATE-2/E,	HYD. CYLINDERS	BAILEY(PENNAR)	PENNAR Industries Ltd., I.D.A Pathancharu, Medak District, A.P - 502319.
	640000464200-LEANING-1/E,		CANARA Hydraulics	Canara Hydraulics Pvt. Ltd., No. 104 & 105, 10th Cross, 4th Phase, Peenya Industrial Area, Ganapathinagar, Bangalore-560 058
	640000463900-BLADE SHIFT-1/E		DANTAL Hydraulics	Dantal Hydraulics Pvt. Ltd., No.7, Dickenson Road, S-416, Manipal Centre, Bangalore-560042
	640000463200-POWER TILT-1/E		EXCEL Industries	Kammagondanahalli, Jalahalli West, Abbigere Road, Bangalore - 560045
	640000462800-DRAW BAR SHIFT-1/E		LIFT WELL HYDRAULICS PVT LTD	LIFT WELL HYDRAULICS PVT LTD, NEAR OLD TOLL NAKA, NEAR KHOTHARIA, SURVEY NO. 236/2, GONDAL ROAD, 360022, India.
	640000462400 - BLADE LIFT-2/E		OM SHAKTHI HYDRAULICS	OM SHAKTHI HYDRAULICS, SOMPURA 1ST STAGE INDUSTRIAL AREA, SURVEY NO.: PARTS OF 5, 8, 9, PLOT NO. 313, 315 & 316, NIDUVANDA VILLAGE, SOMPURA HOBLI, NELAMANGALA, BENGALURU, 562111.
11	452HS03454	TRIPLE GEAR PUMP (TANDEM TYPE)	BOSCH REXROTH INDIA LTD	BOSCH REXROTH INDIA LTD; Mysore Road, Bidhi Hobli, Bidadi - 562 109 BENGALURU
	452HS02499		Parker Hannifin India Pvt.Ltd	Plot No.6 & 6P, Hosur Road, Bommasandra Industrial Area, Bangalore-560099
12	452WA01026	MOTOR ASSY	EATON FLUID POWER LIMITED	EATON FLUID POWER LIMITED; Hydraulic Division, 145 OFF, Mumbai, Pune Road, Pimpri, PUNE - 411018
13	953EG72117	MAINTENANCE FREE BATTERY	HBL POWER SYSTEMS LTD,	HBL Power Systems Ltd, No : 8-2-601, ROAD No. 10, BANJARA HILLS, Hyderabad - 500034
14	953SS03049	EMERGENCY STEERING PUMP	DYNAMATIC TECHNOLOGIES	DYNAMATIC TECHNOLOGIES, Dynamatic Park, Peenya, Tumkur Road, Bangalore- 560058

Chode


मरेश कुमार / MARESESH KUMAR
 Dy. General Manager (Mfg. Keing)
 डी.जे.के.ए. लिमिटेड / BEML LIMITED
 4थे फ्लोर, यूनियु बिल्डिंग, जे.सी. रोड
 4th Floor, Unity Buildings, J.C. Road
 बंगलुरु / BENGALURU - 560 002.





MAJOR BOUGHTOUT ITEMS

Model: BG825

Sl. No.	Part Number	Item Description	Manufacturer	Manufacturer Address
15	958EG80292	REAR VIEW CAMERA	BRIGADE ELECTRONICS PLC	Brigade Electronics, The Mills, Station Road, South Darenth, Kent, DA4 9BD, United Kingdom
			AUTOMATION CONTROL	Plot No. K-10/2, Near PK Transmission, MIDC, Hingna, NAGPUR-440016
16	452EG80118 / 452EG80126 / 452EG1301	MURPHY KIT	Davesmen India Pvt Ltd,	Annapurna Building, 12-A, Lord Sinha Road, 2nd Floor, Room No. 206, Kolkata
			VK INDUSTRIES	No. D/4, Ganesh Colony, Pilani, Rajasthan -333 031.
			ENOVATION CONTROLS LIMITED	LAVER STOCK, SALISBURY, SWICHGAGE HOUSE, CHURCH ROAD, UNITED KINGDOM
			M/s Bosch Rexroth, B'lore, India M/s Cobo India, Faridabad M/s Parker, Pune, India. M/s Pricol, Coimbatore.	M/s Bosch Rexroth, B'lore, India M/s Cobo India, Faridabad M/s Parker, Pune, India. M/s Pricol, Coimbatore.
17	958EG88675 / 958EG83879	DRIVER OPERATOR FATIGUE MONITORING SYSTEM	OUTDU MEDIATECH PRIVATE	OUTDU MEDIATECH PRIVATE LIMITED, 157/1 EPIP Phase II, Ground floor, J P Classic, KIADB, Whitefield, BENGALURU, 560066 - India
			Davesmen India Pvt Ltd,	Annapurna Building, 12-A, Lord Sinha Road, 2nd Floor, Room No. 206, Kolkata
18	953EG03404 958EG02326 / 953EG04652	EMERGENCY STEERING MOTOR ASSY.	VK INDUSTRIES	No. D/4, Ganesh Colony, Pilani, Rajasthan -333 031.
			NIKKO ELECTRIC INDUSTRY CO LTD.,	NIKKO ELECTRIC INDUSTRY CO LTD., No.90, Bodai, Hadano-Shi, Kangawa - 259 1302, Japan
			LUCAS TVS LTD.	Lucas TVS Ltd., Padi, Chennai - 600050
19	4128280804 / 3028281848	SELF STARTER	LUCAS TVS LTD	Lucas TVS Ltd., Padi, Chennai - 600050
			Perstolite	Plot No. 10-1, Kamalpur, NH No.8, Prantij, Sabarkantha, Gujarat - 383205
20	5128281027	ALTERNATOR	LUCAS TVS LTD	Lucas TVS Ltd., Padi, Chennai - 600050
			Perstolite	Plot No. 10-1, Kamalpur, NH No.8, Prantij, Sabarkantha, Gujarat - 383205

We hereby certify that "All other components not identified / mentioned herein are manufactured by the bidder at their works exclusively i.e. the components are proprietary of bidder's firm".



श्री श्री श्री श्री / **MAHESH KUMAR**
 उप महासंचालक (विद्युत/डी. जनरल मैनेजर (M. Keating))
 बीएमएल लिमिटेड / BEMAL LIMITED
 4 थो फ्लोर, यूनिटी बिल्डिंग्स, जे.सी. रोड
 4th Floor, Unity Buildings, J.C. Road

Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

To:
Western Coalfields Limited
Materials Management Department,
Coal Estate, Civil Lines
Nagpur - 440001 Maharashtra

Sub: Bought out items undertaking

Ref.: 1. NIT No.: WCL-Hq-Pur-spk-ra-e010-2022-23

2. Tender Id No.: 2022_WCL_256794_1

Dear Sir,

We hereby confirm that "All other components not identified / mentioned herein are manufactured by the bidder at their works exclusively i.e. the components are proprietary of bidder's firm".

Date: 26.10.2022



(Signature of the Bidder)

नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन)/Dy. General Manager (Marketing)
बी ई एम एल लिमिटेड / BEML LIMITED
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बेंगलूरु / BENGALURU - 560 002.

Handwritten signature

Handwritten signature

ಪ್ರಧಾನ ಕಛೇರಿ Corporate Office:

ಬೆಂಗಳೂರು, ೨೩/೦೪, ೪ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಸಂಘಟನಾ ಮನಗರ, ಬೆಂಗಳೂರು - ೫೬೦೦೦೨ ದೂರವಾಣಿ ಸಂಖ್ಯೆ : +೯೧ ೮೦ ೨೨೨೨೩೦೬೫

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ : +೯೧ ೮೦ ೨೨೧೦೪೦೯೯

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore - 560027, Tel. +91 80 22223065, Fax. +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN:L35202KA1964GOI001530, GST NO. 29AAACB8433D1ZU

www.bemlindia.in



Instrumentation & Monitoring System

Model: BG825 Motor Grader:

1. Gauge Provided On Dash Board

a) Engine Water Temperature gauge:

Range (in °C)	40	60	80	100	120
Make:	M/s Murphy/Cobo				

b) Fuel Level Gauge:

Level Indication	Empty	1/4	1/2	3/4	Full
Make:	M/s Murphy/Cobo				

c) Engine Oil Pressure gauge:

Range (in bar)	0	2	4	6	8	10
Make:	M/s Murphy/Cobo					

d) Air Pressure gauge:

Range (in bar)	0	2	4	6	8	10
Make:	M/s Murphy/Cobo					

e) Engine Oil Temperature gauge:

Range (in °C)	40	60	80	100	120
Make:	M/s Murphy/Cobo				

f) Transmission Oil Temperature gauge:

Range (in °C)	40	60	80	100	120
Make:	M/s Murphy/Cobo				

Check

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g) Transmission Oil Pressure gauge:

Range (in bar)	0	20	40	60	80	100
Make:	M/s Murphy/Cobo					

h) Inching Pressure gauge:

Range (in bar)	0	10	20	30	40	50	60
Make:	M/s Murphy/Cobo						

h) Tachometer/Speedometer:

Range in RPM	0-3000 RPM
Make:	M/s Murphy/Cobo

Range in Kmph	0-140 Kmph
Make:	M/s Murphy/Cobo

i) Hour Meter:

Range in Hrs	0 to 99999.9
Make:	M/s Murphy/Cobo

j) Voltmeter:

Range (V DC)	16 to 32 V
Make:	M/s Murphy/Cobo

2. Warning Indication (Make: M/s Murphy/ Cobo)

- a) Engine Water Level
- b) Engine Water Temperature
- c) Engine Oil Pressure
- d) Engine Oil Temperature
- e) Transmission Oil Temperature
- f) Transmission Oil Pressure



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g) Air Pressure

h) Inching Pressure

3. Digital Indication (Make: M/s Murphy/Cobo)

a) Left/Right Turn

b) High Beam

c) Pre Heat (Optional)

d) Differential Lock

e) Bank Cutting

f) Emergency Brake

g) Transmission Filter Clog

h) Seat belt

i) Drive Axle Temperature



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Detailed list of Instrumentation, monitoring and Alarm system

If the following parameters found any abnormal, the appropriate indicating Error lamp lights and the buzzer sounds at inside the cabin.

A. Digital Signals / Warning Alarms / Lights:

SL.NO	PARAMETER	REMARKS
1	Coolant level	
2	Coolant temperature	
3	Engine oil pressure	
4	Engine oil temperature	
5	Warning Horn front	
6	Left Turn	
7	Right Turn	
8	High Beam	
9	Preheat	(If equipped)
10	Differential Lock	
11	Lift Arm Lock	
12	Reverse alarm (Audio visual)	
13	Battery Charge Fail	
14	Seat belt remainder	
15	Final drive oil temperature	
16	Hydraulic oil level	
17	Hydraulic oil temperature	
18	Brake Indicator light	Outside the cabin is part of rear combination lamp

B. Audio visual Alarm:

If the equipment will change on reverse gear, Audio visual alarm sounds (Flasher/ Blinker) automatically at rear side of equipment.



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C. (LCD Display parameters): -

SLNO	PARAMETER	RANGE
1	Engine Oil Temperature °C	40-120 ° C
2	Fuel level	FULL -EMPTY
3	Air Pressure	0-10bar
4	Engine RPM	0-3000RPM
5	Voltmeter	16-32V DC
6	Hour Meter	99999.9hrs
7	Engine Oil Pressure	0-10 Bar
8	Engine coolant temp	40-120 ° C
9	Trans Oil Temp	40-120 ° C
10	Speedo meter	0-140 km/h
11	Hydraulic oil temperature	40-120 ° C


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BG825 MOTOR GRADER

DESCRIPTION OF HYDRAULIC SYSTEM

The hydraulic system mainly consists of hydraulic reservoir, Triple gear pump, priority flow divider valve, directional control valves and safety valves. The hydraulic reservoir supplies oil to the whole system through triple gear pump. Triple gear pump supplies oil to the following work implements through control valves and priority valve.

1. Blade lift LH cylinder
2. Blade side shift cylinder
3. Ripper control cylinders (if equipped)
4. Power tilt control cylinders
5. Circle rotation motor
6. Drawbar shift cylinders
7. Articulate control cylinders
8. Blade lift RH cylinder
9. Leaning cylinder
10. Steering cylinders

The first section of the triple gear pump supplies oil to flow divider. The flow divider is a load sensing priority type. Flow divider. It supplies oil to steering control unit (Orbitrol) depending on the load requirements. In built Relief valve in priority flow divider is set at 175 kg/cm². A double relief valve is set at 210 kg/ cm² is provided in the steering circuit to protect the system from shock loads.

The second and third section of the triple gear pump supplies oil to LH and RH control valve respectively. There is an in built relief valve set at 210 kg/ cm² in both LH and RH control valve. The control valve is actuated through mechanical linkages.

The LH control valve controls the function of LH blade lift, blade side shift, ripper control (if equipped), power tilt and circle rotation.

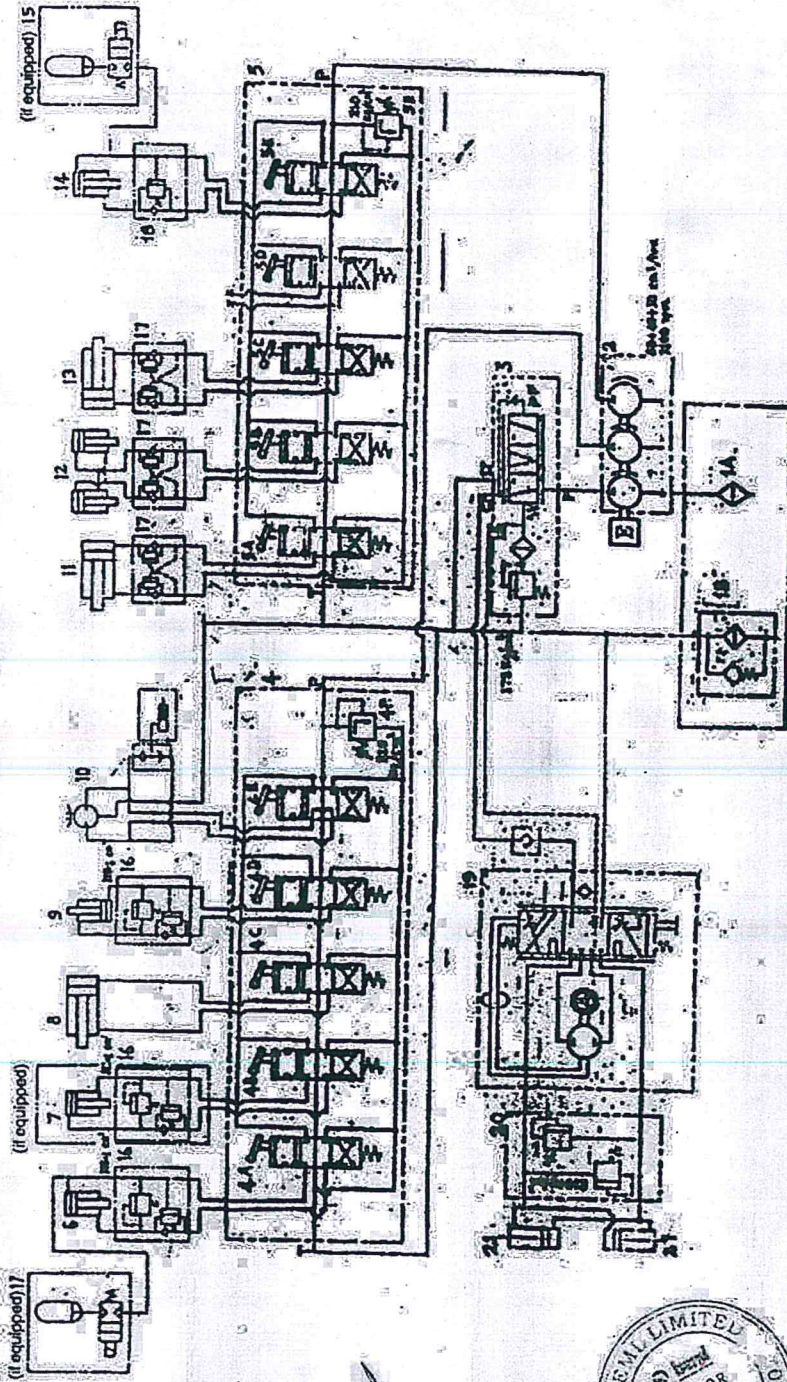
The RH control valve controls the function of RH blade lift, drawabar shift, articulation and leaning. One service spool is also provided in the RH control valve. The pilot check valves with safety valve set at 280 kg/ cm² is provided in LH blade lift, power tilt & ripper (if equipped) circuit to protect the system.

Pilot check valve is provided in drawbar side shift, articulation, leaning and RH blade lift circuits. Hydraulically operated clutch plates arrangement for locking the blade rotation is provided in the circle rotation circuit.

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HYDRAULIC CIRCUIT DIAGRAM



- 1. Hydraulic tank
- 1A. Strainer
- 1B. Hydraulic filter
- 2. Hydraulic pump (for work equipment and steering)
- 3. Priority flow divider valve (175 kg/cm²)
- 4. L.H. hydraulic control valve (5-spool)
- 4A. Blade lift (L.H) control spool
- 4B. Ripper control spool (if equipped)
- 4C. Blade side shift control spool
- 4D. Power tilt control spool
- 4E. Circle rotation control spool
- 4F. Relief valve (210 kg/cm²)
- 5. R.H. hydraulic control valve (5-spool)
- 5A. Drawbar shift spool
- 5B. Articulate control spool
- 5C. Leaning spool
- 5D. Service spool
- 5E. Blade lift (R.H.) control spool
- 5F. Relief valve (210 kg/cm²)
- 6. Blade lift cylinder (L.H)
- 7. Ripper cylinder (if equipped)
- 8. Blade side shift cylinder
- 9. Power tilt cylinder
- 10. Circle rotation motor
- 11. Drawbar shift cylinder
- 12. Articulate cylinder
- 13. Leaning cylinder
- 14. Blade lift cylinder (R.H.)
- 15. Accumulator
- 16. Pilot check valve (with safety valve) (set pressure 280 kg/cm²)
- 17. Pilot check valve
- 18. Pilot check valve
- 19. Steering valve
- 20. Double over relief valve (210 kg/cm²) at 10 l/min.
- 21. Steering cylinder

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AUTOMATIC FIRE DETECTION & SUPPRESSION (ZONE SPECIFIC) FOR BG825

The main features of the system are:

- Automatic Detection of Fire
- Automatic flooding of extinguishing agent.
- Activation of Audio Alarm.
- Shut off the Equipment (Optional)

The detection of fire is primarily made by a Sensor cable, which can detect fire anywhere along its length. The Sensor Cable is highly flexible is routed throughout the equipment so as to cover areas prone to fire due to spillage areas like turbo-charger, exhaust manifold transmission, parking brake etc.

The Automatic Fire Detection & Suppression System has been divided into two Zones, i.e. LHS & RHS of the equipment. In the event of a fire / overheat condition, the sensor cable of the respective zone gets shorted and the solenoid valve on the respective Zone Nitrogen Cylinders get activated (energised) thereby initiating the extinguishing process. The pressurized gas from Nitrogen cylinder enters into the DCP Cylinder Assy of th respective zone, there by rupturing the CO2 Cartridge housed inside the Dry Chemical Powder Cylinder. The CO2 will propel the Dry Chemical Powder and get released through hose to the pre-defined nozzle Points of the respective zone area.

The engine shut off relay (optional) is also energised in the process, thereby shutting off the engine to prevent further spread of fire. The built-in buzzer and external Horn Unit starts sounding continuously and stops only after the system is reset.

Auto Fire Suppression System Consists of:

- | | | |
|----|-----------------------------|--------|
| 1. | Sensor Cable | 2 Nos. |
| 2. | Control Unit. | 1 No. |
| 3. | Horn unit. | 1No |
| 4. | DCP Cylinder Assembly. | 2 Nos. |
| 5. | Nitrogen Cylinder Assembly. | 2 Nos. |

I. SENSOR CABLE

The Sensor cable is a continuous heat detector cable which can respond to fire at any part of its length, the routing of fire is done LHS side & RHS of the Equipment in the fire prone area in 2 Zones. The sensor cable is comprised of two steel conductors individually insulated with a heat sensitive polymer. The insulated conductors are twisted together to impose a spring pressure between them, and finished with an outer jacket suitable for the environment where it is installed.

The sensor cable is a fixed temperature digital sensor and is capable of initiating an alarm once its rated temperature (180 deg C) is reached. At this temperature, the heat sensitive polymer insulation melts and yields to the pressure upon it, permitting the inner conductors to move into contact with each other and initiating the signal to the control unit and the extinguisher circuit.

The sensor cable is routed throughout the equipment so as to cover areas prone to fire due to spillage areas like turbo-charger, exhaust manifold transmission, parking brake etc. The end of Sensor Cable is terminated with end of line resistor.

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II. CONTROL UNIT

The Control Unit is located inside the cabin and controls the operation of the system. It is connected to the battery of the equipment and contains inbuilt power conditioning circuits to enable isolation and operation of the system at an input volt of 18V to 30 V DC.

The Control Unit has indication & circuit for 2 Zones, which continuously monitors the shorting of the sensor cable. When a 'SHORT CONDITION' occurs, (due to overheat / fire condition) the control unit will

- (1) Activate Audio Alarm
- (2) Activate the Solenoid Valves on the extinguisher (Zone Area)
- (3) Shuts off the engine (optional).

In the event of a fire / overheat condition, the sensor cable gets shorted and the solenoid valves on the Nitrogen Cylinders respectively get activated (energised) thereby initiating the extinguishing process. The engine shut off relay (optional) is also energised in the process, thereby shutting off the engine to prevent further spread of fire.

The built-in buzzer and external Horn Unit starts sounding continuously and stops only after the system is reset. The system can also reset itself automatically after two minutes. The control unit also has a Built In Test Equipment (BITE) facility to monitor.

1. System Serviceability
2. Condition of Sensor cable
3. Connection to the Solenoid Valve.

III. HORN UNIT

The horn unit is provided to alert the operators and other people around. On activation the Horn Unit provides an intermittent sound at a level of 100db.

IV. ELECTRICAL CABLES:

All interconnection between Control Unit and sub assemblies are made with cable harnesses and terminated with reliable military type connectors with rubber boots for easy installation. Appropriate identification is made on the cable to connect the sensor and Cylinder with respect the zonal area.

V. EXTINGUISHER SYSTEM:

The Extinguisher system mainly consists of:

NITROGEN CYLINDER ASSEMBLY

Two Nitrogen Cylinder are provided for Zonal activation, the Cylinder containing Nitrogen gas pressurised upto 600 PSI. It contains a plunger mechanism housed in a stainless steel head on which a solenoid valve is fitted to contain the nitrogen inside (for Automatic activation). A rupture disk is provided to contain the pressure in the cylinder. A High pressure valve for charging the nitrogen cylinder and a pressure gauge to indicate the pressure of nitrogen. A Knob is provided to operate the system manually. In the event of fire in a particular zone, on detection of a short condition in the sensor cable, the Control unit energises the solenoid valve fitted on the Nitrogen Cylinder of the particular Zone thereby releasing the pressurised gas into the DCP cylinder of the particular zone.

The system can be operated manual by sticking the knob of the particular zone. This will cause the stored Nitrogen to flow out to the DCP Cylinders by means of hose network to discharge in the desire zone.

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DCP CYLINDER ASSEMBLY:

Two DCP Cylinder have been provided for LHS & RHS area of the equipment, has Dry Chemical Powder in unpressurised form. It contains an inlet port for the Nitrogen to enter in and also for refilling the cylinder and an outlet port for the extinguisher powder to be propelled out. The outlet port also contains a housing in which a rupture disk is located to prevent the ingress of moisture into the DCP Cylinder and also prevent the extinguisher powder from flowing out of the cylinder under normal conditions. A CO2 cartridge assembly with rupture disc is housed inside the DCP cylinder.

PNEUMATIC OPERATION:

A Non-return valve is fitted at the inlet of the head to avoid return of the Nitrogen. The Nitrogen from the Nitrogen cylinder enters the DCP cylinder through the Non-return valve and pushes the plunger so as to pierce the rupture disc thereby releasing the pressurised CO2 into the DCP Cylinder.

DISTRIBUTION SYSTEM:

The distribution system is meant for carrying the extinguisher powder from the outlet of the DCP Cylinder to the end of nozzles. This is done by means of high-pressure hoses, pipe cross distributors and nozzles. Other hardware like elbows, couplers etc. are used wherever required.

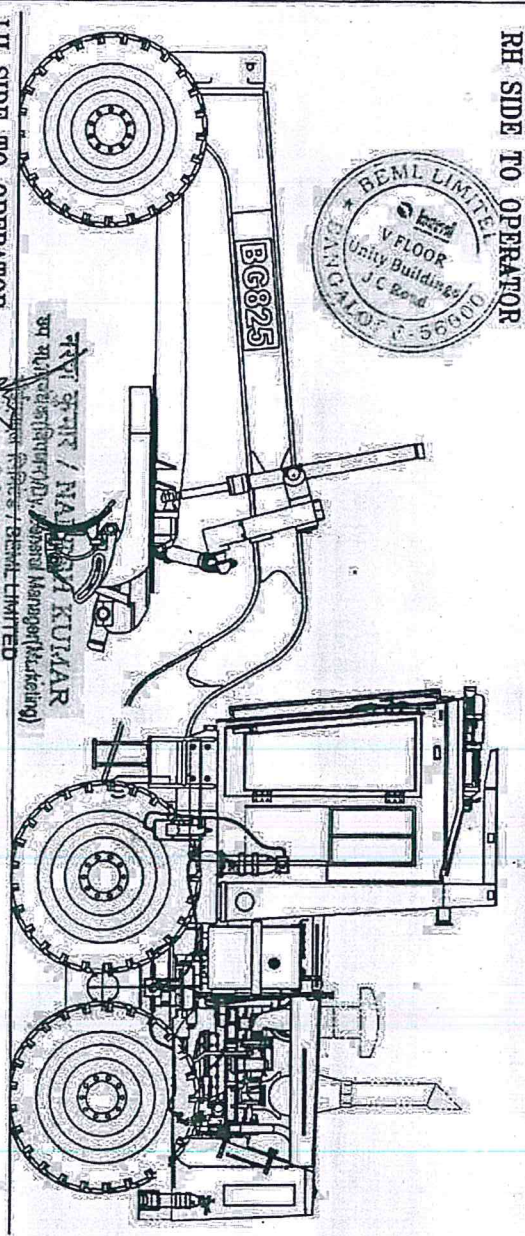
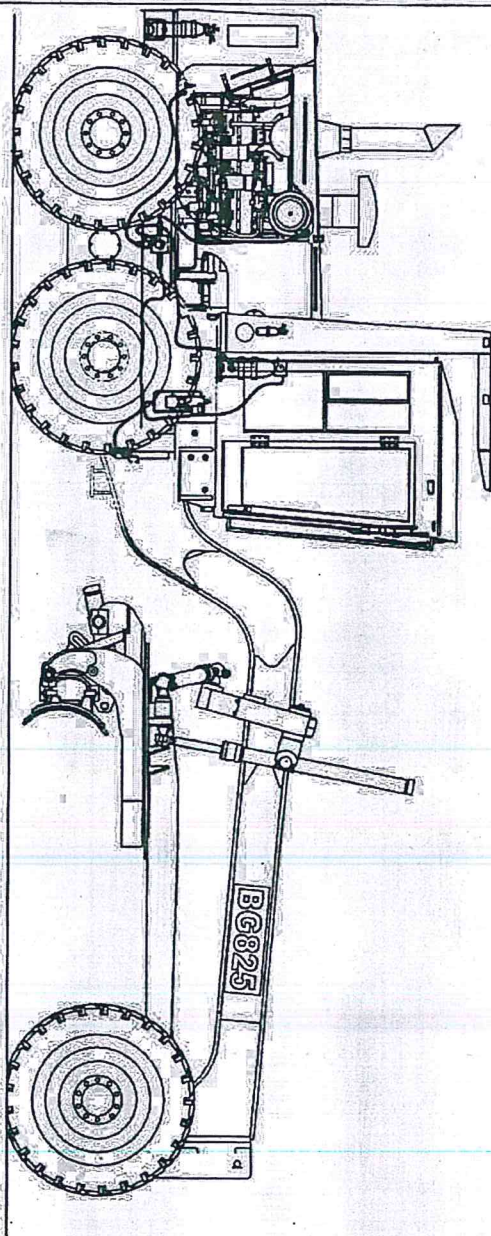
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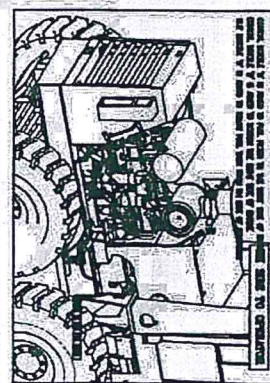
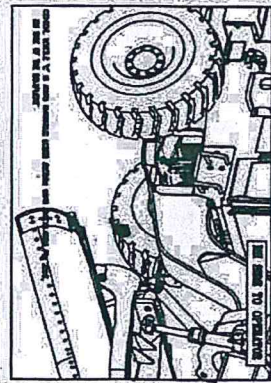
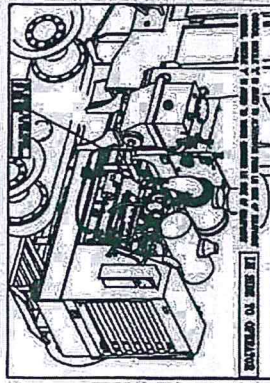
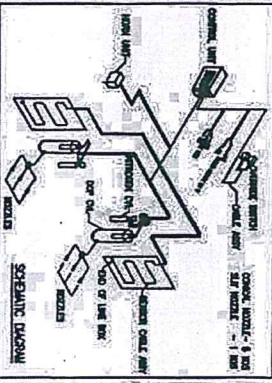


TWO ZONE AUTO FIRE PROTECTION SYSTEM FOR BG825 MOTOR GRADER



BEML LIMITED
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ಸಹಾಯಕ ನಿರ್ದೇಶಕರು/ನಿರ್ದೇಶಕರ ಕಛೇರಿ (ಮಾರ್ಕೆಟಿಂಗ್)
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श्रम एवं रोजगार मंत्रालय
MINISTRY OF LABOUR & EMPLOYMENT
खान सुरक्षा महानिदेशालय
DIRECTORATE GENERAL OF MINES SAFETY

No. S 29023/108/2008/S&T (HQ)/ 581

Dhanbad, dated 12/7/2013

From:
Director of Mines Safety (S&T),
DGMS, Dhanbad - 826001.

To:
Shri M. R. Bhaskar, Director,
M/s Southern Electronics (Bangalore) Private Ltd.,
No. 16-A, Peenya Industrial Area,
Phase -I, Peenya, Bangalore - 560 058.

Subject: Fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface and belowground including oil and gas mines/fields.

Sir,

I am enclosing herewith a copy of DGMS (Approval) Circular No. 02 dated 8th July, 2013 on the above subject which is self explanatory.

As mentioned at para 4.0 of this circular, no specific approval will be required from this Directorate in this regard.

For your ready reference, a copy of this circular has also been published in DGMS web site www.dgmsindia.in.

Should you have any further clarifications, you may contact this Directorate any time.

Yours faithfully,

Director of Mines Safety (S&T)

Encl.: As above.

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**GOVERNMENT OF INDIA
MINISTRY OF LABOUR & EMPLOYMENT
DIRECTORATE GENERAL OF MINES SAFETY**

No. DGMS (Approval) Circular No. 02

dated, Dhanbad, 8th July, 2013

To

All Owners/Agents/Managers of Coal Mines and Oil & Gas Mines/Fields.

Subject: Fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface and belowground including oil and gas mines/fields.

Sir,

1.0 Through a Gazette notification vide No. 35 dated New Delhi, August 24th – August 30th, 2008 in Part - II, Section 3, sub-section (i) vide GSR 159, the subject matter of fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface and belowground including oil and gas mines/fields, was brought under the approval regime of this Directorate from 1st November, 2008. Since then, many approvals have been accorded by this Directorate to various manufacturers of such fire fighting and fire suppression systems for being used in mines.

2.0 In order to simplify the matter of introduction and maintenance of proper fire fighting and suppression systems in mines so as to enable the mining industry to design appropriate Safety Management Plans, a Technical Workshop on "Fire Fighting Systems and Arrangements in Mines" was held on 17/8/2011 at DGMS, Dhanbad. The workshop was well attended by representatives of user mines, manufacturers and scientific organizations like CIMFR & ISM and many issues connected to the subject viz-a-viz fast changing mining technology in the country with import of latest mining machinery etc., were deliberated upon leading to better understanding.

3.0 In view of the technical workshop held and the experience gained till date on the subject, it is recommended that "all types of fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface and belowground including oil and gas mines/fields shall conform to the following minimum requirements";

a) All types of fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems shall have valid test certificate(s) from any Government or Government approved Laboratory in compliance with relevant Indian Standards.

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- b) All materials used in the fire fighting/fire suppressant systems shall be non-toxic and in no manner harmful to human beings during handling and use.
- c) The high pressure storage vessels and hoses, if used with fire fighting and fire suppressant systems, shall conform to the requirements stipulated in the relevant Indian Standards.

3.1 As provided under Regulation 181(3) of the Coal Mines Regulations 1957, Regulation 73(1) of the Oil Mines Regulations, 1984 and the earlier published GSR 159 vide Gazette notification No. 35 dated New Delhi, August 24th - August 30th, 2008 in Part - II, Section 3, sub-section (I), the requirements stipulated at para 3.0 on the above subject is considered as approved by the Chief Inspector of Mines by this general order for the purpose. A fresh Gazette notification in this regard vide GSR 443(E), in Part - II, Section 3, sub-section (I) of Extraordinary Gazette Notification No. 315, dated New Delhi, Friday, June 28, 2013 has already been published for information and necessary compliance.

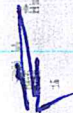
4.0 All Owners/Agents/Managers of Coal mines, oil and gas mines/fields are therefore, advised to ensure strict compliance with this circular in respect of all types of fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface and belowground including oil and gas mines/fields. It may be noted that no specific approval will be required from this Directorate in this regard.


(Rahul Guha)
Director General of Mines Safety.

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TEST REPORT

Report No: CML/0512/SE /2017-18
Report Date: 12-06-2017
Date of test Completion: 12-06-2017

Your D.C No. 8941
Date: 02-06-2017
Sample recd. on: 02-06-2017

Name of the Customer : M/s. Southern Electronics Private Ltd,
16-A, Peenya industrial area, Phase - 1,
Bangalore - 560 058

Nature of the Sample : Dry Chemical powder

Sample ID : ABC 90%, Mfr : Synergy Industries

Test Method : As Per IS 14609-1999

Type of Test : Chemical analysis

Parameter	Results
Monoammonium phosphate Content	91.65 %
Apparent Density	1.21
Moisture Content	0.10 %
Dye	Yellow Colour

Prepared by

Verified by

Prashanth H.R.
Authorized signatory

CHEMIST

- Note: 1) This Certificate issued, refers only to the tested samples & parameters & not as an endorsement of products. Hence our liability in this, limited to the invoiced total amount.
- 2) Tested balance samples if any, will be destroyed after 15 days from the date of issue of Test Report, unless otherwise specified.
- 3) Reproduction of this Test Report either in full or in part or using this Report as an evidence in the court or using in any advertising media should not be done without our prior written permission.
- 4) Sampling is not done by CML.

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नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बी.एम.एल. लिमिटेड / BEM. LIMITED
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4th Floor, Unity Buildings, J.C. Road
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SOUTHERN ELECTRONICS (BANGALORE) PRIVATE LTD.,

16-A, PEENYA INDUSTRIAL AREA, PHASE-1, PEENYA, BANGALORE - 560 058.

Phone : +91 - 80 - 39280341 - 64 Fax : +91- 80 - 39280365

e-mail : admin@seonics.co.in / marketing@seonics.co.in

http : //www.seonics.co.in, CIN No. U31909KA1971PTC002095

25.11.2019

CERTIFICATE

This is to certify that the materials and chemicals used in the Fire Suppression System has been tested and the same is non-toxic and not harmful to human being during handling and use. This complies with relevant Indian Standards as per DGMS Circular No. 2 dated 08.07.2013.

The high pressure storage vehicles used in the Fire Fighting and Suppression System shall confirm to the requirement of stipulated IS 4947 : 2006 in the relevant Indian Standards.


The hose used in the Fire Fighting and Suppression System shall confirm to the requirement of stipulated DIN 20022/ EN 853-1 in the relevant Indian Standards.

For Southern Electronics (Bangalore) Private Limited


S. Santhakumar
General Manager

25/11/19




नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
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4th Floor, Unity Buildings, J.C. Road
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Shankar



Ref: MT: TC-1598/WCL (BG825)

Date: 26.10.2022

Tender Reference no: WCL-Hq-Pur-spk-ra-e010-2022-23

NO DEVIATION

We hereby confirm that the offer conforms to all technical specifications, parameters & clauses of the Catalogue (NIT) and we accept all the terms and condition of NIT and there is "No Deviation" in the offer.

Date: 26.10.2022



Signature of the Bidder

नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन)/Dy. General Manager (Marketing)
बीईएमएल लिमिटेड / BEML LIMITED
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4th Floor, Unity Buildings, J.C. Road
बेंगलूरु / BENGALURU - 560 002.

Seal of the Firm

Shude

ಪ್ರಧಾನ ಕಛೇರಿ Corporate Office:

'ಬೆಮಲೊಡ್ಡಾ', 23/1, 4ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಸಂಪಂಗಿರಾಮನಗರ, ಬೆಂಗಳೂರು - 560027. ದೂರವಾಣಿ ಸಂಖ್ಯೆ: +91 80 22223065

ಫ್ಯಾಕ್ಸ್ ಸಂಖ್ಯೆ: +91 80 22104099

BEML Soudha, 23/1, 4th. Main, S R Nagar, Bangalore -- 560027, Tel. +91 80 22223065, Fax, +91 80 22104099

e-mail: coord@beml.co.in @cmdbeml @BEMLHQ

CIN:L35202KA1964GOI001530 GST NO.: 29AAACB8433D1ZU

www.bemlindia.in

ANNEXURE- A

D.9.3.3 Weights

Tender requirement	BEML response
a) Shipping Weight of individual components.	Weight on Front axle: 8400 kg Weight on rear axle: 19600 kg Total weight of machine: 28000 kg
b) Total operating weight	28000 Kg

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Khokle

ANNEXURE-B

D.9.3.5 Transmission

Tender requirement	BEML response																		
a) Make and model	BEML																		
b) Type	Transmission is of hydro shift type with planetary gears and hydraulically actuated clutches, force lubricated multiple disc clutches. Accidental machine starts are prevented by engine starts only when shift lever is in parking position.																		
c) Number gear speeds: forward & Reverse.	Forward – 8 gears & Reverse- 8 gears																		
d) Travel speeds in each gear, (forward gears) in Km/h	<table border="1"> <thead> <tr> <th>Gear Range</th> <th>Forward (km/hour)</th> </tr> </thead> <tbody> <tr> <td>1st</td> <td>4.0</td> </tr> <tr> <td>2nd</td> <td>5.4</td> </tr> <tr> <td>3rd</td> <td>8.0</td> </tr> <tr> <td>4th</td> <td>11.5</td> </tr> <tr> <td>5th</td> <td>15.8</td> </tr> <tr> <td>6th</td> <td>21.4</td> </tr> <tr> <td>7th</td> <td>31.3</td> </tr> <tr> <td>8th</td> <td>44.9</td> </tr> </tbody> </table>	Gear Range	Forward (km/hour)	1 st	4.0	2 nd	5.4	3 rd	8.0	4 th	11.5	5 th	15.8	6 th	21.4	7 th	31.3	8 th	44.9
	Gear Range	Forward (km/hour)																	
	1 st	4.0																	
	2 nd	5.4																	
	3 rd	8.0																	
	4 th	11.5																	
	5 th	15.8																	
	6 th	21.4																	
	7 th	31.3																	
8 th	44.9																		
e) Travel speeds in each gear (reverse gears) in Km/h	<table border="1"> <thead> <tr> <th>Gear Range</th> <th>Reverse (km/hour)</th> </tr> </thead> <tbody> <tr> <td>1st</td> <td>4.3</td> </tr> <tr> <td>2nd</td> <td>5.8</td> </tr> <tr> <td>3rd</td> <td>8.5</td> </tr> <tr> <td>4th</td> <td>12.2</td> </tr> <tr> <td>5th</td> <td>16.9</td> </tr> <tr> <td>6th</td> <td>22.8</td> </tr> <tr> <td>7th</td> <td>33.4</td> </tr> <tr> <td>8th</td> <td>47.9</td> </tr> </tbody> </table>	Gear Range	Reverse (km/hour)	1 st	4.3	2 nd	5.8	3 rd	8.5	4 th	12.2	5 th	16.9	6 th	22.8	7 th	33.4	8 th	47.9
	Gear Range	Reverse (km/hour)																	
	1 st	4.3																	
	2 nd	5.8																	
	3 rd	8.5																	
	4 th	12.2																	
	5 th	16.9																	
	6 th	22.8																	
	7 th	33.4																	
8 th	47.9																		

Check

नरेश कुमार / NARESH KUMAR
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ANNEXURE-C

D.9.3.6 Final Drive

Tender requirement	BEML response
a) Make	BEML
b) Type	Double reduction final drive of spiral bevel gear with electric over hydraulically controlled differential lock-unlock device and planetary gear.
c) Ratio	17.384 :1

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ANNEXURE-D

D.9.3.7 Brakes

Tender requirement	BEML response
9.3.7.1 Service Brake	
a) Type	Oil disc brakes
b) Actuating system	Foot operated, Oil disc brakes air actuated on 4 rear wheels and sealed for adjustment-free operation. Two crossed lines for sure braking.
9.3.7.2 Parking Brake	
a) Type	Mechanical, dry, disc type on output shaft
b) Actuating system	Mechanical, dry, disc type actuated on transmission output shaft spring applied and air released.



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Handwritten signature and mark

D.9.3.10 Hydraulic Systems

Tender requirement	BEML response
<p>a) Make, number, flow rates and operating pressures of pumps</p>	<p>A) Triple gear pump (tandem type) 01. Make: M/s. Parker Hannifin India Pvt.Ltd. Model: 452HS02499 Type: Three gear pump (tandem) Numbers: 01 No. Flow rates: 1st: 131 l/min 2nd: 74 l/min 3rd: 63 l/min Operating Pressures: - 1st: 210 kg/cm² 2nd: 175 kg/cm² 3rd: 31 kg/cm² OR 02. Make: M/s. BOSCH REXROTH INDIA LTD. Model: GXP10-COC630RPR35WRTB30ABR-20 Type: Three gear pump (tandem) Numbers: 01 No. Flow rates: 1st: 131 l/min 2nd: 74 l/min 3rd: 63 l/min Operating Pressures: - 1st: 210 kg/cm² 2nd: 175 kg/cm² 3rd: 31 kg/cm² B) Emergency steering pump Make: M/s. DYNAMATIC TECHNOLOGIES Model: 953-SS-03049 Type: Gear type Number: 01 No. Flow rate: 32.7 lpm Operating Pressure: 210 bars</p>

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4th Floor, Unity Buildings, J.C. Road
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<p>b) Make, number and ratings of motors (where applicable)</p>	<p>A) MOTOR ASSY Make: M/s. EATON FLUID POWER LIMITED Model: ME300 Number: 01 no. Ratings: Rating: 49 kW (66 HP)</p> <p>B) EMERGENCY STEERING MOTOR ASSY a. Make: M/s. NIKKO ELECTRIC INDUSTRY CO LTD. Model: 953-EG-03404 Number: 01 No. Ratings: 24V, 3.5 KW</p> <p style="text-align: center;">OR</p> <p>b. Make: M/s. LUCAS TVS LTD. Model: 953-EG-04652 Number: 01 No. Ratings: 24V, 3.5 KW</p>																																
<p>c) Make, number, piston diameters and stroke lengths of cylinders</p>	<p>A) Make & Model: BAILEY(PENNA) / CANARA Hydraulics / DANTAL Hydraulics / EXCEL Industries / LIFT WELL HYDRAULICS / OM SHAKTHI HYDRAULICS</p> <table border="1"> <thead> <tr> <th>Cylinder</th> <th>Nos.</th> <th>Piston Dia. (mm)</th> <th>Stroke (mm)</th> </tr> </thead> <tbody> <tr> <td>Blade Lifting</td> <td>2</td> <td>100</td> <td>1388</td> </tr> <tr> <td>Blade side shifting</td> <td>1</td> <td>100</td> <td>1700</td> </tr> <tr> <td>Draw bar side shifting</td> <td>1</td> <td>100</td> <td>753</td> </tr> <tr> <td>Front wheel leaning</td> <td>1</td> <td>90</td> <td>190</td> </tr> <tr> <td>Blade tipping (power Tilt)</td> <td>1</td> <td>120</td> <td>404</td> </tr> <tr> <td>Frame articulation</td> <td>2</td> <td>120</td> <td>420</td> </tr> <tr> <td>Front wheel steering</td> <td>2</td> <td>60</td> <td>380</td> </tr> </tbody> </table>	Cylinder	Nos.	Piston Dia. (mm)	Stroke (mm)	Blade Lifting	2	100	1388	Blade side shifting	1	100	1700	Draw bar side shifting	1	100	753	Front wheel leaning	1	90	190	Blade tipping (power Tilt)	1	120	404	Frame articulation	2	120	420	Front wheel steering	2	60	380
Cylinder	Nos.	Piston Dia. (mm)	Stroke (mm)																														
Blade Lifting	2	100	1388																														
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Blade tipping (power Tilt)	1	120	404																														
Frame articulation	2	120	420																														
Front wheel steering	2	60	380																														
<p>d) Relief valve operating pressures</p>	<p>Work equipment: 210 kg/cm² Steering : 175 kg/cm² Transmission : 31 kg/cm²</p>																																

Abhale



नरेश कुमार / NARESH KUMAR
 उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
 बीएमएल लिमिटेड / BEML LIMITED
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ANNEXURE-F

D.9.3.14 Electrical System

Tender requirement	BEML response
a) Starter make and Model	Make: Lucas TVS / PRESTOLITE Model: DEF42PE / M105R3526SE -00-0000
b) Alternator make and Model	Make: PRESTOLITE/ LUCAS TVS Model: MDA3946 / BLA150
c) Batteries numbers, make and rating	02 Nos, 2 X 12 V, 160Ah & CCA 1500 Amp.
d) Lighting details	Lighting Details as per Clause No. D.4.17 is attached.



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Lighting Details as per Clause No. D.10.3.14.d of NIT:

Front working lights (LED/HID type)	2 No's, 24V 50W LED type *, Wide flood light
Rear working Lights (LED/HID type)	2 Nos, 24V DC 19 Watt, Type: LED type Low beam, (Reverse lamp)
Number of Lights fitted on ROPS	Front: 2 Nos. (24V, 19Watts, LED type low beam) Rear: 2 Nos. (24V, 19 Watts, LED type low beam)
Number of Fog Lights	2 nos. Front side (24V, 35-Watt LED type)
Number of Cabin Dome Lights	1 No. 24V LED TYPE
Number of Blade flood lights	2 No's, 24V 50W LED type *, Wide flood light
Number of Stop and Tail Lights	2nos (rear side, part of rear combination lamp), DC 24V LED Type
Turn Signal Lamp	4 Nos. (2 Nos rear side, part of rear combination lamp & front 2 no's) LED TYPE, DC 24V
Head Lamp	2 Nos Low Beam & 2 Nos high beam, 24V, 35 Watts
*Note: Front work light and blade flood light are same, there is no separate lights	

-----X-----

नरेश कुमार / NARESH KUMAR
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CONSUMABLE SPARES FOR 1ST YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Qty / Eqpt	Change Interval	Total Qty reqd for 1 st year / Eqpt	HSN Code	GST Rate %	
1	WA9652	ELEMENT HYDRAULIC	2	I-250 & E-1000	6	87089900	28%	
2	452PTB0027	T/M FILTER ELEMENT	1	E-500	6	84314930	18%	
3	985TK70723	HYD. BREATHER ELEMENT	1	E-1000	3	87089900	28%	
4	125FL92676	FUEL STRAINER	1	E-500	6	84314200	18%	
5	41Z5181063	PAPER INSERT	1	E-250	12	84099990	28%	
6	41Z5181071	O-RING, ROTOR	1	E-250	12	84099990	28%	
7	41Z5181088	O-RING, HOUSING	1	E-250	12	84099990	28%	
8	CPF0601412	GASKET, BANJO	3	E-250	36	84099990	28%	
9	31Z5180743	CARTRIDGE,OIL FILTER	1	E-250	12	84099990	28%	
10	51Z7185884	CARTRIDGE, PRE FILTER	1	E-500	6	84099990	28%	
11	51Z7185908	CARTRIDGE, FINE FILTER	1	E-500	6	84099990	28%	
12	00Z0091097	PREMIXED ACF 210 Liters	1	As and when Reqd.	2	34031900	28%	
13	41Z1200244	AIR CLEANER ELEMENT	1	E-500	6	84099990	28%	
14	41Z6181098	V BELT FAN	1	E-2000	1	84099990	28%	
15	0412021933	V-BELT ALTERNATOR	1	E-1000	3	84099990	28%	
16	41Z9900829	TAPPET SETTING KIT	1	I-250 & E-2000	2	84099990	28%	
17	452WAB0012	GET KIT- CUTTING EGDE	1	As and when Required	24	84314930	18%	
18	C600230001	ENGINE OIL 15W40 CH4 GR (PER LTR)	Refer Lube Chart			630	27101980	18%
19	C600212000	TRANSMISSION OIL C4 SAE30 GR (PER LTR)				210	27101980	18%
20	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)				420	27101980	18%
21	C600203001	BEML TANDEM CASE OIL, T30 (PER LTR)				840	27101980	18%
22	C600204000	BEML GEAR OIL-G90, (FD & CRG) (PER LTR)				420	27101990	18%
23	C600304000	LITHIUM BASE GREASE,EXTR.PR.GD-2 (PER KG)				182	27101990	18%



नरेश कुमार / MARESH KUMAR
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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 2 nd year / Eqpt	HSN Code	GST Rate %
1	WA9652	ELEMENT HYDRAULIC	6	87089900	28%
2	452PTB0027	T/M FILTER ELEMENT	6	84314930	18%
3	985TK70723	HYD. BREATHER ELEMENT	3	87089900	28%
4	125FL92676	FUEL STRAINER	6	84314200	18%
5	41Z5181063	PAPER INSERT	12	84099990	28%
6	41Z5181071	O-RING, ROTOR	12	84099990	28%
7	41Z5181088	O-RING, HOUSING	12	84099990	28%
8	GPF0601412	GASKET, BANJO	36	84099990	28%
9	31Z5180743	CARTRIDGE, OIL FILTER	12	84099990	28%
10	51Z7185884	CARTRIDGE, PRE FILTER	6	84099990	28%
11	51Z7185908	CARTRIDGE, FINE FILTER	6	84099990	28%
12	00Z0091097	PREMIXED ACF 210 Liters	2	34031900	28%
13	41Z1200244	AIR CLEANER ELEMENT	6	84099990	28%
14	41Z6181098	V BELT FAN	2	84099990	28%
15	0412021933	V-BELT ALTERNATOR	3	84099990	28%
16	41Z9900829	TAPPET SETTING KIT	1	84099990	28%
17	452WAB0012	GET KIT- CUTTING EGDE	24	84314930	18%
18	C600230001	ENGINE OIL 15W40 CH4 GR (PER LTR)	420	27101980	18%
19	C600212000	TRANSMISSION OIL C4 SAE30 GR (PER LTR)	210	27101980	18%
20	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	420	27101980	18%

Choke



नरेश कुमार / NARESH KUMAR
अप. मा. स. स. व. क. वि. प. न. (Dy. General Manager (Marketing))
बी ई एम एल लिमिटेड / BEML LIMITED
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बेंगलूरु / BENGALURU - 560022

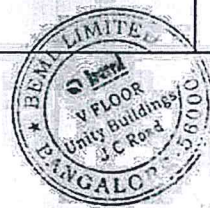
GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 2 nd year / Eqpt	HSN Code	GST Rate %
21	C600203001	BEML TANDEM CASE Oil, T30 (PER LTR)	840	27101980	18%
22	C600204000	BEML GEAR OIL-G90, (FD & CRG) (PER LTR)	210	27101990	18%
23	C600304000	LITHIUM BASE GREASE, EXTR.PR.GD-2 (PER KG)	182	27101990	18%
24	452ZZ00095	HOSE ASSY	1	84314930	18%
25	452EC02028	HOSE (Alt. P/N: 2350311310)	1	84314930	18%
26	452EC61094	HOSE	1	84314930	18%
27	452HS02094	Hose Assy	1	84314930	18%
28	452PT02101	Hose Assy (Alt. P/N:2351613180)	3	84314930	18%
29	CHH3022010	Hose Assy	2	84314930	18%
30	CHH2201214	Hose Assy	1	84314200	18%
31	CHS0700115	Seal Oil (Alt. P/N:0701200115)	1	84314930	18%
32	CHH3024125	Hose Assy	1	84314930	18%
33	CRB0100252	Breather (Atn. P/N:0703000252)	1	84314930	18%
34	CHS0600130	Seal Oil	1	84314200	18%
35	452HC00049	STG. Cylinder seal Kit	2	84314930	18%
36	452EG02614	Controller Assy, Shift tower (Alt. P/N:452EG03262)	1	84314930	18%
37	955EG11274	Relay	3	87089900	28%
38	CHH0600208	Hose assy	2	84314200	18%
39	950AS02707	Hose assy (Alt. P/N:452AS02089)	1	84314930	18%
40	452AS02494	Hose assy	1	84314930	18%

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नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
बी ई एम एल लिमिटेड / BEML LIMITED
4 वां तल, युनिटी बिल्डिंग्स, जे.सी. रोड
बंगलूरु / BANGALURU - 560002

**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF
OPERATION PER EQUIPMENT**

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 2 nd year / Eqpt	HSN Code	GST Rate %
41	950AS02682	Hose assy (Alt. P/N:452AS02048)	4	87089900	28%
42	935AS03545	Solenoid Valve	1	87089900	28%
43	950SK00084	Unloader Valve repair Kit (Alt. P/N: 246808050000)	1	84314930	18%
44	950SK00181	Duel Brake Valve repair Kit (Alt. P/N:574333000000)	1	87089900	28%
45	574332000000	condensor auto drain valve repair kit	1	87089900	28%
46	950SK00076	Quadraple sys protection valve repair kit	1	84314930	18%
47	950SK00124	Double check valve repair kit (Alt. P/N:246809030000)	1	87089900	28%
48	950SK00132	Relay valve repair kit (Alt. P/N:355AS00118)	1	87089900	28%
49	950AS02358	Emergency Relay Valve R6	1	84314200	18%
50	CSD0100085	Seal oil (Alt. P/N:0714500085)	4	87089900	28%
51	452WA31029	Guide	4	84314930	18%
52	CSD0100110	Seal Dust (Alt. P/N:0714500110)	4	84314200	18%
53	452SK00017	Control Valve Seal Kit (LH + RH)	2	84314930	18%
54	452HS03081	Hose Assy	1	84314930	18%
55	452HS64398	Hose Assy	1	84314930	18%
56	CHH3801006	Hose Assy (Alt. P/N:CHH1301606)	1	87089900	28%
57	CHH3601012	Hose Assy (Alt. P/N: CHH1701612)	1	84314930	18%
58	CHH3800608	Hose Assy	1	84314930	18%
59	CHH2201248	Hose Assy	1	87089900	28%
60	CHH2220645	Hose Assy (Alt. P/N:0710220645)	1	87089900	28%



नरेश कुमार / NARESH KUMAR
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बेंगलूरु / BENGALURU - 560 002.

**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF
OPERATION PER EQUIPMENT**

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 2 nd year / Eqpt	HSN Code	GST Rate %
61	CHH2220614	Hose Assy	1	84314200	18%
62	CHH2220624	Hose Assy	1	87089900	28%
63	CHH0300204	Hose Assy (Alt. P/N:CHH0300404)	1	84314930	18%
64	CHH0540307	Hose Assy (Alt. P/N:0712340307)	2	84314930	18%
65	CPF1500305	Hose assy (Alt. P/N:CHH0300605)	3	84314930	18%
66	CHH0300315	Hose Assy (Alt. P/N:CHH0300615)	2	84314930	18%
67	CHH0300311	Hose Assy (Alt. P/N:CHH0300611)	2	87089900	28%
68	CHH0300423	Hose Assy (Alt. P/N: CHH0300823)	2	87089900	28%
69	950AS02528	Duel Brake Valve (Alt. P/N:778AS01043)	1	87089900	28%
70	451CV02037	Double relief valve Assy . (Alt. P/N:2324057700)	1	84314930	18%
71	452HS02245	Pilot check Valve, Blade lift Cyl.	1	84314930	18%
72	51Z9901498	Oil temperature Sensor	1	84099990	28%
73	51Z9901481	Oil Pressure Sensor	1	84099990	28%
74	51Z9901481	Water Temperature Sensor	1	84099990	28%
75	30Z7181024	WATER SEPARATOR	1	84099990	28%
76	51Z9901521	ELECTRONIC FOOT PEDAL	1	84099990	28%
77	30Z8281061	RELAY SWITCH	1	84099990	28%
78	955EG11274	RELAY	3	87089900	28%
79	985EG81912	Circuit Breaker, 20A	2	87089900	28%
80	985EG81891	Circuit Breaker, 10A	8	87089900	28%



नरेश कुमार / NARESH KUMAR
 उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
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 4th Floor, Unity Buildings, J.C. Road Bengaluru - 560002

**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 2ND YEAR OF
OPERATION PER EQUIPMENT**

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 2 nd year / Eqpt	HSN Code	GST Rate %
81	985EG81883	Circuit Breaker, 5A	1	87089900	28%
82	CET0401175	Battery terminal +Ve	2	84314200	18%
83	CET0402160	Battery terminal -Ve	2	84314200	18%
84	953EG72117	Maintenance Free Battery 160AH	2	84314200	18%
85	452EG87439	Radiator water level switch (Alt. P/N:7861994520)	1	84314930	18%
86	452PT02101	HOSE - TM PRESSURE CHECKING LINE (Alt. P/N: 2351613180)	4	84314930	18%
87	52Z5180247	SENSOR ENGINE OIL (Alt.P/N:7861994500)	1	84314930	18%
88	452HS01023	HYD MOTOR	1	84314930	18%
89	452PZ11028	BOLT	8	84314930	18%
90	CFS0131260	BOLT	8	84099990	28%
91	452WA11387	PLATE	10	84314930	18%
92	CLN0115242	NUT	2	84314930	18%
93	452DB02031	GUIDE	6	84314930	18%
94	CHS0103098	ORING	1	84314930	18%



नरेश कुमार / NARESH KUMAR
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(Circle)

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 3 rd year / Eqpt	HSN Code	GST Rate %
1	WA9652	ELEMENT HYDRAULIC	6	87089900	28%
2	452PTB0027	T/M FILTER ELEMENT	6	84314930	18%
3	985TK70723	HYD. BREATHER ELEMENT	3	87089900	28%
4	125FL92676	FUEL STRAINER	6	84314200	18%
5	41Z5181063	PAPER INSERT	12	84099990	28%
6	41Z5181071	O-RING, ROTOR	12	84099990	28%
7	41Z5181088	O-RING, HOUSING	12	84099990	28%
8	CPF0601412	GASKET, BANJO	36	84099990	28%
9	31Z5180743	CARTRIDGE, OIL FILTER	12	84099990	28%
10	51Z7185884	CARTRIDGE, PRE FILTER	6	84099990	28%
11	51Z7185908	CARTRIDGE, FINE FILTER	6	84099990	28%
12	00Z0091097	PREMIXED ACF 210 Liters	2	34031900	28%
13	41Z1200244	AIR CLEANER ELEMENT	6	84099990	28%
14	41Z6181098	V BELT FAN	1	84099990	28%
15	0412021933	V-BELT ALTERNATOR	3	84099990	28%
16	41Z9900829	TAPPET SETTING KIT	2	84099990	28%
17	452WAB0012	GET KIT- CUTTING EGDE	24	84314930	18%
18	C600230001	ENGINE OIL 15W40 CH4 GR (PER LTR)	630	27101980	18%
19	C600212000	TRANSMISSION OIL C4 SAE30 GR (PER LTR)	210	27101980	18%
20	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	420	27101980	18%
21	C600203001	BEML TANDEM CASE Oil, T30 (PER LTR)	840	27101980	18%

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नरेश कुमार / NARESH KUMAR
उप महाप्रबंधक (विपणन) / Dy. General Manager (Marketing)
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बेंगलूरु / BENGALURU - 560 002.

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 3 rd year / Eqpt	HSN Code	GST Rate %
22	C600204000	BEML GEAR OIL-G90, (FD & CRG) (PER LTR)	210	27101990	18%
23	C600304000	LITHIUM BASE GREASE, EXTR. PR. GD-2 (PER KG)	182	27101990	18%
24	452EI02003	CUSHION (Alt. P/N.:235011110)	2	84314930	18%
25	452EI61037	CUSHION (Alt. P/N.:985EI02029)	4	87089900	28%
26	452EI02003	CUSHION (Alt. P/N.235011110)	2	84314930	18%
27	452ZZ00095	HOSE ASSY	1	84314930	18%
28	452EC02028	HOSE (Alt. P/N: 2350311310)	1	84314930	18%
29	452EC61094	HOSE	1	84314930	18%
30	452TMB0015R	Recon Transmission assy against exchange	1	84314200	18%
31	452SK01216	Brake Pad Kit (Alt.P/N.4214305110)	1	84314930	18%
32	452HM01007	T/M Pump	1	84314200	18%
33	452HS02094	Hose Assy	1	84314930	18%
34	452PT02101	Hose Assy (Alt. P/N:2351613180)	3	84314930	18%
35	CHH3022010	Hose Assy	2	84314930	18%
36	CHH2201214	Hose Assy	1	84314200	18%
37	CHS0700115	Seal Oil (Alt. P/N:0701200115)	1	84314930	18%
38	CHH3024125	Hose Assy	1	84314930	18%
39	CRB0100252	Breather (Alt. P/N:0703000252)	1	84314930	18%
40	CHS0600130	Seal Oil	1	84314200	18%
41	452HC00049	STG. Cylinder seal Kit	2	84314930	18%
42	452HC00081	Leaning Cyl seal kit	1	84314930	18%



नरेश कुमार / NARESH KUMAR
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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 3 rd year / Eqpt	HSN Code	GST Rate %
43	452HC00057	Articulate Cyl Seal Kit	2	84314930	18%
44	452CO02543	Accelerator Cable	1	84314930	18%
45	955EG11274	Relay	3	87089900	28%
46	CHH0600208	Hose assy	2	84314200	18%
47	950AS02707	Hose assy (Alt. P/N:452AS02089)	1	84314930	18%
48	452AS02494	Hose assy	1	84314930	18%
49	950AS02682	Hose assy (Alt. P/N:452AS02048)	4	87089900	28%
50	935AS03545	Solenoid Valve	1	87089900	28%
51	950SK00084	Unloader Valve repair Kit (Alt. P/N: 246808050000)	1	84314930	18%
52	950SK00181	Dual Brake Valve repair Kit (Alt. P/N:574333000000)	1	87089900	28%
53	574332000000	condensor auto drain valve repair kit	1	87089900	28%
54	950SK00076	Quadruple sys protection valve repair kit	1	84314930	18%
55	950SK00124	Double check valve repair kit (Alt. P/N:246809030000)	1	87089900	28%
56	950SK00132	Relay valve repair kit (Alt. P/N:355AS00118)	1	87089900	28%
57	950AS02358	Emergency Relay Valve R6	1	84314200	18%
58	CSD0100085	Seal oil (Alt. P/N:0714500085)	4	87089900	28%
59	452WA31029	Guide	4	84314930	18%
60	CSD0100110	Seal Dust (Alt. P/N:0714500110)	4	84314200	18%
61	CHS0700090	Seal Oil	1	87089900	28%
62	CHS0600075	Seal oil	2	84314930	18%
63	CHS0203050	Ring Back UP (Alt. P/N:'0700103050)	8	84314930	18%

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नरेश कुमार / NARESH KUMAR
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4th फ्लोर, यूनैटी बिल्डिंग्स, जे.सी. रोड
बेंगलूरु / BENGALURU - 560 002.

GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 3 rd year / Eqpt	HSN Code	GST Rate %
64	451HS12065	O-Ring (Alt. P/N:0700012065)	2	84314200	18%
65	DA2874	Strainer,HYD	1	84314200	18%
66	TA0113	Gasket	1	87089900	28%
67	452SK00017	Control Valve Seal Kit (LH + RH)	2	84314930	18%
68	452HC00032	Side Shift Cyl Seal Kit (Draw Bar)	1	84314930	18%
69	452HC00073	Blade lift Cyl Seal Kit	2	84314930	18%
70	452HC00024	Blade side shift cyl seal kit	1	84314930	18%
71	452HC00016	Power lift Cyl Seal Kit	1	84314930	18%
72	452HS03081	Hose Assy	1	84314930	18%
73	452HS64398	Hose Assy	1	84314930	18%
74	CHH3801006	Hose Assy (Alt. P/N:CHH1301606)	1	87089900	28%
75	CHH3601012	Hose Assy (Alt. P/N: CHH1701612)	1	84314930	18%
76	CHH3800608	Hose Assy	1	84314930	18%
77	CHH2201248	Hose Assy	1	87089900	28%
78	CHH2220645	Hose Assy (Alt. P/N:0710220645)	1	87089900	28%
79	CHH2220614	Hose Assy	1	84314200	18%
80	CHH2220624	Hose Assy	1	87089900	28%
81	CHH0300204	Hose Assy (Alt. P/N:CHH0300404)	1	84314930	18%
82	CHH0540307	Hose Assy (Alt. P/N:0712340307)	2	84314930	18%
83	CPF1500305	Hose assy (Alt. P/N:CHH0300605)	3	84314930	18%
84	CHH0300315	Hose Assy (Alt. P/N:CHH0300615)	2	84314930	18%



नरेश कुमार / NARESH KUMAR
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GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 3RD YEAR OF OPERATION PER EQUIPMENT

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 3 rd year / Eqpt	HSN Code	GST Rate %
85	CHH0300311	Hose Assy (Alt. P/N:CHH0300611)	2	87089900	28%
86	CHH0300423	Hose Assy (Alt. P/N: CHH0300823)	2	87089900	28%
87	452HS02077	Flow Control valve Assy (Alt. P/N: 2354012202)	1	84314930	18%
88	0867002001	Dust Indicator	1	84099990	28%
89	51Z9901473	MAGNETIC PICK UP SPEED SENSOR	1	84099990	28%
90	30Z5180632	THERMO, VALVE	1	84099990	28%
91	51Z7184239	AUTO SHUT OFF VALVE (Alt.P/N:51Z7185551)	1	84099990	28%
92	41Z6180474	THERMOSTAT	2	84099990	28%
93	41Z6180522	SEAL THERMOSTAT	2	84099990	28%
94	41Z6170446	GASKET	1	84099990	28%
95	41Z0000229	Recon Engine against failed engine	1	84099990	28%
96	451OS02294	Operator Seat Assy with Head rest	1	84314930	18%
97	452EG03246	I/O MODULE	1	84314930	18%
98	452EG02471	TOGGLE SWITCH	2	87089900	28%
99	452EG87333	PRESSURE SENSOR(AIR)	3	84314200	18%
100	985EG11152	FINAL DRIVE OIL TEMP SWITCH	1	87089900	28%
101	CHS0103098	ORING	1	84314930	18%



नरेश कुमार / NARESH KUMAR
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बंगलूरु / BENGALURU - 560 002.

(Signature)

**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION
PER EQUIPMENT**

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 4th year / Eqpt	HSN Code	GST Rate %
1	WA9652	ELEMENT HYDRAULIC	6	87089900	28%
2	452PTB0027	T/M FILTER ELEMENT	6	84314930	18%
3	985TK70723	HYD. BREATHER ELEMENT	3	87089900	28%
4	125FL92676	FUEL STRAINER	6	84314200	18%
5	41Z5181063	PAPER INSERT	12	84099990	28%
6	41Z5181071	O-RING, ROTOR	12	84099990	28%
7	41Z5181088	O-RING, HOUSING	12	84099990	28%
8	CPF0601412	GASKET, BANJO	36	84099990	28%
9	31Z5180743	CARTRIDGE, OIL FILTER	12	84099990	28%
10	51Z7185884	CARTRIDGE, PRE FILTER	6	84099990	28%
11	51Z7185908	CARTRIDGE, FINE FILTER	6	84099990	28%
12	00Z0091097	PREMIXED ACF 210 Liters	2	34031900	28%
13	41Z1200244	AIR CLEANER ELEMENT	6	84099990	28%
14	41Z6181098	V BELT FAN	2	84099990	28%
15	0412021933	V-BELT ALTERNATOR	3	84099990	28%
16	41Z9900829	TAPPET SETTING KIT	1	84099990	28%
17	452WAB0012	GET KIT- CUTTING EGDE	24	84314930	18%
18	C600230001	ENGINE OIL 15W40 CH4 GR (PER LTR)	420	27101980	18%
19	C600202001	HYDRAULIC OIL SAE10W OIL (PER LTR)	210	27101980	18%
20	C600203001	BEML TANDEM CASE Oil, T30 (PER LTR)	630	27101980	18%
21	C600204000	BEML GEAR OIL-G90, (FD & CRG) (PER LTR)	210	27101990	18%
22	C600304000	LITHIUM BASE GREASE, EXTR. PR. GD-2 (PER KG)	182	27101990	18%
23	452ZZ00095	HOSE ASSY	1	84314930	18%
24	452EC02028	HOSE (Alt. P/N: 2350311310)	1	84314930	18%



नरेश कुमार / NARESH KUMAR
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बेंगलूरु / BENGALURU - 560 082.

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**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION
PER EQUIPMENT**

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 4th year / Eqpt	HSN Code	GST Rate %
25	452EC61094	HOSE	1	84314930	18%
26	452PZ02029	SPIDER ASSY (Alt. P/N.: 2352011110)	2	84314930	18%
27	452HS02094	Hose Assy	1	84314930	18%
28	452PT02101	Hose Assy (Alt. P/N:2351613180)	3	84314930	18%
29	CHH3022010	Hose Assy	2	84314930	18%
30	CHH2201214	Hose Assy	1	84314200	18%
31	CHS0700115	Seal Oil (Alt. P/N:0701200115)	1	84314930	18%
32	CHH3024125	Hose Assy	1	84314930	18%
33	CRB0100252	Breather (Atn. P/N:0703000252)	1	84314930	18%
34	CHS0600130	Seal Oil	2	84314200	18%
35	452HC00049	STG. Cylinder seal Kit	2	84314930	18%
36	955EG11274	Relay	3	87089900	28%
37	CHH0600208	Hose assy	2	84314200	18%
38	950AS02707	Hose assy (Alt. P/N:452AS02089)	1	84314930	18%
39	452AS02494	Hose assy	1	84314930	18%
40	950AS02682	Hose assy (Alt. P/N:452AS02048)	3	87089900	28%
41	935AS03545	Solenoid Valve	1	87089900	28%
42	950SK00084	Unloader Valve repair Kit (Alt. P/N: 246808050000)	1	84314930	18%
43	950SK00181	Duel Brake Valve repair Kit (Alt. P/N:574333000000)	1	87089900	28%
44	574332000000	condensor auto drain valve repair kit	1	87089900	28%
45	950SK00076	Quadraple sys protection valve repair kit	1	84314930	18%
46	950SK00124	Double check valve repair kit (Alt. P/N:246809030000)	1	87089900	28%
47	950SK00132	Relay valve repair kit (Alt. P/N:355AS00118)	1	87089900	28%
48	950AS02358	Emergency Relay Valve R6	1	84314200	18%



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**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION
PER EQUIPMENT**

Model: BG825 Motor Grader

Customer: M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 4th year / Eqpt	HSN Code	GST Rate %
49	CSD0100085	Seal oil (Alt. P/N:0714500085)	4	87089900	28%
50	452WA31029	Guide	4	84314930	18%
51	CSD0100110	Seal Dust (Alt. P/N:0714500110)	4	84314200	18%
52	452HS03454	HYD PUMP ASSY	1	84314930	18%
53	452SK00017	Control Valve Seal Kit (LH + RH)	2	84314930	18%
54	452HC00073	Blade lift Cyl Seal Kit	1	84314930	18%
55	452HS03081	Hose Assy	1	84314930	18%
56	452HS64398	Hose Assy	1	84314930	18%
57	CHH3801006	Hose Assy (Alt. P/N:CHH1301606)	1	87089900	28%
58	CHH3601012	Hose Assy (Alt. P/N: CHH1701612)	1	84314930	18%
59	CHH3800608	Hose Assy	1	84314930	18%
60	CHH2201248	Hose Assy	1	87089900	28%
61	CHH2220645	Hose Assy (Alt. P/N:0710220645)	1	87089900	28%
62	CHH2220614	Hose Assy	1	84314200	18%
63	CHH2220624	Hose Assy	1	87089900	28%
64	CHH0300204	Hose Assy (Alt. P/N:CHH0300404)	1	84314930	18%
65	CHH0540307	Hose Assy (Alt. P/N:0712340307)	2	84314930	18%
66	CPF1500305	Hose assy (Alt. P/N:CHH0300605)	3	84314930	18%
67	CHH0300315	Hose Assy (Alt. P/N:CHH0300615)	2	84314930	18%
68	CHH0300311	Hose Assy (Alt. P/N:CHH0300611)	2	87089900	28%
69	CHH0300423	Hose Assy (Alt. P/N: CHH0300823)	2	87089900	28%



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Fluoride

**GUARANTEED SPARES & CONSUMABLES REQUIRED FOR 4TH YEAR OF OPERATION
PER EQUIPMENT**

Model: BG825 Motor Grader

Customer : M/s. WCL

Sl.No.	Part Number	Description	Total Qty reqd for 4th year / Eqpt	HSN Code	GST Rate %
70	51Z9901498	Oil temperature Sensor	1	84099990	28%
71	51Z9901481	Oil Pressure Sensor	1	84099990	28%
72	51Z9901481	Water Temperature Sensor	1	84099990	28%
73	30Z8281078	SELF STARTER	1	84099990	28%
74	52Z8200948	ALTERNATOR	1	84099990	28%
75	51Z9901546	POTENTIOMETER	1	84099990	28%
76	935CC01059	WIPER MOTOR	3	87089900	28%
77	CEK0120000	Key Switch (Alt. P/N:0808620000)	1	87089900	28%
78	958EG04198	LED LAMP YELLOW	2	87089900	28%
79	452EG87382	HEAD LIGHT (Low Beam: LED TYPE)	4	87089900	28%
80	452EG87374	HEAD LAMP (high beam LED TYPE)	2	87089900	28%
81	955EG11274	RELAY	3	87089900	28%
82	985EG81912	Circuit Breaker, 20A	2	87089900	28%
83	985EG81891	Circuit Breaker, 10A	8	87089900	28%
84	985EG81883	Circuit Breaker, 5A	1	87089900	28%
85	CET0401175	Battery terminal +Ve	2	84314200	18%
86	CET0402160	Battery terminal -Ve	2	84314200	18%
87	953EG72117	Maintenance Free Battery 160AH	2	84314200	18%
88	452HS02158	Joint Assy (Alt. P/N: 2356014901)	1	84314930	18%
89	CHS0103098	ORING	1	84314930	18%



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Glodk

DESCRIPTION OF CENTRALISED AUTO LUBRICATION SYSTEM FOR
BG825 MOTOR GRADER

The centralized lubrication system consists of a multi-line grease pump model 203 with Injector Manifolds, timer, tubing's & fittings.

The grease pump unit supplies lubricant under high pressure to the lubricant Injectors Manifolds on which the Injectors are mounted. The pump unit consists of electricity driven motor with reservoir incorporating a string devise with fixed paddle, high-pressure pump element and safety valve. The stirring device forces the lubricant filled in the reservoir into the suction ports of the pump elements through Lubricant filter, which delivers the lubricant under pressure to the Injectors fitted on the manifolds and in turn distributes to the various lube points.

Following are the major components of the centralized system fitted **BG825 MOTOR GRADER**

1. Pump P203S-4LIT-3PE-24V DC
2. Cross Junction Block - 2 Nos.
3. Refilling Kit for 203 Pump
4. Lubricant Filter - 1 No.
5. Injectors :
 - a) 4 Injectors with Manifold - 6 Nos.
 - b) 5 Injectors with Manifold - LH-IM-105 - 1 No.
 - c) 6 Injectors with Manifold Assy - 2 Nos.
6. C - Valve ST RHD10-S Z
7. Timer - LH-TM-001

There are 3 types of Manifolds each fitted with different nos. of Injectors. These injectors are fitted to lubricate different points as follows:

Articulation Block, Circle Pinion Block, Draw Bar Ball joint, Drawbar side shift cylinder ends, drawbar lift cylinders (LH & RH), Steering Cylinder End, Leaning Rod end, Axle Tie Rod - LH&RH, Knuckle Joint Middle, knuckle joint bottom, knuckle joint top, TIE Rod-LH&RH, Bank cutting Bracket -LH&RH, Bank Cutting Bracket Near Yoke -LH&RH, Axle Centre, Tie Rod, Drawbar Cylinder & Blade Lift Cylinder Yoke (Inner & Outer).

General layout of the system in enclosed.

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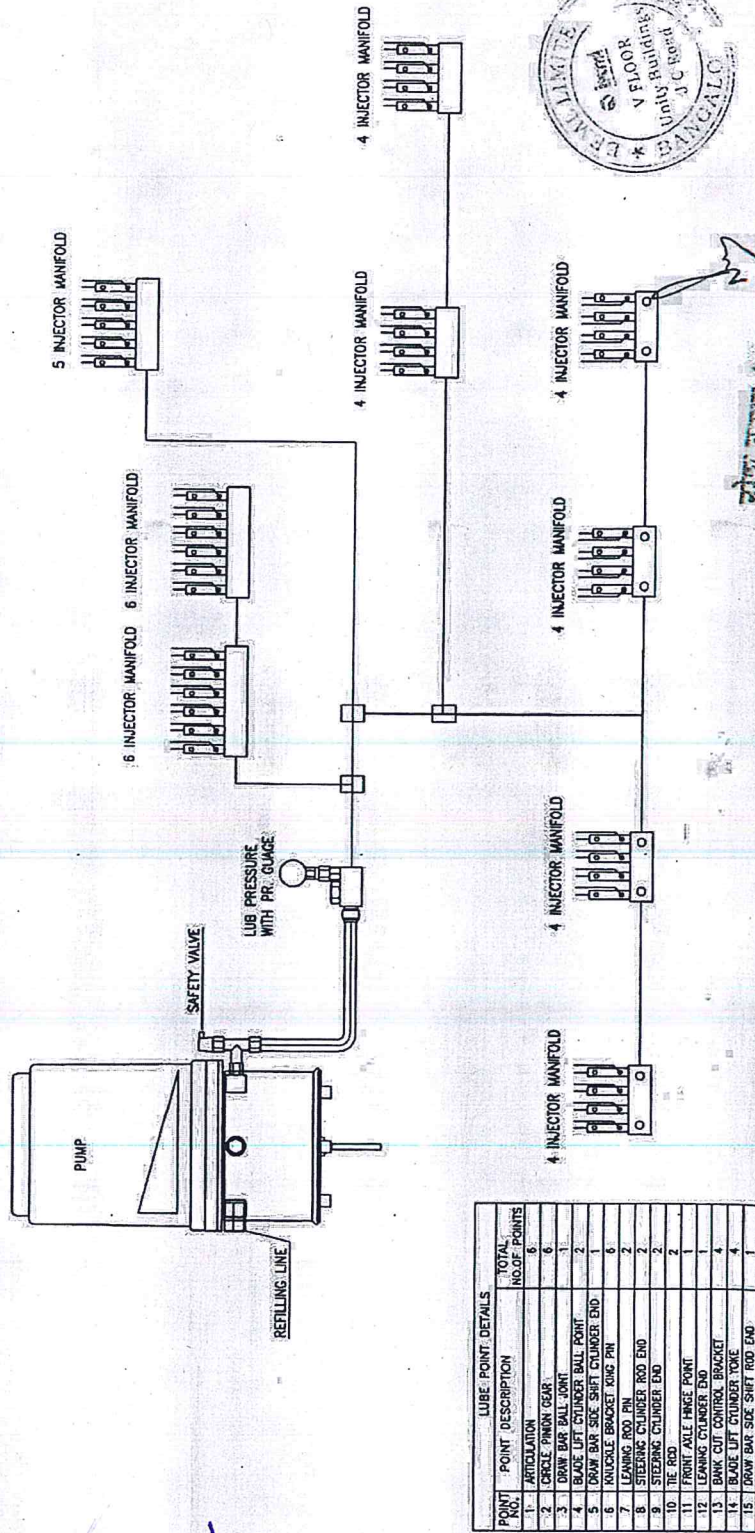


Chode



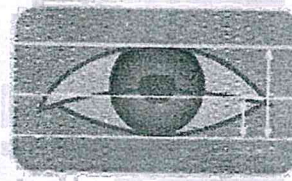
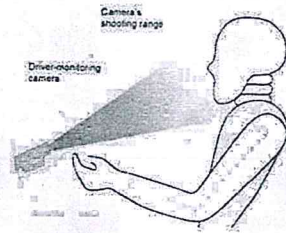
AUTOMATIC LUBRICATION SYSTEM
INJECTOR TYPE
SCHEMATIC DIAGRAM

Model: BG825 Motor Grader



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DRIVERS FATIGUE MONITORING SYSTEM



Detect the pupil's changing characteristics, analyse the eyes' fatigue condition.


The real time and non intrusive Driver fatigue monitoring system to predict accurately and identify situations where drowsiness and fatigue may be setting into a driver, thereby it helps in preventing accidents and fatalities. The system will detect drowsiness based on driver's performance (considering physical signs).

The intelligent system will detect the onset of drowsiness in drivers, while the vehicle is in motion. Detection will be done by continuously looking out for symptoms of drowsiness, while considering physical signs. Physical cue including yawning, drooping eyelids, closed eyes and increased blink durations. The percentage of eyelid closure over the pupil over time (PERCLOS).

Features:

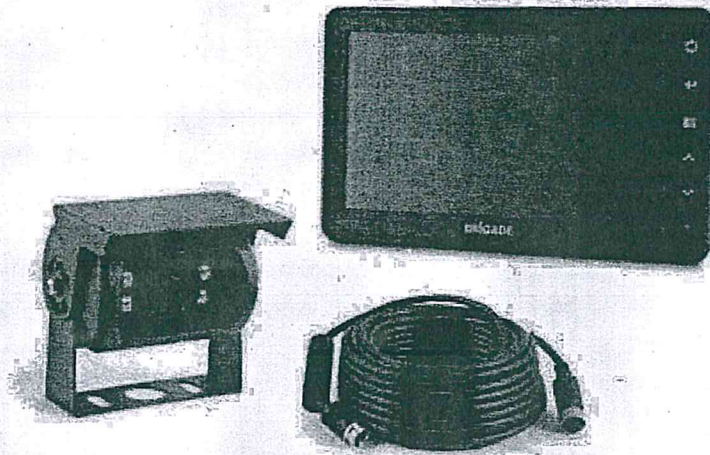
- 1) The device able to monitor the driver's alertness and level of Fatigue.
- 2) Ability to alert drive the driver to drive the vehicle without dozing off.
- 3) Non-contact infrared camera with proven technology to monitor the driver's eyes.
- 4) Buzzer to alert the driver to wake up.
- 5) Provision to change sensitivity settings.
- 6) Functions in all light levels (day and night) including heavy rain.
- 7) Functions if a driver wears glasses.
- 8) Proven sensing technology with PERCLOS algorithm to avoid false warnings.
- 9) Provisions for recording the warning generated with time stamp to enable easy retrieval and analysis of the immediate past 96 deployment operating hours.
- 10) Simultaneously flash externally mounted warning light easily visible to others for alerting the Operator and others in the vicinity to pay attention.

=====XXXX=====


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REAR VIEW CAMERA SYSTEM



Rear vision system consists of colour camera, colour monitor and the connecting cables. The monitoring system has a rugged construction and reliable for use on heavy earth moving machinery. System is designed to work efficiently in all sorts of environmental conditions like moisture, dust, vibration, heat and cold.

When the key switch is ON the system starts and the power is available to the monitor and the monitor shall be in standby mode. The monitor is automatically turned ON when the gear shift lever is in reverse position.

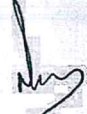
नरेश कुमार / NARESH KUMAR
अप मरुतयवेवतविवरण/Dy. General Manager(Marketing)
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K. Chack

Features:

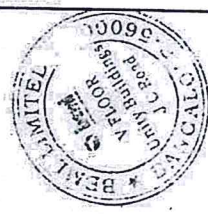
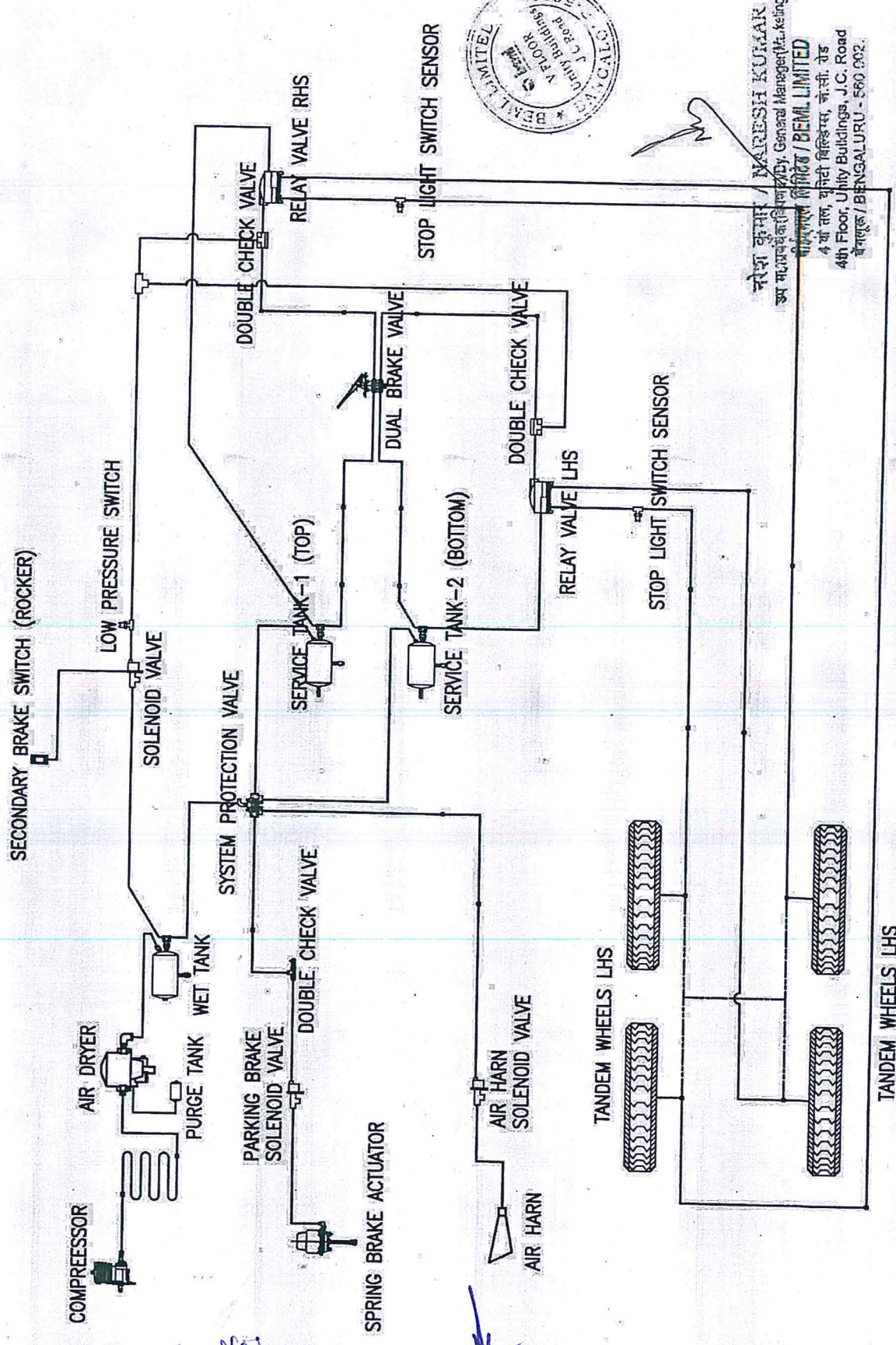
- The system will boot automatically along with starting of Engine / Power source of Machine, it will perform an initial system check and shall give readiness indication. The system will shut down along with shutting down of Engine / Power source. The system provided with system readiness, standby and system mal-function indication to indicate its status.
- The system will remain in stand-by mode (operation mode whereby the system is active, but no information is transmitted by the camera Or monitor) and will wake up automatically upon selection/engagement of appropriate control(s) (such as reverse gear, etc) by Machine Operator The system will return to Stand-by mode upon release the appropriate controls by the operator.
- The camera is provided with Infrared LED system shall be provided with auto mode tail /reverse light for adequate illumination for better visibility during darkness, the system capable of operating in dark and will automatically switch to infrared when the brightness of field of view is too low or in case of failure of the tail light.
- The System provided with provisions for recording the images captured with time stamp to enable easy retrieval and analysis of the immediate past 24 deployment operating hours.


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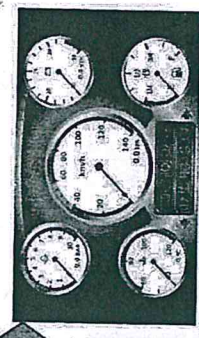
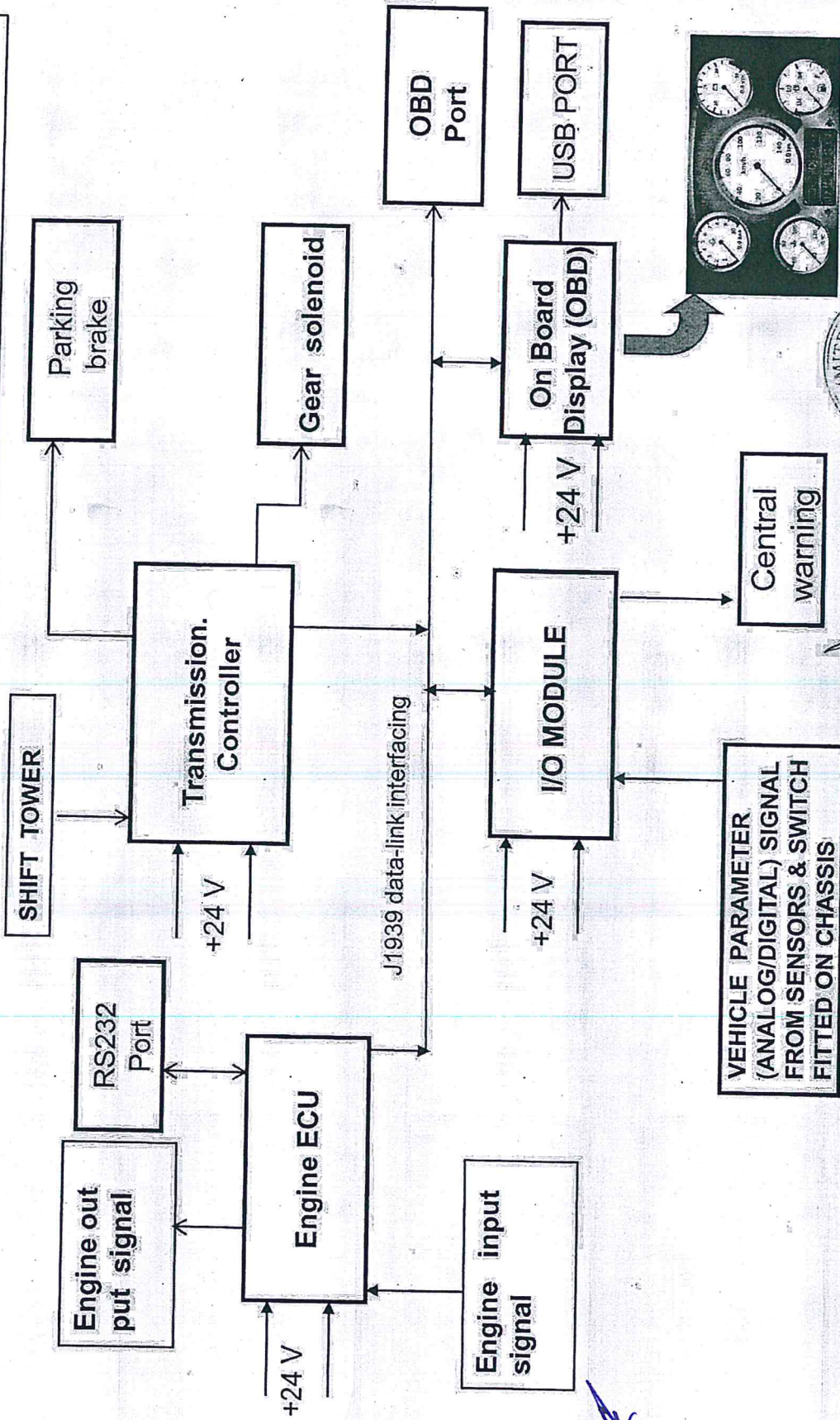


BG825 AIR BRAKE SYSTEM – CIRCUIT DIAGRAM (WITH SECONDARY BRAKE SWITCH)



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Real time health monitoring system on BG825 motor grader



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Real time health monitoring system on BG825 motor grader

The following parameter monitored by Equipment health monitoring system

Analog signal

- Water temperature gauge
- Engine oil pressure gauge
- Air Pressure Gauge
- Fuel capacity gauge.
- Engine tachometer
- Engine hour-meter
- Transmission oil temperature
- Engine oil temperature
- Speedometer
- Inching pressure
- Hydraulic oil temperature gauge

Digital signal

- Left turn
- Right turn
- High beam
- Preheat (option)
- Differential lock
- Bank cutting solenoid
- Emergency brake
- Coolant level
- Trans. Filter clog
- Seat belt
- Drive axel temperature
- Charge fail
- Hydraulic oil level

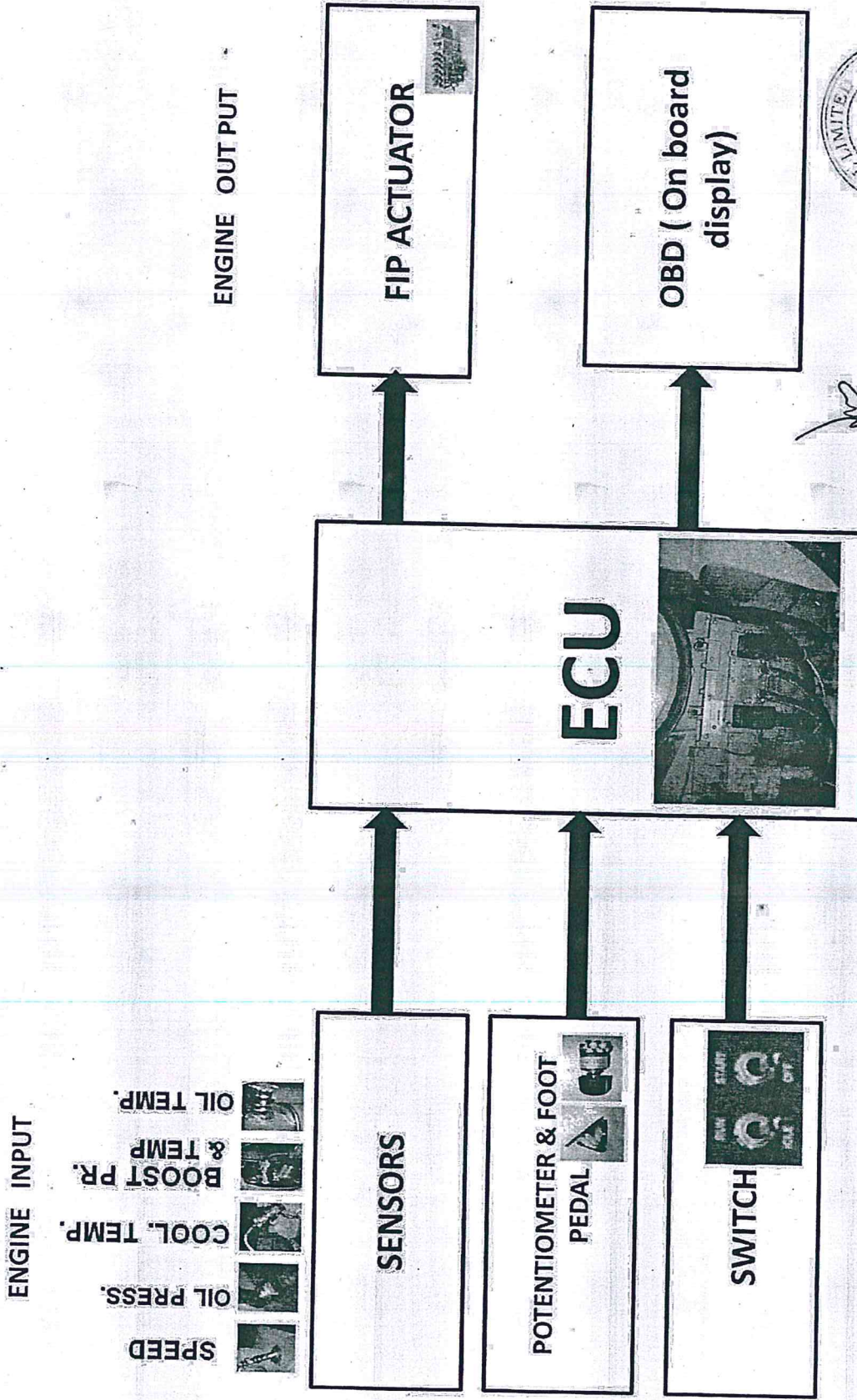
Equipment health monitoring system is contentiously monitors above vital critical parameter of vehicle and broadcast real time parameter value On Board Display provided inside the operator cabin. The system having real-time self-diagnostic features with built in protections. & provides error alarm / alert message to operator. The system is capable of storing the parameters error code with date and time stamp for on month duration FIFO bases.

The system will transmitting real time equipment parameter on CAN bus (J1939 protocol) and the data is available at common OBD port inside the cabin which will facilitate to interface on-line, real time, monitoring system compatible to GPS-based transfer of equipment performance data to service provider

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FUNCTIONAL BLOCK DIAGRAM OF ENGINE



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FUNCTIONAL BLOCK DIAGRAM OF ENGINE

The state-of-the-art technology electronic engine is introduced in BEML BS6D140EG engine to improve the product, update the technology and added safety features to the engine. The Mechanical governor is replaced by the electronically controlled actuator governor to control the FIP rack precisely through Diesel Control Unit / Electronic Control Unit (DCU / ECU).

A actuator is used to operate the Fuel Injection Pump (FIP) rack position to deliver the precisely predefined fuel quantity based on the engine speed and load through Diesel Control Unit / Electronic Control Unit (DCU/ECU).

The ECU will get the signal from the engine speed sensor and foot pedal / Potentiometer to identify the engine speed and load respectively. Depends on this speed and load demand, the FIP rack position will be actuated by the electronically controlled actuator which is assembled in the FIP.

The actuator is paired with linear variable differential transducer (LVDT) to provide the feedback of FIP rack position to the ECU. To maintain the engine speed, ECU will control the fuel by adjusting the rack position at all engine operating load conditions. Hence the minimum required quantity of the fuel only supplied to the engine for a particular speed and load conditions.

The engine safety systems are inbuilt in this ECU to protect the engine from over speed, high water temperature and low lubricating pressure. Also the starter motor safety system is ensured.



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BG825 Engine diagnostic tools feature

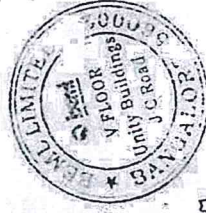
Engine diagnostic tool detail : Dc Desk 2000 software

The DcDesk 2000 software consists of 4 windows:

- **Parameter** : To enter the engine parameters for different applications.
- **Function** : Particular parameter function or curve can be activated or deactivated.
- **Measurement** : To monitor the set parameter values at different periods and to check the actual values of the parameter (Ex. Speed, temperature, pressure, etc.)
- **Curve** : Different function of the engine is tabulated considering two or three parameters. These parameters are adjusted based on the engine applications.

The following other functions are also carried out such as

1. Loading the .hzm file from laptop to ECU and saving the .hzm file from ECU to laptop.
2. To load the .dwn file to the ECU.
3. To configure and monitor the sensors, switches, potentiometer and foot pedal.
4. For diagnosing and troubleshooting purpose.
5. To map and load the fuel consumption curve for different application.
6. To check the current errors, the old error history and to clear the errors.
7. For storing the new values to the ECU and also to reset the ECU without switching off the ECU.
8. To record the different parameter values in a record file during abnormal conditions for analysis purpose.
9. To complete the actuator adjustment functions while the FIP of ECU is changed in the ECU.
10. Overview Screen: To overview all the sensor values, throttle values and switches condition.



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ANNEXURE - 6

General Conditions of Contract (GCC)

1. Definitions

In the interpretation of the contract and the general and special conditions governing it, unless the context otherwise requires, the following terms shall be interpreted as indicated below:

- a) "The Contract" means the agreement entered into between the Purchaser and the Supplier including all attachments and appendices thereto and all documents incorporated by reference therein including Invitation to tender, Instructions to tenderers, Acceptance of tender, Particulars and the General and Special Conditions specified in the acceptance of tender;
- b) "Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations;
- c) "Goods" means all of the equipment, plant, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract;
- d) "Services" means those Services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental Services, such as installation, commissioning, provision of technical assistance, training and other such obligations of the Supplier covered under the Contract;
- e) "GCC" means the Conditions of Contract contained in this section;
- f) "SCC" means the Special Conditions of Contract;
- g) "Purchaser" means the organisation purchasing goods and services, i.e., Coal India Limited or its subsidiaries or areas falling under various subsidiaries of Coal India Limited;
- h) "Purchaser's country" is India;
- i) "Supplier/Contractor" means the individual, firm or company with whom the contract has been concluded for supplying the Goods and Services under the Contract. The Supplier/Contractor shall be deemed to include its successors (approved by the purchaser), representatives, heirs, executors, administrators and permitted;
- j) "CIL" means Coal India Limited or the Subsidiary Company of CIL or areas falling under various subsidiaries of CIL where Goods are deployed/ used;
- k) "Year" means the Calendar Year.
- l) "Chairman" means the Chairman of Coal India Limited.
- m) "Chairman-cum-Managing Director" means Chairman-cum-Managing Director of any of the Subsidiary Companies of Coal India Limited, presently Central Coalfields Limited, Eastern Coalfields Limited, Western Coalfields Limited, Bharat Coking Coal Limited, Central Mine Planning & Design Institute Limited, South Eastern Coalfields Limited, Northern Coalfields Limited and Mahanadi Coalfields Limited.
- n) "Drawing" means the drawing and plans specified in or annexed to the schedule or specifications.
- o) "Inspector" means any person nominated by or on behalf of the purchaser to inspect supplies, stores or work under the contract or his duly authorized agent.
- p) "Progress Officer" means any person nominated by or on behalf of the Purchaser to visit supplier's works to ascertain position of deliveries of Goods ordered.
- q) "Materials" shall mean anything used in the manufacture or fabrication of the stores.
- r) "Stores" means the goods specified in the Supply Order or schedule which the supplier/contractor has agreed to supply under contract.
- s) "Test" means such test or tests as are prescribed by the specifications or considered necessary by the Inspector or any agency acting under direction of the Inspector.
- t) "Site" mean the place or places named in the "Supply Order" or such other place or places at which any work has to be carried out as may be approved by the purchaser.
- u) Words denoting the persons shall include any company or association or body of individuals whether incorporated or not.
- v) Words in singular include the plural and vice-versa.
- w) Words denoting the masculine gender shall be taken to include the feminine gender.
- x) "Writing" shall include any manuscript, typewritten or printed statement under or over signature or seal as the case may be.
- y) "Unit" and "Quantity" means the unit and quantity specified in the schedule.
- z) "Purchase Order" or "Supply Order" or "Order" or "Contract" means an order for supply of stores and includes an order for performance. The terms "Supply Order", "Purchase Order", "Order" and "Contract" are interchangeable.
- aa) "Particulars" shall mean the following:
 - i) Specifications;
 - ii) Drawing;
 - iii) Sealed pattern denoting a pattern sealed and signed by the Inspector;
 - iv) Certified or sealed sample denoting a copy of the sealed pattern or sample sealed by the purchaser for guidance of the Inspector;
 - v) Trade pattern denoting a standard of the ISI or other standardising authority or Coal India Ltd. and/ or any of its subsidiary companies or a general standard of the industry and obtainable in the open market;
 - vi) Proprietary make denoting the product of an individual manufacturer;
 - vii) Any other details governing the construction, manufacture and/or supply as existing in the contract.
- bb) Terms and expressions not defined herein shall have the meanings assigned to them in the Indian Sale of Goods Act, 1930 or the Indian Contract, 1872 or the General Clauses Act, 1897, as amended, as the case may be.

2. Application

These Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

3. Standards

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications. Such standards shall be the latest issued by the concerned institution.

4. Use of Contract Documents and Information

4.1. The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the

Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

4.2. The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated in sub-clause 4.1 above, except for purposes of performing the Contract.

4.3. Any document, other than the Contract itself, enumerated in sub-clause 4.1 above shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

5. Patent Rights

The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in the Purchaser's country.

6. Security Deposit

6.1. The successful tenderers will have to submit Security Deposit for the 10% value of the total landed value of the contract including all taxes, duties and other costs and charges, without considering Input Tax Credit.

6.2. The Security Deposit shall be in the form of a Bank Demand Draft or in the form of a Bank Guarantee in the prescribed format from a RBI Scheduled Bank in purchaser's country (on a non-judicial stamp paper) within 15 days from date of notification of award or placement of order.

6.3. The Security Deposit shall be in the same currency(ies) in which contract is to be signed/ issued. In case of multi-currency contract, separate Security Deposit Bank Guarantee (SDBG) in respective currency for required value as above shall be submitted.

6.4. In case of equipment, SDBG shall not be individual equipment wise. However, multiple Bank Guarantees for Security Deposit shall be permissible provided value of all the SDBGs totals to 10% of the contract value, and all are submitted simultaneously within the specified time schedule and all of them are in the same prescribed format of SDBG without linking to any particular equipment.

6.5. The SDBG shall remain valid up to 3 months after completion of supplies and acceptance of materials by the consignee in case of supply contracts and in case of contracts for equipment involving installation and commissioning, 3 months after the supply and commissioning of all the equipment covered in the contract.

6.6. If the successful tenderer fails to deposit the security deposit within 15 (fifteen) days from date of notification of award/ placement of order, another opportunity may be given to them for submission of Security Deposit within next 15 days. If the successful tenderer still fails to deposit the security deposit within the extended period but executes the supplies within scheduled delivery period, the submission of Security Deposit may be waived, as the purpose of submission of SD is fulfilled.

If the Supplier fails to deposit the SD within the extended period and no supplies are made, the order shall be cancelled and the case shall be processed to order elsewhere at firm's risk and cost. Moreover, the firm's performance is to be kept recorded for future dealings with them. Further, if during execution of the contract, the firm fails to extend the Bank Guarantee for Security Deposit, suitably as required, the same shall be recorded as unsatisfactory performance for future dealings apart from taking any other penal action as may be deemed fit by CIL.

6.7. In cases where the successful tenderer did not submit the security deposit even within the extended period for SD submission but has supplied the materials either in full or in part after the extended period for SD submission, the SD may be deducted from the first bill or in case of insufficient amount from subsequent bill(s) of the supplier till the full SD amount is deducted. Further, a penalty equivalent to 0.5% (half percent) of SD amount for delay of each week or part thereof (period of delay is to be calculated from the 31st day from the date of notification of award/ placement of order to the date of receipt of full SD/ deduction of full SD) shall be levied subject to a maximum of 10% of the contract value.

6.8. Security Deposit will be released with the approval of HOD of MM Department/ Area GM within 30 days after completion of supplies and acceptance of material by the consignee in case of supply contractor after successful commissioning and on receipt of confirmation of Performance Bank Guarantee(s) for all the equipment covered in the contract in case of contracts for equipment and all those items/ goods involving installation and commissioning and PBG.

6.9. Security Deposit may be converted into Performance Bank Guarantee (PBG) wherever PBG is required at the option of the supplier. At the time of conversion of security money into PBG, it should be ensured that the amount of PBG should not be less than 10% of landed value of order. Wherever Security Deposit is converted into PBG, the operation of such SDBG/ Performance BG shall be guided by Performance Bank Guarantee Clause.

6.10. All Central/State Government Organization/PSUs shall be exempted from submission of Security Deposit. OEM/OES shall also be exempted from submission of Security Deposit in case of procurement of Spare Parts for equipment against Single Tender Enquiry/Open/Limited Tenders.

6.11. Submission of Security Deposit is exempted for the contracts having value upto Rs.2 lakhs.

6.12. The SDBG will be submitted Through Structured Financial Management System (SFMS).

7. Performance Bank Guarantee

7.1. Wherever applicable, the successful bidder shall be required to furnish a Performance Guarantee equivalent to 10% value of the total landed value of the contract including all taxes, duties and other costs and charges, without considering Input Tax Credit.

7.2. The Performance Guarantee shall be in the form of a Bank Guarantee issued by a RBI scheduled bank in India in the prescribed format on a non-judicial stamp paper.

7.3. The Performance Bank Guarantee (PBG) shall be in the same currency (ies) in which contract has been signed. In case of multi-currency contract, separate PBG in respective currency for required value shall be submitted.

7.4. If the contract is for procurement of equipment, the PBG (s) may be submitted equipment wise also. For this purpose, the value of each equipment will be worked out by dividing the total value of contract for a particular item of NIT, worked out as per provisions contained in clause-7 above, by the number of equipment ordered for that particular item of the NIT.

7.5. The PBG (s) shall remain valid till 3 months after the completion of warranty period.

7.6. The PBG shall be submitted sufficiently in advance (say 3-4 weeks) to enable its verification from the issuing bank, before submission of the invoice for 80% payment of the particular goods/ equipment(s).

7.7. The release of the Performance Bank guarantee(s) after above indicated period, shall be subject to satisfactory performance of the equipment/ items during the warranty period and fulfillment of contractual obligations failing which, action for further extension or encashment of PBG, as deemed suitable shall be taken. The Performance Bank Guarantee shall be released after expiry of validity period if no claim is pending, with the approval of the concerned HOD (MM)/ Area GM.

7.8. In case of procurement of equipment, if the successful tenderer which does not have the After Sales Service Support facilities in India like Depot/ Warehouse for supply of spare parts, Workshop facilities for servicing and repair of assemblies, sub-assemblies and equipment, availability of trained technical manpower etc., training facilities for providing training to CIL's personnel, wherever required, additional Performance Bank Guarantee for the 30% value of the total landed value of the contract including all taxes, duties and other costs and charges shall have to be submitted. This 30% PBG will be released after establishment of After Sales Service Support facilities in India subject to confirmation of the same by concerned Head of Technical Department. However, the supplier shall have to submit PBG for 10% of the total contract value to be kept valid for the remaining period of the contract plus 3 months processing period before release of 30% PBG. This 10% PBG will be released after satisfactory performance of all equipment/ items and fulfillment of contractual obligations including warranty obligations.

7.9. The PBG will be submitted through Structured Financial Management System (SFMS).

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8. Inspections and Tests

8.1. The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract Specifications at no extra cost to the Purchaser. Generally, the Goods shall be of the best quality and workmanship and comply with the contract or supply order in all respect. The Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing, of the identity of the inspectors). The Purchaser reserves the right, at the Purchaser's cost, to depute its own inspectors) and/or to engage any other third party inspecting agency, to conduct inspections and tests pursuant to the Contract. Sufficient time, atleast 30 days in advance will be given for inspection.

8.2. The inspections and tests may be conducted on the premises of the Supplier, at point of delivery and/or at the Goods' final destination. If conducted on the premises of the Supplier, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser. However, any drawing and proprietary information provided for this purpose shall remain in control of the supplier. The inspector shall have full and free access at the supplier's works for the purpose of carrying out inspection. The Inspector shall have the right to put all the stores or materials forming part of the same or any part thereof to such tests as he may think fit and proper. The supplier shall not be entitled to object, on any ground whatsoever, to the method of testing adopted by the Inspector. Unless otherwise provided for in the contract, all stores/materials expended in test will be to supplier's account. In the event of Goods found acceptable by the Inspector during inspection, he shall furnish the supplier with necessary copies of Inspection notes for attaching to the supplier's bill.

8.3. Should any inspected or tested Goods fail to conform to the Specifications, including acceptance tests and periodic tests to verify guaranteed performance, the Purchaser may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet Specification requirements free of cost to the Purchaser within thirty days of such rejection. Replaced or altered goods shall be subjected to repeated inspection or tests to demonstrate conformity with the Specifications. In the event that replacement or alteration is not done within thirty day period as aforesaid, or, replaced or altered goods fail to demonstrate conformity with the Specifications in repeated inspections or tests as aforesaid, the Purchaser reserves the right to terminate the Contract in part or in whole and the Supplier shall repay forthwith to the Purchaser all monies paid including all costs incurred in the inspection and tests, in respect of Goods and Services associated therewith, for which the termination is applicable and, subsequently remove the same from the Purchaser's Site at the Supplier's cost.

8.4. Any Goods rejected at a place other than the premises of the supplier, shall be removed by the supplier within 14 days of the date of receipt of intimation of such rejection. The Inspector may call upon the supplier to remove what he considers to be dangerous, infected or perishable Goods, within 48 hours of the receipt of such intimation. The rejected stores shall under all circumstances lie at the risk of the supplier from the moment of rejection and if such stores are not removed by the supplier within the above mentioned period, the Inspector/Purchaser may either return the same to the supplier at the supplier's risk and cost (a public tariff rate) by such mode of transport as the Purchaser or Inspector may select or dispose of such stores at the supplier's risk on his account and retain in such portion of the proceeds as may be necessary to cover any expense incurred in connection with such disposal. The purchaser shall also be entitled to recover handling and storage charges for the period during which the rejected stores are not removed.

8.5. The Purchaser's right to inspect, test and where necessary, reject the Goods after the Goods' arrival in the Purchaser's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods' shipment from the Supplier's premises.

8.6. Nothing in this clause shall in any way relieve the Supplier of any warranty or other obligations under this Contract.

9. Packing and Marking

9.1. The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2. All packing cases, containers, packing and other similar materials shall be supplied free by the Supplier and these shall not be returned unless otherwise specified in the Contract/Purchase order.

9.3. The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the contract and in any subsequent instructions ordered by the Purchaser. Packages will be stamped with identification marks both outside the packages as well as on the contents inside. Packages containing articles liable to be broken by rough handling like glass or machinery made of cast iron will be marked with cautionary works like 'Fragile' 'Handle with care'.

9.4. The marking of the Goods must comply with the requirements of the law relating to Merchandise Mark, in force in India.

9.5. Packing instructions: The Supplier will be required to make separate packages for each consignee. Each package will be marked on three sides with proper paint with the following:

- i. Project;
- ii. Contract No;
- iii. Country of origin of Goods;
- iv. Supplier's name;
- v. Packing list Reference Number;
- vi. The gross weight, net weight and cubic measurement;
- vii. Consignee Name and Address;

9.6. A complete list of contents in each package called the packing list will be prepared and one copy of the packing list shall be inserted inside the package.

10. Delivery and Documents

10.1. The delivery period stipulated in the Contract/Purchase Order shall be deemed to be the essence of the contract and delivery of the Goods must be completed within the specified period.

10.2. Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The delivery of Goods shall be deemed to take place on delivery of the Goods in accordance with the terms of the contract after approval of Goods by the Inspector.

10.3. For purposes of the Contract, "EXW", "FOB", "FCA", "CFR", "CIF", "CIP" and other trade terms used to describe the obligations of the Parties shall have the meanings assigned to them by the prevailing edition of *Incoterms* on the date of tender opening, published by the International Chamber of Commerce, Paris.

10.4. The details of shipping documents to be furnished by the Supplier are specified below:

(a) For Imported Goods:

Within forty eight (48) hours of shipment, the Supplier shall notify the Purchaser, Port Consignee and Ultimate Consignee by fax and email, full details of the shipment including Contract number, description of Goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall deliver by express courier service the following documents to the Purchaser, with a copy to the Port Consignee and Ultimate Consignee:

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- i. Supplier's shipping invoice showing Contract Number, Goods description, quantity, unit price, total amount and GST number of ultimate consignee;
- ii. Clean on-board bill of lading indicating the Importer-Exporter Code (IEC) of the concerned Subsidiary Company of CIL and non-negotiable bill of lading;
- iii. Packing list identifying contents of each package;
- iv. Manufacturer's/Supplier's warranty /guarantee certificate;
- v. Manufacturer's Test & Inspection certificate;
- vi. Certificate of Country of Origin issued by the Chamber of Commerce of Manufacturer's Country;
- vii. Documentary evidence of marine freight & marine insurance

The above documents shall be sent by supplier well in advance, so that the same are received by the Purchaser at least one (1) week before arrival of the Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.

(b) For Domestic Goods from within India:

Upon dispatch of the Goods to the consignee, the Supplier shall notify the Purchaser and Ultimate Consignee and deliver by express courier service the following documents to the Purchaser with a copy to the Ultimate Consignee:

- i. Supplier's invoice showing Contract Number, Goods description, quantity, unit price, total amount;
- ii. Railway receipt/ Transporter's consignment note /acknowledgement of receipt of Goods from the consignee(s);
- iii. Manufacturer's/Supplier's warranty / guarantee certificate;
- iv. Manufacturer's Test & Inspection certificate;

The above documents shall be provided by the supplier at the time of arrival of the Goods at the consignee's end. In case of delay, the Supplier will be responsible for any consequent expenses.

11. Insurance

11.1. Wherever necessary, the goods supplied under the contract, shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, delivery, storage and erection and commissioning at site (wherever applicable) in the manner specified in the contract. The insurance is to be done for coverage on "all risks" basis including war risks and strike clauses. The amount to be covered under insurance should be 110% of the invoice value to take care of the overall expenditure to be incurred by the purchaser for receiving the goods at the destination.

11.2. Where delivery of imported goods is required by the purchaser on CIF/CIP basis, the supplier shall arrange and pay for marine/air insurance, making the purchaser as the beneficiary. Where delivery is on FCA/ FOB/ CFR basis, marine/air insurance shall be the responsibility of the purchaser.

11.3. In case of domestic supplies on Free Delivery at site/FOR Destination basis, the supplier has to arrange insurance at its cost. For Ex-works and FOR station of dispatch contracts, it is the responsibility of the purchaser to arrange for insurance.

11.4. Where the delivery of the Goods is on CIP Basis, the supplier shall deliver the goods at the named place of destination at its own risks and costs. CIL has no obligation to the supplier for arranging insurance. However, CIL will provide the supplier upon request, with necessary information for obtaining insurance.

11.5. Where the delivery of the Goods is on FOR destination Basis, the supplier shall deliver the goods at the FOR destination site at its own risks and costs. CIL has no obligation to the supplier for arranging insurance. However, CIL will provide the supplier upon request, with necessary information for obtaining insurance".

12. Transportation

12.1. In case of FOB (Port of Shipment) contracts, the purchaser has to arrange transportation its own cost and risk.

12.2. In case of CIF (Port of Destination) contracts, transport of the goods to the port of destination in the Purchaser's country, as shall be specified in the contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. In case of inland transportation of goods, the same is to be done through registered common carriers only.

12.3. In case of CIP (Final Place of Destination) contracts, transport of the goods to the port of destination and further to the named place of Final Destination in the Purchaser's country, as shall be specified in the contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. In case of inland transportation of goods, the same is to be done through registered common carriers only.

12.4. In case of FOR Destination contracts, transport of goods to the Destination site shall be arranged and paid for by the supplier and the cost thereof shall be included in the contract price. Transportation of goods is to be done through registered common carriers only.

13. Warranty

13.1. The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in the purchaser's country.

13.2. This warranty shall remain valid for twelve (12) months from the date of Commissioning of the equipment. However in case of other Goods, warranty shall remain valid for eighteen (18) months from the date of receipt acceptance of material at consignee's end or twelve (12) months from the date of its use / fitment / commissioning, whichever is earlier

13.3. The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty. The Supplier shall, within thirty days, repair or replace the defective Goods or parts thereof, free of cost at the ultimate destination. The Supplier shall take over the replaced parts/Goods at the time of their replacement. No claim whatsoever shall lie on the Purchaser for the replaced parts/Goods thereafter.

13.4. If the Supplier, having been notified, fails to remedy the defect(s) within thirty days, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

13.5. For the goods whose life is less than twelve (12) months, the warranty period will depend on the nature of the item under procurement and shall accordingly be specified in SCC.

14. Payment

14.1. Specific payment terms may be stipulated in the NIT and the resultant contracts depending on the nature of goods to be procured, as per provisions contained in Chapter-22.

14.2. Payment for Indian Agency Commission

The payment of Indian Agency Commission, if any, involved, may be considered in case of necessity, subject to compliance of the Government of India guidelines issued from time to time. Agency commission, if any, shall be paid in equivalent Indian Rupees, after erection and commissioning of the equipment, wherever applicable, within twenty-one days of submission of bills along with following documents:

- (A) Copy of foreign principal's invoice.
- (B) Copy of bill of lading.

(C) Certificate from State Bank of India regarding Bill selling exchange rate ruling on the date of bill of lading (in case of bank holiday on date of bill of lading, Bill Selling exchange rate on next working day shall be considered).

(D) In case of procurement of equipment, commissioning certificate signed by the concerned officials of the Project and counter-signed by the Area General Manager and HOD of Technical Dept, of the subsidiary company, where the equipment has been deployed.

14.3. In order to enable the purchaser to avail Input Tax Credit as per applicable Indian laws, the supplier shall furnish all the necessary documents to the consignee / paying authority as required, failing which the equivalent deduction will be made from the supplier's bills. In case of successful bidder(s), if at the time of supply, it is found that Input Tax Credit as per Invoice (Credit available to CIL / Subsidiary on this account) is less than the "Input Tax Credit Amount" declared in the Price Bid, the differential amount between the two shall be deducted from the Supplier's bills while making payment to them. If the evaluation of the supplier has been made considering the concessional rate of customs duty applicable for import from certain countries under trade agreements / treaties with Govt, of India, all the required documentation for availing concessional customs duty and subsequent customs clearance etc. will be provided by the supplier failing which the equivalent deduction will be made from their bills.

15. Changes in Order

The Purchaser may at any time, by a written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:

- a) drawings, designs or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- b) the method of shipment or packing;
- c) the place of delivery; and/or
- d) the place of Services to be provided by the Supplier.

16. Contract Amendments

Subject to relevant clause of GCC, no variation in or modification of the terms of the Contract/ Purchase Order shall be made except by written amendment issued against the Contract/ Purchase Order.

17. Assignment

The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Purchaser's prior written consent. However, the consent of the Purchaser shall not relieve the supplier from any obligation, duty or responsibility under the contract.

18. Subcontracts

The Supplier shall notify the Purchaser in writing of all subcontracts awarded by it to discharge the works under this Contract. Such notification, in the original bid or later, shall not relieve the Supplier of any liability or obligation under the Contract and the supplier will be solely responsible for all obligations under the contract.

19. Delays in the Supplier's Performance

19.1. Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Purchaser in the Schedule of Requirements.

19.2. If at any time during performance of the Contract, the Supplier or its Subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, by way of an amendment to the Contract/ Purchase Order.

19.3. Except as provided under Force Majeure clause, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages, unless an extension of time is agreed upon pursuant to relevant clause without the application of liquidated damages.

20. Liquidated Damages

20.1. In the event of failure to deliver or dispatch the equipment/stores within the stipulated date/period in accordance with the terms and conditions and the specifications mentioned in the supply order and in the event of breach of any of the terms and conditions mentioned in the supply order, the Purchaser shall have the right:

- (a) To recover from the successful bidder as agreed liquidated damages, a sum not less than 0.5% (Half Percent) of the price of any equipment/stores which the successful tenderer has not been able to supply as aforesaid for each week or part of a week during which the delivery of such stores may be in arrears limited to 10% (Ten Percent) of the total contract value, or
- (b) To purchase elsewhere after due notice to the successful tenderer on the account and at the risk of the defaulting supplier, the equipment/stores not supplied or others of similar description without cancelling the supply order in respect of the consignment not yet due for supply, or
- (c) To cancel the supply order or a portion thereof, and if so desired to purchase the equipment/ stores at the risk and cost of the defaulting supplier and also,
- (d) To extend the period of delivery with or without penalty as may be considered fit and proper. The penalty, if imposed, shall not be more than the agreed liquidated damages referred to in clause (a) above.
- (e) To forfeit the security deposit fully or in part.
- (f) Whenever under this contract any sum of money is recoverable from and payable by the supplier, the Purchaser shall be entitled to recover such sum by appropriating in part or in whole by deducting any sum or which at any time thereafter may become due to the successful tenderer in this or any other contract. Should this sum be not sufficient to recover the full amount recoverable, the successful tenderer shall pay the Purchaser on demand the remaining balance. The supplier shall not be entitled to any gain on any such purchase.

20.2. For the purpose of the calculation of the liquidated damages amount, the basic FOR Destination price shall be considered. For direct imports, the CIP price at Final Place of destination will be considered. Taxes and duties shall not be taken into account for calculation of LD. However, when prices indicated in the order are inclusive of taxes and duties, such prices will be taken for calculation of LD.

21. Termination for Default and breach of contract

21.1. The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

(a) If the supplier fails to deliver any or all of the stores within the time period(s) specified in the contract, or any extension thereof granted by the Purchaser; or

(b) If the supplier fails to perform any other obligation under the contract within the period specified in the contract or any extension thereof granted by the purchaser; or

(c) If the Supplier, in the judgement of the Purchaser, has violated code of Integrity for Public Procurement in competing for or in executing the contract.

21.2. For the purpose of this Clause:

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Code of Integrity for Public Procurement (CIPP):

The supplier shall observe the highest standard of ethics while competing for and during execution of contracts.

The following practices would amount to violation of CIPP:

- i. "Corrupt Practice" means making offers, solicitation or acceptance of bribe, rewards or gifts or any material benefit, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process or contract execution;
- ii. "Fraudulent Practice" means any omission or misrepresentation that may mislead or attempt to mislead so that financial or other benefits may be obtained or an obligation avoided. This includes making false declaration or providing false information for participation in a tender process or to secure a contract or in the execution of a contract;
- iii. "Anti-competitive Practice" means any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under the purview of The Competition Act 2002, between two or more bidders, with or without the knowledge of the Purchaser, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels;
- iv. "Coercive Practice" means harming or threatening to harm, directly or indirectly, at any stage, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
- v. "Conflict of interest" means participation by a bidding firm or any of its affiliates that are either involved in the consultancy contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of Procuring Entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) bidder from the Procuring Entity with an intent to gain unfair advantage in the procurement process or for personal gain; and
- vi. "Obstructive practice" means materially impede the Procuring Entity's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/ or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the Procuring Entity's rights of audit or access to information.

21.3. In the event the Purchaser terminates the Contract in whole or in part, pursuant to relevant clause, the Purchaser may procure on such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

22. Force Majeure

22.1 Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable. Such events may include, but are not restricted to, acts of the purchaser either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, freight embargoes and act of God.

22.2 If there is delay in performance or other failures by the supplier to perform its obligation under the contract due to an event of a Force Majeure and the contract is governed by Force Majeure Clause, the supplier shall not be held responsible for such delays/failures.

22.3 In such a situation, the supplier shall promptly notify the purchaser in writing of such conditions and the cause thereof, duly certified by the local Chamber of Commerce or Statutory authorities, the beginning and end of the causes of the delay, within twenty one days of occurrence and cessation of such Force Majeure Conditions. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

22.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.

22.5 For delays arising out of Force Majeure, the supplier will not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure.

22.6 There may be a Force Majeure situation affecting the purchaser also. In such a situation, the purchaser is to take up with the supplier on similar lines as above for further necessary action.

22.7 The contract shall be governed by the following Force Majeure Clause:

"If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, freight embargoes or act of God (hereinafter referred to "events ") provided, notice of the happening of any such event is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance, and deliveries under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, PROVIDED FURTHER that if the performance in whole or part or any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, either party may at its option terminate the contract provided also that if the contract is terminated under this clause, the purchaser shall be at liberty to take over from the contractor at a price to be fixed by the CIL/Subsidiary Company, which shall be final, all unused, undamaged and acceptable materials, bought out components and stores in course of manufacture in the possession of the contractor at the time of such termination or such portion thereof as the purchaser may deem fit excepting such materials, bought out components and stores as the contractor may with the concurrence of the purchaser elect to retain."

23. Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

24. Termination for Convenience

24.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

24.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

- a) to have any portion completed and delivered at the Contract terms and prices; and/or
- b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

25. Governing Language

The Contract shall be written in English language. All correspondence and other documents pertaining to the Contract which are exchanged by the Parties shall be written in the same language.

(Handwritten signature)

(Handwritten mark)

26. Taxes and Duties

26.1 A foreign Supplier shall be entirely responsible for all taxes, duties, license fees and other such levies imposed outside the Purchaser's country. The foreign supplier shall also be responsible for all taxes & duties in Purchaser's country legally applicable during execution of the contract other than those which are to be paid by purchaser, as specified in as per relevant clause of NIT.

26.2 A Domestic Supplier shall be entirely responsible for all taxes, duties, licence fees etc., incurred until the execution of the contract, other than those which are to be paid by purchaser, as specified in as per relevant clause of NIT.

27. Limitation of Liabilities

Except in cases of criminal negligence or willful misconduct)

27.1 Notwithstanding anything herein to the contrary, no party shall be liable for any indirect, special, punitive, consequential or exemplary damages, whether foreseeable or not, arising out of or in relation to this contract, loss of goodwill or profits, lost business however characterised, any/ or from any other remote cause whatsoever.

27.2 The supplier shall not be liable to the purchaser for any losses, claims, damages, costs or expenses whatsoever arising out of or in connection with this contract in excess of the contract value of the Goods & Services hereunder which caused such losses, claims, damages, costs or expenses.

27.3 However, the limitation of liability of the supplier indicated above shall not apply to Liquidated damages.

28. Settlement of commercial disputes in case of contracts with Public Sector Enterprises/ Govt. Dept.(s)

28.1 In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between CPSEs and Government Departments/ Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for its resolution through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD), as per the guidelines stipulated in the Office Memorandum No. 4(1)/2013- DPE(GM)/FTS-1835 dated 22.05.2018 of Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises, Govt, of India.

28.2 In case of contract with a Public Sector Enterprise or Govt. Dept., the following Arbitration Clause shall be incorporated in the contract:-

"In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contracts) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/ Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS- 1835 dated 22.05.2018."

29. Progress Reports

29.1 The Supplier shall from time to time render such reports concerning the progress of the contract and/or supply of the stores in such form as may be required by the Purchaser.

29.2 The submission, receipt and acceptance of such reports shall not prejudice the right of the Purchaser under the contract nor shall operate as an estoppel against the Purchaser merely by reason of the fact that he has not taken notice of or objected to any information contained in such report.

30. Provisions of CIL's Purchase Manual

The provisions of CIL's Purchase Manual and its subsequent amendments (Available on CIL's website, www.coalindia.in) shall also be applicable, if not specified otherwise in this Bid document.

31. Applicable Law

The Contract shall be governed by the laws of the Republic of India, unless otherwise specified in the bid document.

32. Jurisdiction of Courts

32.1 Irrespective of the place of delivery, the place of performance or place of payment under the contract, the contract shall be deemed to have been made at the place from where the acceptance of tender or supply order has been issued.

32.2 The courts of the place from where the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of the contract.

33. Notices

33.1 Any notice given by one Party to the other pursuant to this Contract shall be sent to the other Party in writing or facsimile to be confirmed in writing, to the other Party's address. For the purpose of all notices, the following shall be the addresses of the Purchaser and the Supplier (as indicated in the Contract / Order)

33.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

33.3 In case of change in address, the Supplier shall immediately notify the same to the Purchaser in writing. The supplier shall be solely responsible for the consequences of omission to notify the change of address to the Purchaser.

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