



Bharat Coking Coal Limited
(A Subsidiary of Coal India Limited)
(A GOVT. OF INDIA UNDERTAKING)
Koyla Bhawan, Koyla Nagar, Post- B.C.C.L. Township,
DHANBAD-826005 (Jharkhand)
OFFICE OF THE GENERAL MANAGER (MM)
Phone No. 0326-2230181 Fax No. 0326-2230183
(UNDER JURISDICTION OF DHANBAD JARKHAND COURT ONLY)

Purchase Order

Ref: PUR/610143/Water Sprinkler/11-12/13-14/89

Dated 27.07.2013

To,
M/s BEML Limited,
KAMALKUNI, KOLAKUSMA,
PO-SARAIHELIA,
DHANBAD, JHARKHAND - 828127

Vendor Code-1/22/M/P/011
Vendor Type-OEM
Ph No-0326 2208982
FAX NO-0326-2200182

EMAIL- bemldhw@rediffmail.com, ghanbad@bml.beal.co.in

Sub: Supply of 28KL Water Sprinkler with 06 Years MARC

Ref: Your offer No BEML/MFM/BCCL TENDER/WS28-2/12-13/2406(OLB) Dated 20.03.2013 read with subsequent clarifications last being BEML/vs28-2/13-14/ed(m) (Camp Dhanbad)/451 dated 21.06.2013 against this office Domestic E-Tender No PUR/610143/Water Sprinkler/11-12/13/117 Dated: 22.01.2013, offline due on 20.03.13 & online due on 21.03.13 read with subsequent letters Last being PUR/610143/Water Sprinkler/11-12/13/760 dtd. 15/16.05.2013

Dear Sirs,

Your above referred offer for supply of 28KL Water Sprinkler with 06 Years MARC has been accepted to the extent as indicated hereunder:-

1. SCOPE OF SUPPLY

A. Equipment:

Description	Qty- (Nos)	Basic Ex Works Price / Unit(Rs)	Extended value (Rs)
Equipment Package - Water Sprinkler 28KL (BEML Model WS28-2) (Replacement/NCD). Supplementary Items - First fill of all oils, grease and lubricants needed for test and commissioning of equipment, Information and Drawings, Erection/Assembly, Commissioning and Performance Testing, Training (detail scope & specifications as per Annexure A)	9	9991000.00	89919000.00
Excise Duty extra as applicable. Present rate is ED @ 12.36% inclusive of Education cess	9	1234887.60	11113988.40
Other levies (Automobile cess @ 0.125% on basic price	9	12488.75	112398.75
CST extra as applicable. Present rate is @2% on Basic price + ED	9	224517.75	2020659.77
Freight inclusive of Service Tax @ 12.36%	9	239710.00	2157390.00
Insurance Inclusive of service tax @ 12.36%	9	2360.91	21248.19
SubTotal -Landed value of Equipment	9	11704965.01	105344685.11
Spares required for 12 months from the date of commissioning of the equipment as per Annexure B	9	262860.00	2365740.00
Excise Duty extra as applicable on spares & consumable. Present rate is ED @ 12.36% inclusive of Education cess	9	32489.50	292405.50
JVAT extra as applicable on spares. Present rate is @ 14% on Basic price + ED	9	41348.93	372140.37
SubTotal -Landed value of Spares required for 12 months from the date of commissioning of the equipment	9	336698.43	3030285.87
Consumables required for 12 months from the date of commissioning of the equipment	9	479398.00	4314582.00
Excise Duty extra as applicable on consumable (Oil & lubricants) Present rate is ED @ 14.42% inclusive of Education cess	9	69129.19	622162.71

Handwritten signatures and dates:
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JVAT extra as applicable on consumable. Present rate is @ 14% on Basic price + ED	9	76793.81	691144.29
SubTotal -Landed value of Consumables required for 12 months from the date of commissioning of the equipment	9	625321.00	5627889.00
TOTAL PURCHASE VALUE	9	12666984.44	114002859.98
		Rounded off to	114002860.00
Rs ELEVEN CRORE FORTY LAKHS TWO THOUSAND EIGHT HUNDRED SIXTY ONLY.			
Total MARC Price for 6 years		29234626.20	263111635.80
Total Purchase Value Including MARC			377114495.80

Supply Point:

Equipment: Supply and billing will be from BEML Limited, Belvadi Post, Mysore, Karnataka 570 018

Spares & Consumables: Supply and billing will be from BEML Limited, Dhanbad

B. MARC:

MARC agreement for a period of Six years (including one year warranty) is to be signed separately by the Purchaser and MARC holder (M/s. BEML Limited, Dhanbad) and documented as per NIT and as agreed by you (Draft copy shall be provided). The MARC agreement will be an integral part of this supply order.

Year wise hourly Spares and Supervision & Overhead Charges for MARC indicated below for expected annual working hours of 4500 Hrs.

Year	Total Spares and consumables charges per working hour of equipment including all taxes & duties (in Rs.)	Supervision and overhead charges per available hour of equipment excluding service tax. (in Rs.)
1	NIL	334.00
2	321.00	354.00
3	732.00	374.00
4	918.00	399.00
5	882.00	429.00
6	1002.00	461.00

NOTE: Present applicable rate of service tax on supervision and overhead charges is 12.36%.

2. **TOTAL PURCHASE VALUE (Equipment):** Rs 114002860.00 (Rupees ELEVEN CRORE FORTY LAKHS TWO THOUSAND EIGHT HUNDRED SIXTY ONLY). The above price is on Ex-works Mysore basis & firm till completion of order; however the contract is concluded on F.O.R. destination basis. Duties & taxes and other charges are payable extra as indicated in the scope of supply above.

3. **EXCISE DUTY WITH EDUCATION CESS:** Shall be paid extra at legally applicable rates at the time of delivery, subject to production of documentary evidence. Present rate is @ 12.36% on basic price of equipment, spares & @ 14.42% for Lubricants(Consumables) for 1st year. Refund/Credit, if any, obtained shall be passed on to the buyer which shall be certified by your auditor and to be submitted along with your bill.

BCCCL is entitled to avail CENVAT credit on account of Excise duty for Indigenous products and Countervailing Duty and Special additional duty for imported products. The invoice issued by the supplier should contain the following element as per Central excise rule:-

- Name and address of assessee
- Serial No. of Invoice (should not be hand written)
- Central excise duty Registration No.(assessee & consignee)
- Address of the concerned Central Excise Division
- Range and commissionerate.(assessee & consignee)
- Name and address of the consignee
- Description and Classification of the goods
- Time and date of removal
- Mode of Transport and vehicle registration number

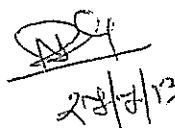
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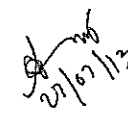
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- Rate of duty
- Quantity and value of goods and the Duty payable thereon.
- Education Cess and Higher Education Cess to be shown separately for complying with CENVAT Credit rules.
- Five copies of invoice are to be submitted among those original copies being marked as the "original for buyer", duplicate as "duplicate for transporter".
- Invoice issued by input service providers should contain the Following information:
 - Serial No. of invoice (should not be hand written)
 - Name, address and registration no. of person providing taxable service.
 - Name and address of the person receiving taxable service.
 - Description, classification and value of taxable service provided or to be provided
 - Service tax payable thereon
 - Education Cess and Higher Education Cess to be shown separately for complying with CENVAT Credit rules.

Consignor/Service providers should show excise/service tax element separately in their offer and invoice should be raised as per Cenvat credit rules as stated earlier.

4. **SALES TAX:** CST shall be paid extra @2% against form "C" on price of equipment and VAT @14% on Spares & Consumables.
NB: Any increase in duties & taxes after expiry of delivery period shall be to your account. Road permit, if required, shall be obtained from the consignees.
 5. **PACKING & FORWARDING CHARGES:** NIL.
 6. **FREIGHT/TRANSPORTATION CHARGES INCLUSIVE OF SERVICE TAX:** To be paid extra at actual subject to a maximum of Rs.2,39,710.00 (Rupees Two lakh Thirty Nine Thousand Seven Hundred & Ten only) per equipment subject to production of documentary evidence. The transport charge is inclusive of service tax at legally applicable rate. Freight/Transportation Charges are not applicable for spares & consumable for 1st year.
 7. **TRANSIT INSURANCE INCLUSIVE OF SERVICE TAX:** To be paid extra at actual subject to a maximum of Rs. 2,360.91 (Rupees Two Thousand Three Hundred Sixty and paise Ninety one only) per Equipment subject to production of documentary evidence. The transit insurance charge is inclusive of service tax at legally applicable rate. Transit Insurance Charges are not applicable for spares & consumable for 1st year.
 8. **TERMS OF PAYMENT:**
FOR EQUIPMENT:
 - (a) 80% value of each equipment and the accessories and 100% Excise duty and full concessional ST/CST along with 100% transportation & Insurance charges will be paid within 21 days after delivery of the equipment and receipt and acceptance of performance bank guarantee. The equipment should be accompanied with relevant dispatch documents like Challan, Maker's Test Cum Inspection Certificate Warranty Certificate, Pre dispatch inspection certificate wherever applicable etc.
 - (b) Balance 20% payment shall be made within 21 days of successful completion of erection testing, commissioning and final acceptance of the equipment (along with accessories) at site upon presentation of a certificate from the project Officer the effect that the equipment has been erected and commissioned to their entire satisfaction.
- FOR MARC**
- i. Billing Schedule
 - ii. On the first working day of each month, BCCL shall notify in writing to the MARC Holder the readings of the Service Hours Meter recorded in the previous month in respect of each equipment. The Available Hours and the Working Hours will be calculated based on the above readings of Service Hours Meter and the equipment Log-Book to be maintained jointly by BCCL and MARC holder as per Clause-7 (i), Part- F, Sec-VI.
 - iii. The MARC Holder may within 5 days of the succeeding month provide to BCCL an invoice, along with the following documents, for monthly price payable to it for the preceding month:
 - a). Certified copy of the relevant pages of the Equipment Log-Book applicable for the particular month;
 - b). Certified copy of the notification of readings of Service Hour Meter applicable for the particular month.


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- iv. If BCCL agrees with the amount of the invoice after audit and verification, it shall make the payment of the invoice to the MARC Holder within 21 (twenty one) days from the date of receipt and acceptance of the invoice.

BCCL is making payment of supplier's bills through Electronic Fund Transfer (EFT). Bidders are therefore, advised to indicate their Bank Account number and other Bank Details in their Invoice.

Name of the Bank.

Name of the Branch with complete address.

Party's Account Style.

Party's nature of Account.

Party's Account Number..

Your E-Payment mandate is enclosed as ANNEXURE-R

9. **DELIVERY:** Supply shall commence within 3 months from the date of receipt of purchase order and supply to be completed within 6 months from the date of receipt of purchase order. Delivery schedule shall be reckoned from the 10TH day from the date of order and the date of receipt of materials at our stores shall be treated as the date of delivery. Early delivery shall be accepted.

10. **LIQUIDATED DAMAGES CLAUSE:** The bidders will confirm their acceptance of the following:
In the event of failure to deliver/dispatch the equipment/stores within the stipulated date/period to effect supply 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, Bharat Coking Coal Ltd., shall be entitled at its option either to enforce the following:

- To recover from the successful bidder as agreed liquidated damages, a sum not less than 0.5%(Half Percent) of the price of any 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) and where felt necessary by BCCL, it may be increased up to 15 %.
- To cancel the supply order or a portion thereof, and if so desired to purchase the stores at the risk and expenses of the defaulting supplier and also/or
- To purchase elsewhere after 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
- To extend the period of delivery with or without liquidated damages as may be considered fit and proper. The liquidated damages if imposed, shall not be more than the agreed liquidated damages referred to in CLAUSE 9 (a) above except in case of force majeure condition
- Whenever under this contract any sum of money is recoverable from and payable by the supplier, Bharat Coking Coal Limited, 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. Bharat Coking Coal Limited, the balance amount on demand the remaining balance. The supplier shall not be entitled to any gain on any such purchase.

To forfeit the security deposit fully or in part.

11. **CONSIGNEE:**

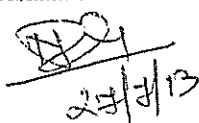
The equipment allocated to the mine /projects/ areas as follows which is subject to change as per the requirement of purchaser:

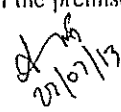
Sl No.	Area/Project	Quantity
1	Barora, Area	01 Nos
2	Block II,	01 Nos
3	Govindpur, Area,	01 Nos
4	Katras, Area.	01 Nos
5	Sijua Area	01 Nos
6	Kusunda Area	01 Nos
7	Bastacola . Area	01 Nos
8	Lodna, Area.	01 Nos
9	CV, Area	01 Nos
	TOTAL	09 Nos

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12. **PAYING AUTHORITY:** The General Manager (Finance)/MM, Koyla Bhawan: Koyla Nagar, Dhanbad
13. **SECURITY DEPOSIT:** For Equipment Spares & Consumable for 1st Year: Exempted being a CPSU under the Ministry of Defence; Govt of India.
For MARC: You will be required to deposit as security money 10% of the value of the Maintenance & Repair Contract (including Taxes, duties, and other charges to the FOR Destination prices) without having any ceiling in the form of Cash/ Bank Draft / Bank Guarantee within 15 days from the date of order. If the successful tenderer fails to deposit the security deposit within 15(fifteen) days from the date of order, the same shall be recorded as unsatisfactory performance for future dealings apart from taking any other penal action as may be deemed fit by BCCL. For successful tenderers, the Security Money shall be refunded within 30 days of satisfactory execution of contract. For unsatisfactory execution of contract and / or failure of execution of contract, the security money shall be forfeited. The Bank Guarantee should be submitted on Rs.250/- non-judicial stamp paper as per the enclosed format at enclosed Annexure-C
The value of SECURITY DEPOSIT for MARC is Rs 2,63,11,164.00 or Rs 29.23.463/Equipment
14. **COMPOSITE GUARANTEE / WARRANTY:** as indicated in Technical Specification (ANNEXURE-A)
15. **PERFORMANCE GUARANTEE:** In accordance with the provisions of clauses 7 & C7 of the Technical Specifications, you shall guarantee that the availability of the equipment shall be not less than 85% (eighty five per cent) for a period of 12 months from the accepted date of commissioning. You shall furnish a Performance Guarantee equivalent to 10% of the total value of the supply order / contract (by adding Excise Duty and Sales Tax etc to the FOR destination price of the equipment ordered). The performance guarantee shall be submitted in the form of a Bank Guarantee issued by a scheduled bank in the format attached as ANNEXURE-C-I (on a non judicial stamp paper of value Rs.250.00 only). This Bank Guarantee shall be initially valid for a period of 18 months from the date of receipt and acceptance of equipment and the same shall either be released or extended depending upon the merit of the case. This Performance Guarantee shall be for the performance of the Contract / Supply Order.
Submission of Bank Guarantee: The original Bank Guarantee should be sent to the beneficiary directly by the issuing Bank under Registered Post (A.D.). However, in exceptional cases, where the Bank Guarantee is handed over to the customer for any genuine reasons, the issuing branch should immediately send by Registered Post (A.D.) an unstamped duplicate copy of the guarantee directly to the beneficiary with a covering letter requesting them to compare with the original received from supplier and confirm that it is in order. The A.D. card should be kept with the loan papers of the relevant guarantee.
The value of PERFORMANCE BANK GUARANTEE for Equipment, Spares & consumable for 1st year is Rs 1,14,00,286.00 or Rs 12.66,699/Equipment
16. **INTEGRITY PACT:** The Integrity Pact document signed by you is enclosed as ANNEXURE-S. This Integrity Pact is deemed to have been signed by BCCL Authorities
Name of Independent External Monitor is:
Justice Ashok Kumar Chakra barty (Retd)
BB-69, Sector-I, Salt Lake
Kolkata-700064
17. **PRICE FALL CLAUSE** – The price charged for the Stores / Equipment supplied against the order, if placed, shall in no event exceed the lowest price at which the bidder shall sell or offer to sell the Stores / Equipment of identical description to its any customer during the pendency of the Contract / Supply Order. If the successful tenderer at any time during the pendency of the Contract / Supply Order sells or offers to sell such stores to any customer, at a price lower than the price stipulated in the Contract / Supply Order placed by BCCL, the successful tenderer shall forthwith notify to BCCL such reduction in sale price of stores / equipment supplied after such reduction coming into force shall stand correspondingly reduced.
18. **INSPECTION AND TESTS:**
- The purchaser or its authorized representative shall have the right to inspect and/or to test the goods to confirm their conformity to the contract. The purchaser shall notify the supplier in writing of the identity of any representative retained for these purposes.
 - The inspections and tests may be conducted on the premises of the supplier or its subcontractors), at point of delivery and/or at the goods final destination when conducted on the premises of the supplier

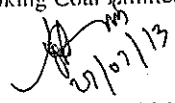

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- or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production date, shall be furnished to the inspectors at no charge to the purchaser.
- c) Should any inspected or tested Goods fail to conform to the specifications, the purchaser may reject them and the supplier shall either replace the rejected goods and make all alternatives necessary to meet specification requirements free of cost to the Purchaser.
 - d) 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 representatives prior to the Goods shipment from the country of origin.
 - e) Materials are subject to inspection by the purchaser before dispatch. The materials may also be subject to stage inspection by a third party nominated by BCCL for the purpose. Final inspection shall, however, be carried out at the consignee's end by GM(Excv); BCCL or his authorized representative
 - f) Nothing in these documents shall in any way release the supplier from any warranty or other obligations under this contract.
 - g) The purchaser shall, at its discretion, have the right to test the ordered material in a Government Test House or in a test house nominated by the purchaser. In case of failure of the material after testing, the cost of tests as well as of the material shall have to be borne by the supplier.
 - h) Pre-dispatch inspection by CM (Excv), 40 Kempe Gowda Road, 4th Floor, Geetha Mansion, Coal India Ltd., Bangalore – 560 009
19. **GENERAL TERMS AND CONDITIONS:** Unless otherwise specified in the purchase order, the Purchase order shall be subject to the General Terms and Conditions of Supply of Stores given as ANNEXURE -D. In case there is a conflict in any particular term of the NIT with the General Terms, the terms of the NIT will prevail.
20. **JURISDICTION:** Any dispute arising out of this enquiry shall come under the sole jurisdiction of the Dhanbad/Jharkhand High Court, (INDIA).

The contract is concluded with the issuance of this order. We are enclosing 2 copies of the Purchase Order, one of which should be returned to us duly stamped and signed.

Yours faithfully,
For & on behalf of Bharat Coking Coal Limited


(A D Santhish)
Chief Manager (MM)


24/7/13

S.O.No: 610143/89 dtd. 27.7.13

7.

Enclosures:

SL	ANNEXURE	DESCRIPTION
1	ANNEXURE - A	TECHNICAL SPECIFICATIONS comprising SECTION-V SCHEDULE OF REQUIREMENTS; PART I,II, SCHEDULE OF REQUIREMENTS OF SERVICES, SECTION VI - TECHNICAL SPECIFICATIONS PREFACE - INSTRUCTIONS TO BIDDERS A.SCOPE OF SUPPLY, B.SPECIFIC SITE REQUIREMENTS, PART C GENERAL REQUIREMENTS, D.TECHNICAL EVALUATION CRITERIA, PART E EQUIPMENT SPECIFICATIONS PART F MAINTENANCE AND REPAIR CONTRACT (MARC)
2	ANNEXURE - B	List of Spares for 1 st Year, List of Lubricants (Consumables) for 1 st Year.
3	ANNEXURE - C	Performa of Security Deposit
4	ANNEXURE-C-I	Performa of Performance Bank Guarantee.
5	ANNEXURE -D	General Terms and Conditions of supply of stores.
6	ANNEXURE - E	Performance of equipment under performance guarantee during warranty period
7	ANNEXURE - F	WS28-2 Water Sprinkler tool list
8	ANNEXURE - G	Quality Assurance Plan
9	ANNEXURE - H	Leaflet of WS28-2 Water Sprinkler
10	ANNEXURE - I	Engine performance curves.
11	ANNEXURE - J	Hydraulic system & circuit diagram
12	ANNEXURE - K	Auto Lube System
13	ANNEXURE - L	Ws28-2 Water Tank volume calculation
14	ANNEXURE - M	List of major bought-out items for WS28-2 Water Sprinkler.
15	ANNEXURE - N	Description & layout of auto fire detection and suppression system.
17	ANNEXURE - O	Training schedule.
18	ANNEXURE - P	Erection Program for WS28-2 Water Sprinkler.
19	ANNEXURE - Q	Maintenance schedule for WS28-2 Water Sprinkler
20	ANNEXURE - R	Authorization for E-Payment.
21	ANNEXURE - S	Integrity Pact.
22	ANNEXURE - T	Expected Life of Major Assemblies.
23	ANNEXURE - U	Result of Brake Test
24	ANNEXURE I , II & III	REPORTS FOR MARC

Copy to:

- GM(Excv) /GM(Excv)Cap, Koyla Bhawan : Koyla Nagar,Dhanbad
- The General Manager (Finance)/MM, Koyla Bhawan : Koyla Nagar,Dhanbad.
- The GM(Areas), Barora Area /Block-II/Govindpur Area/Katras Area/Sijua Area/Kusunda Area/Bastacolla Area/Lodna Area/CV Area
- GM(Company Secretary), BCCL, Koyla Bhawan : Koyla Nagar,Dhanbad – in ref. to BCCL: BCCL:CS:F-1(A):468 dated 02.07.2013
- GM(MM/Stores), Koyla Bhawan : Koyla Nagar,Dhanbad: in ref. to Indent Registration No 610143 dtd 23.12.12

Indent No	IR No of MM Divn	Qty (No)	Project/Area
RS/D/09-10/104 DTD 12.05.09	610143 Dtd 23.12.12	01	DAHIBARI OCP/CV AREA
BL-IV(X)/09-10/95 DTD 19/28.01.09	610143 Dtd 23.12.12	01	BLOCK-IV,AREA-III
90352 DTD 19/28.08.09	610143 Dtd 23.12.12	02	AKWM OCP,AREA-IV
RS/VI/CAP/10-11/07 DTD 21-04-10	610143 Dtd 23.12.12	02	VISHWAKARMA OCP,AREA VI
Ex/A8/08-09/03 DTD 29-01-09	610143 Dtd 23.12.12	02	RAJAPUR OCP/ENA FIRE PROJECT, AREA -VII
BCCL/CAP/09/09-10/25A DTD 14-07-09	610143 Dtd 23.12.12	01	GHANOODIH OCP, AREA IX

28/8/13

27/07/13

- GM(UMD),CMPDI Ltd,Gondwana Place,Kanke Road,Ranchi-8
- GM / GM (MM), ECL/ CCL/WCL/SECL/NCL/MCL
- CM (Excv), 40 Kempe Gowda Road, 4th Floor, Geetha Mansion, Coal India Ltd., Bangalore – 560 009
- The Depot Officer, RS/ Barora Area /Block-II/Govindpur Area/Katras Area/Sijua Area/Kusunda Area/Bastacolla Area/Lodna Area/CV Area,BCCL,Dhanbad.
- M/s ITI Ltd.,Regional Office,F-29,Ground Floor,Doorvani nagar,Bangalore-560016
- AM,Tech Cell,MM Divn, Koyla Bhawan : Koyla Nagar,Dhanbad
- The Independent External Monitor for Integrity Pact:-
Justice Ashok Kumar Chakra barty (Retd)
BB-69, Sector-I, Salt Lake
Kolkata-700064

This issues with approval of agenda item No 298.4N of the 298th BCCL Board meeting by the Board of Directors of BCCL and minutes communicated by Co.Secy vide BCCL:CS:F-1(A):468 dated 02.07.2013

For Equipment

eBC no BCCL/C&B/CAP/REG/PN-126/SN-09/eBC No 249 dated 23.07.2013 (cap -13-14) for Rs 11,40,02,860.00/-.


eFC No 66 Dated 23.07.2013for Rs 11,40,02,860.00/-


For MARC

Advance budget of Rs 166171001.61 by CM(F)C&B vide letter No BCCL/FIN(C&B)/12/D/303 dated 28.12.2012 for 2013-14 to 2018-2019

Additional / additional Advance budget of Rs 96940634.19 by CM(F)C&B vide letter No BCCL/FIN(C&B)/13/D/107 dated 26/27.07.2012 for 2013-14 to 2018-2019

Year	Approved Budget (Rs.)	Budget Alloted (Rs.)	Additional / additional Advance Bud. (Rs.)
2013-14	15198937.20	6080242.89	9118694.31
2014-15	29109553.20	21879976.03	7229577.17
2015-16	46665169.20	29106047.91	17559121.29
2016-17	55335814.20	31453767.40	23882046.80
2017-18	55242988.20	40056995.48	15185992.72
2018-19	61559173.80	37593971.90	23965201.90
Overall	263111635.80	166171001.61	96940634.19


27/07/13
Chief Manager (MM)



28/7/13

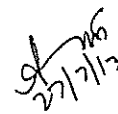
S.C.No: 610143/89 dtd. 27-7-13

ANX: 'A'

9.

BHARAT COKING COAL LIMITED						
Tender REF NO. PUR/610143/Water Sprinkler/11-12/13/117					Dated 22-01-2013	
TECHNICAL SPECIFICATIONS						
Description					BEML LIMITED; KAMAL KUNJ; KOLA KUSHMA,	
					Bidder to Agree	
S. No	Brief Description of Goods & Services	Quantity	Expected Delivery Schedule at Site			
1	28 KL Water Sprinkler	09 Nos	Commencing within 3 months from the date of receipt of purchase orders and supply to be completed within 6 months from the date of receipt of purchase orders.		AGREED	Noted and agreed.
2	Ancillary Equipment and other requirements for each of Item 1 as specified in Technical Specifications included in Section VI Attachments	In accordance with item 1	Delivery to be made along with the machine.		AGREED	Noted and agreed.
The quantities of equipment against which this procurement is being made are as follows:					AGREED	Noted and agreed.
Sl No.	Project with Consignee Address	Company	Total Requirement			
			Under NCD	Under PCD		
1	Govindpur Area	01 No	01 No	Nil		AGREED Noted and agreed.
2	Katras Area	02 Nos	02 Nos	Nil		AGREED Noted and agreed.
3	Kusunda Area	02 Nos	02 Nos	Nil		AGREED Noted and agreed.
4	Kustore Area	02 Nos	02 Nos	Nil		AGREED Noted and agreed.
5	Bastacola Area	01 No	01 No	Nil		AGREED Noted and agreed.
6	C V Area	01 No	01 No	Nil		AGREED Noted and agreed.


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Part II								
Sl. No	Brief Description of Services			Period/Quantum			AGREED	Noted and agreed.
1	Training of Purchaser's Personnel at the manufacturers works or elsewhere outside India.			Please refer to Schedule of Requirements of Services later in this Section and to the Technical Specifications.			AGREED	Noted and agreed.
2	Training of Purchaser's Personnel on Site.			Please refer to Schedule of Requirements of Services later in this Section and to the Technical Specifications.			AGREED	Noted and agreed.
3	Assembly and erection of equipment at Site in accordance with the Technical Specification and Conditions of Contract.			To be specified by the Bidder to comply with the Technical Specifications and the terms and Conditions of Contract.			AGREED	Noted and agreed.
<p align="center"><u>Note:</u></p> <p>1 Price for the equipment along with accessories should be quoted with Normal Custom Duty (NCD) for 09 nos. and Project Concessional Duty (PCD) for NIL nos. applicable for the imported contents.</p> <p>2. The bidder has to quote for full quantity of the tender as given above, otherwise their offer will not be considered.</p>							AGREED	Noted and agreed.
<p align="center">Schedule of Requirements of Services:</p> <p>The Supplier's scope of the Contract will include the following</p> <p>I. Type test on each equipment included in the technical specification and offered in the bid.</p> <p>II. Providing Services of Supplier's qualified engineer(s)/personnel for:</p> <p>A. unloading, transportation to site, storage at site and/or</p> <p>B. transportation from storage to erection site, installation, testing and commissioning.</p> <p>III. Training of Purchaser's Personnel:</p> <p>The Purchaser's estimates of the minimum training requirements (in terms of Purchaser's personnel, periods and locations) are given in the following table. These estimates relate to the total number of items of equipment specified in Part I</p>							AGREED	Noted and agreed.
Type of Personnel	At Manufacturer's Works			At Site			AGREED	Uploaded and enclosed with offline documents.
	No	Period	Total	No	Period	Total	AGREED	
Mech Engineer		weeks	weeks		1	Week	AGREED	
Elec Engineer		weeks	weeks		1	Week	AGREED	
Mech Supervisor		weeks	weeks		1	Week	AGREED	
Elec Supervisor		weeks	weeks		1	Week	AGREED	
Mech Fitter					1	Week	AGREED	
Electrician					1	Week	AGREED	
Operator					1	Week	AGREED	
Total			weeks			weeks	AGREED	
<p align="center">Definitions:</p>							AGREED	
Mech/Elect Engineer-			Graduate Engineer having basic knowledge of the equipment				AGREED	
Elect/Mech Supervisor -			Diploma Holder Engineer having basic knowledge of the equipment				AGREED	
Mech Fitters/Electricians/Operators -			Un-skilled, semi-skilled and skilled.				AGREED	

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ANNEXURE-I		AGREED	Noted and agreed.
Section VI - Technical Specifications Preface - Instructions to Bidders			
<p>Introduction</p> <p>These Technical Specifications identify the technical requirements of the Goods and Services which are the subject of this Tender. The Technical Specifications are presented in six parts as follows:</p> <p>A. Scope of Supply</p> <p>B. Specific Project Requirements</p> <p>C. General Requirements</p> <p>1) Geography and Climatic Conditions</p> <p>2) Goods (Equipment and Machinery)</p> <p>3) Services</p> <p>4) Standards</p> <p>5) Supplier's Responsibility</p> <p>6) Spare Parts Provisions</p> <p>7) Availability Provisions</p> <p>8) Deemed Breakdown</p> <p>9) Composite Warranty / Guarantee</p> <p>10) Special Conditions</p> <p>11) Quality Assurance</p> <p>D. Technical Evaluation Criteria</p> <p>E. Equipment Specifications</p> <p>F. MARC Proposal</p>		AGREED	Noted and agreed.
<p>Technical Response</p> <p>Bidders shall provide a Clause by Clause commentary demonstrating compliance with the Purchaser's Technical Specifications, identifying any deviations thereto, together with full supporting technical literature and data sheets.</p> <p>Wherever graphical representation of data (e.g load, power, performance curve) is required, the grid axis and data shall be properly and clearly labelled for ready comprehension.</p> <p>Additionally, Bidders shall provide the information specifically requested in the Attachment to the Technical Specifications.</p> <p>Failure to demonstrate compliance in all respects with the requirements of the Technical Specifications may render the bid non-responsive.</p> <p>Failure to provide any information requested in any part of this specification may deem the bid non-responsive</p>		AGREED	Noted and agreed.
<p>Site Visits</p> <p>The Bidder prior to making any Bid calculation and as part of the preparation of its Bid, shall be deemed to have visited and inspected the Site(s), made all enquiries and collected all information documentary or otherwise, including climatic conditions, as considered necessary by the Bidder for the proper and accurate preparation of its bid. A Bidder may visit the Site(s) by prior appointment with the purchaser. The number of Bidder's representatives permitted to make visits to the Site(s) shall be limited to a maximum of two.</p> <p>Bidders wishing to make appointments for Site Visits should do so in writing or by facsimile direct with the subsidiary company and concerned officer as detailed in the following schedule. Copies of all such communications should be transmitted by facsimile to:</p> <p>General Manager (MM) Bharat Coking Coal Ltd. Koyla Bhawan, Koyla Nagar Annexue Building (4th Floor) Dhanbad-826005 (Jharkhand), India Fax 91 (0)326 2230183</p>		AGREED	Noted and agreed.
Subsidiary Company	Project	AGREED	Noted and agreed.
Bharat Coking Coal Limited Koyla Bhawan, Koyla Nagar Dhanbad - 826005 Fax: 91(0) 326 2230177 Tel : 91(0) 326 2230177 Attention: General Manager (Excv)	All projects	AGREED	Noted and agreed.


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<p>A. Scope of Supply</p> <p>A.1 Equipment Package</p> <p>The Supplier is required to provide a complete package of equipment for the supply of 28 K L Water Sprinkler to open cast (surface) coal mining projects:</p> <p>The supplier is required to bid for the Equipment Package along with MARC detailed in the Part 'F' of Tender document; including accessories, consumables, training, installation, commissioning and testing at the coal-mining project.</p> <p>The Scope and Phasing of supply for the 28 K L Water Sprinkler is given in Sec. V.</p>	AGREED	Noted and agreed.
<p>A.2 Supplementary Items</p> <p>The equipment shall be provided with a comprehensive tool kit which shall include any special tools required for erection, commissioning. First fill of all oils, grease and lubricants needed for test and commissioning of equipment.</p>	AGREED	Noted and agreed.
<p>A.3 Information and Drawings</p> <p>At least one month before the scheduled installation date, the Supplier shall provide not less than:</p> <p>(a) Suitably illustrated copies of Operating, Repair and Maintenance Manuals for each type/model of equipment and accessories, written in the English language, substantially bound in book form;</p> <p>Three (3) copies to each project site; and</p> <p>One (1) copy along with soft copy to the General Manager(Excv.), Bharat Coking Coal Ltd.,Koyla Bhawan, Koyla Nagar ,Dhanbad- 826005</p> <p>(b) Suitably illustrated copies of detailed Spares Parts Manuals for each type/model of equipment and accessories, written in the English language, substantially bound in book form;</p> <p>Three (3) copies to each project site; and</p> <p>One (1) copy along with soft copy to the General Manager(Excv.), Bharat Coking Coal Ltd.,Koyla Bhawan, Koyla Nagar ,Dhanbad- 826005</p> <p>The Supplier shall also submit (in the same number of copies) the data identified in the specifications for each item of Equipment proposed. In addition to the Equipment drawings requested, where appropriate the Supplier shall supply detailed drawings illustrating erection/assembly site(s), foundation and accommodation requirements for such items as drive motors, switch installations etc.</p>	AGREED	Noted and agreed.
<p>A.4 Erection/Assembly, Commissioning and Performance Testing</p> <p>The Supplier shall provide the Services of Specialist Technicians (refer Part-C3) and labour to undertake the installation/erection/assembly, commissioning and any performance testing of the plant, Equipment and accessories supplied.</p>	AGREED	Noted and agreed.
<p>A.5 Training</p> <p>The supplier in consultation with the project in-charge / HOD (Excavation) of the respective site shall make available experienced personnel to conduct training of engineers, supervisors, technicians and operation personnel for suitable period from the date of issue of acceptance certificate of the equipment. The training shall cover the following:</p> <p>a) Training on Simulator Modules by the bidder at their works / suitable locations is mandatory.</p> <p>b) Equipment system, safety and risk assessment</p> <p>c) Equipment operation and maintenance</p> <p>d) Trouble shooting, localization of fault and their remedies covering:</p> <ol style="list-style-type: none"> 1. Electrical and electronics 2. Mechanical 3. Hydraulic system 4. Lubrication system 5. Pneumatic system etc. <p>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 language.</p>	AGREED	Noted and agreed. As the water sprinkler is built on dumper chassis, we shall impart simulator training on dumper at our works. Also if so desired we shall impart training on live equipment at our works.
<p>B Specific Site Requirements</p> <p>All the projects of BCCL are located within 30 KM range (approx) from Dhanbad Railway Station.</p>	AGREED	Noted and agreed.
<p>Part C.</p> <p>General Requirements</p> <p>C.1 Geography and Climatic Conditions</p> <p>Elevation:-</p> <p>The natural surface varies from 100 to 1000 m above mean sea level.</p> <p>Climate:-</p> <p>The climate is sub-tropical to tropical, dusty, with a hot and humid atmosphere. Monsoon rains occur in the period from June to October.</p> <p>Ambient Conditions:-</p> <p>Relative Humidity - Maximum 98%</p> <p>Temperature - Minimum 0o C</p> <p>Maximum 50o C</p> <p>Rainfall:- The mean annual rainfall is 1,000mm, 80 to 95% of which may fall in rainy season from June to October.</p> <p>Wind:-</p> <p>April to September- South to South Westerly</p> <p>October to March - North Westerly</p> <p>Speed:-</p> <p>- 8 km per hr average</p> <p>- 100 km per hr maximum</p>	AGREED	Noted and agreed.

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<p>C.2 Goods (Equipment and Machinery) Detailed specifications of the Equipment to be supplied are given in Part E 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. 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. Electrical Equipment shall provide all protection devices, controls and interfaces for the Equipment to operate safely and efficiently. All workmanship and materials shall be of first class quality in every respect. All parts and surfaces which are exposed to corrosive environment shall be suitably protected to prevent any effects of corrosion or erosion.</p>	AGREED	Noted and agreed.
<p>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.</p>	AGREED	Noted and agreed.
<p>C.4 Standards The design supply, erection, testing and commissioning of all Equipment under this Contract shall in all respects comply with the requirement of this specification and with the appropriate current Indian standards and codes, or relevant Standards issued by the International Standards Organisation or any other equivalent international standards, which corresponds 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 be to the approval 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 Système International d'Unités (S.I.).</p>	AGREED	Noted and agreed.
<p>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, safely and efficiently. Any additional items the Supplier considers necessary to ensure compliance with such a requirement shall be identified and included. If the Supplier observes that this Specification document contains any anomalies, ambiguities, flaws, errors or omissions, the Supplier shall immediately bring these to the attention of the Purchaser. The Supplier shall be responsible for the testing and commissioning of the Equipment and ensure that it meets the requirements as specified. The commissioning and setting to work of the whole Equipment Supply package shall be carried out under the supervision of the Supplier in conjunction with the Purchaser's nominated personnel</p>	AGREED	Noted and agreed.
<p>C.6 Spare Parts Provisions C.6.1.a Availability of Spare 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 covering the MARC period as stipulated in table I of MARC, section VI part 'F' and payment would be made as per the stipulations made in clause 9.1 of MARC. The bidder shall also ensure availability of spares for a period of at least 5 years beyond the MARC period, which shall be procured by the purchaser as per the need. C.6.1.b Bought-out assemblies and sub-assemblies The supplier is required to furnish the details of all bought-out items as indicated in the technical specification against "Information to be provided by the bidder". The bidder has to furnish a certificate indicating therein that "All other components not identified/mentioned herein are manufactured by the bidder at their works exclusively i.e. the components are propriety of bidder's firm."</p>	AGREED	Noted and agreed.
<p>C.6.2 Provision of Consumables Each equipments shall be delivered with spares & consumables required for operation during warranty period as detailed in clause 1(x) of MARC (Section VI, Part F). The bidder shall also ensure availability of consumables for a period of at least 2 years beyond the MARC period, which shall be procured by the purchaser as per the need. A full list of such consumables must be provided along with supply and with their FOR Destination price in Indian Rupees. Purchaser will not be responsible for supply of any consumable items for operation of the equipment during the warranty period.</p>	AGREED	Noted and agreed.


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C.6.4 Oils, Lubricants and Fluids The bidder shall indicate the detail schedule of use of all necessary oils, lubricants, fluids for the operation and maintenance of the equipment, estimated annual consumption and specify the appropriate international standard number or the name and reference number of equivalents available in India.	AGREED	Uploaded and enclosed with offline documents.
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 this Contract.	AGREED	Noted and agreed.
C.7 Availability Provisions during warranty and for MARC (Maintenance and Repair Contract) period. C.7.1 Introduction C.7.1.1 The Supplier shall guarantee that the Equipment supplied pursuant to this Contract shall be governed by the minimum annual Guaranteed Percentage Availability as stipulated in table 1 of the MARC, section VI part 'F' and in accordance with the terms and conditions of the Availability Guarantee herein contained. C.7.2 Guarantee C.7.2.1 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 table 1 of MARC, section VI part 'F'. The method of assessment applied shall be as follows: Method of Assessment: The following calculation shall determine the availability of the Equipment	AGREED	Noted and agreed.
Schedule Available Time - Downtime % Availability = $\frac{\text{Schedule Available Time}}{\text{Scheduled Available Time}} \times 100$ Scheduled Available Time shall equate to 24 hours daily.	AGREED	Noted and agreed.
Downtime Downtime 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 preventative maintenance programmes; However the Limitations of Guaranteed Availability will be as indicated in Clause 3.5 of MARC (Part F) The Supplier shall provide a schedule of maintenance required to carry out (a) and (b) above for the MARC 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 the assessment of the availability. This 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 co-operation to all Supplier's authorised representatives, complying with all reasonable procedural suggestions to improve efficiency of machine operation or reduce downtime. 2. Where appropriate, providing and maintaining such conditions as: • Proper electrical Supply • Terrain Area • Bench preparation • Reasonable floor conditions 3. Providing all Supplier's authorised representatives access at all reasonable times to the machine service and repair facilities. Maintaining a logbook 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.	AGREED	Noted and agreed.
C.7.3 Effect and Duration of Guarantee C.7.3.1 This guarantee shall become effective from the date of commissioning the equipment at site. The issue of the purchaser's acceptance certificate shall evidence commissioning. C.7.3.2 This guarantee shall remain effective for the entire MARC period as stipulated in table 1 of MARC, section VI, part 'F' from the date of issue of acceptance certificate irrespective of hours worked during the guarantee period.	AGREED	Noted and agreed.
C.7.3.3 Compensation for not achieving Guaranteed Availability 1. For Equipment under warranty In the event that the Equipment fails to achieve the Guaranteed Availability (as indicated in Table 1 of MARC, section VI, part 'F') during the warranty period except for item 3.5 of MARC (Section VI, Part F), the bidder shall be liable to pay to the Purchaser, as compensation against not achieving guaranteed availability, a sum equal to as indicated hereunder for each equipment against the PBG submitted by the bidder. a. 1% of the delivered landed price of the equipment including the price of spares & consumables for warranty period for reduction in every percentage or part thereof from the Guaranteed Availability for the first 5%. b. 10 % of the delivered landed price of the equipment including the price of spares & consumables for warranty period for reduction beyond 5% from the guaranteed availability. 2. For MARC For the entire MARC period compensation will be as per clause 10 of MARC, section VI part 'F'.	AGREED	Noted and agreed.
C.8 Deemed Breakdown Refer Clause 3.2 of MARC, (Section VI, Part 'F')	AGREED	Noted and agreed.
C.9 Composite-warranty/guarantee. The supplier 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 accepted 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 for total equipment so that comprehensive responsibility lies only with the equipment supplier although components may be supplied by different suppliers to the bidder.	AGREED	Noted and agreed.


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<p>C.10 Quality Assurance</p> <p>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 of equivalent merit acceptable to BCCL.</p> <p>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.</p> <p>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.</p>	AGREED	Noted and agreed.
<p>D. Technical Evaluation Criteria</p> <p>Bids determined to be substantially responsive will be subjected to detailed evaluation of</p> <p>(i) Service Support; then</p> <p>(ii) Technical Merit Criteria associated with the equipment offered.</p> <p>A maximum of 100 points can be scored for each of the two sections of this evaluation.</p> <p>Bids scoring less than 70 points in the Service Support section will be considered non-responsive and not be considered further.</p> <p>Remaining bids (i.e. bids which score 70 points or more for Service Support) which score less than 85 points for the Technical Merit section will be considered non responsive and not considered further.</p> <p>For bids determined to be technically responsive as aforesaid, i.e. bids which score 70 points or more for Service Support and a Technical Merit score of 85 points or more, an adjustment shall be added to the evaluated bid price for the purpose of bid evaluation in accordance with the following formula:</p>	AGREED	Noted and agreed.


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PART E:- EQUIPMENT SPECIFICATIONS Equipment specification of 28000 litre water sprinkler 1. Scope of Specification This specification is intended to cover the technical requirements for the design, manufacture, testing, delivery, on-site erection and commissioning of a diesel powered, self propelled, wheeled water sprinkler of 28000 liters capacity.	AGREED	Noted and agreed.
<p>2. References</p> <p>ISO 2857: Earth-moving machinery - Access System</p> <p>ISO 3450: Earth-moving machinery - Wheeled machine-Performance requirements and test procedures for braking systems</p> <p>ISO 3457: Earth-moving machinery - Guards and shields - Definitions and Specifications</p> <p>ISO 3471: Earth-moving machinery - Roll-over protective structures - laboratory tests and performance requirements</p> <p>ISO 5010: Earth-moving machinery - Rubber tyred machines- steering requirements</p> <p>ISO 6014: Earth-moving machinery - Determination of ground speed</p> <p>ISO 6405-1: Earth-moving machinery - Symbols for operator controls and other displays - Part I: Common symbols</p> <p>ISO 6405-2: Earth-moving machinery - Symbols for operator controls and other displays - Part II: Specific symbols for machines equipment and accessories</p> <p>ISO 6750: Earth-moving machinery - Operation and maintenance - Format and content of manuals</p> <p>ISO 7132: Earth-moving machinery - Water Sprinkler 28KLs - Terminology and commercial specifications</p> <p>ISO 7457: Earth-moving machinery - Measurement of turning dimensions of wheeled machines</p> <p>ISO 9249: Earth-moving machinery - Engine test code - Net power</p> <p>ISO 10256: Earth-moving machinery - Retarders for Water Sprinkler 28KLs and tractor-scrappers-Performance tests.</p>	AGREED	Noted and agreed.
<p>3. Design Criteria</p> <p>The water sprinkler shall be capable of continuous operation for protracted periods on a system of 3 shifts each of 8 hours duration per day throughout the year. The water sprinkler shall consist of a 28000 liters water tank and pressurized spraying equipment suitable for operating in opencast mines.</p>	AGREED	<p>WS2S-2 water Sprinkler is capable of continuous operation for protracted periods on a system of 3 shifts each of 8 hours duration per day throughout the year. WS2S-2 Water Sprinkler consists of 28,000 Litres capacity water tank and pressurized spraying through nozzles for higher spreading width for effective dust settling is mounted on a dumper chassis and is suitable for operating in opencast mines.</p>
<p>4. Technical Requirements</p> <p>4.1 Engine</p> <p>The water sprinkler shall be powered by a direct injection 4-stroke diesel engine of not less than 262KW net power measured between 1700 and 2100 r/min according to ISO 9249. The engine shall be provided with 24V electric starting, dry type 2-stage air-cleaner with automatic dust evacuator and dust level indicator and 2 stage fuel filter with water separator.</p> <p>The engine shall have a water jacket cooling system, thermostatically 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 water sprinkler to continuously operate at full rated output at the maximum ambient temperature.</p> <p>The moving parts of the engine shall be lubricated by an engine driven oil pump, with full low oil filtration and cooling.</p> <p>The engine shall be equipped with an over speed governor.</p> <p>The engine shall be provided with a heavy-duty pan guard.</p>	AGREED	<p>WS2S-2 Water Sprinkler is powered by BEML make water cooled diesel engine model BS46D140-1 direct injection 4-stroke diesel of 250 kW net powers measured at 2100 rpm according to ISO 9249. The engine is provided with 24V Electric Starter, dry type 2-stage air cleaner with built in automatic dust evacuator and dust level indicator for easy maintenance. Two-stage fuel filter and water separator is provided.</p> <p>Engine is provided with a water jacket cooling system, which is thermostatically controlled. An engine driven water pump re-circulates the water through a heavy duty Radiator. The system is capable of providing sufficient cooling to allow the Water Sprinkler to operate continuously at the full rated output at the maximum ambient temperature.</p> <p>The moving parts of the engine are lubricated by an engine driven oil pump, with full flow oil filtration and cooling.</p> <p>The engine is equipped with an mechanical-speed governor. And the engine is provided with a heavy-duty pan guard. The Engine is provided with 2-stage air cleaner with built in automatic dust evacuator and dust level indicator.</p>
<p>4.2 Transmission</p> <p>The water sprinkler shall be provided with an off-highway automatic power shift hydraulic transmission with lockup clutch and downshift and reverse inhibitors. 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.</p>	AGREED	<p>WS2S-2 Water Sprinkler is provided with off-highway automatic power shift hydraulic transmission (ATEC Model CLT 754) with lock up clutch and down shift inhibitor. Reverse inhibitor is through manual shifting of gear to reverse position which pass through neutral position. Pan guard is provided for protection from external damage and designed to minimise the accumulation of dirt and debris.</p>


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<p>4.3 Drive System</p> <p>A dynamically balanced propel shaft with universal joints at both ends should be utilized for transmission of power. Propeller shaft guard should be provided to prevent damage to other components in the event of failure of the universal joints.</p> <p>The final drive shall comprise a heavy-duty differential with high quality Spiral Bevel Gear and Pinions and a heavy duty planetary gear system and drive axle.</p>	AGREED	<p>Propeller shaft dynamically balanced and with universal joints at both ends is fitted between transmission and rear axle.</p> <p>Guard is providing for preventing consequential damages to other components in the event of failure of the Ujoints.</p> <p>The final drive comprises of a heavy-duty differential with high quality spiral bevel gear and pinions and a suitable heavy-duty Planetary gear system and drive axle.</p>
<p>4.4 Suspension</p> <p>Suitable front and rear suspension shall be provided to absorb road shocks and prolong tyre life.</p>	AGREED	<p>Both front & rear suspensions are of hydra-pneumatic type with integral rebound control and are designed specifically to absorb off-highway road shocks and gives prolonged tyre life.</p>
<p>4.5 Steering</p> <p>Full hydraulic orbitrol power steering and emergency steering, which complies with ISO 5010, shall be provided. Emergency steering shall be automatically activated in the event of failure of the normal steering power sources. Suitable steering locking to prevent untoward movement of steering wheel and tyre while work persons working below the cabin while engine is running.</p>	AGREED	<p>Full hydraulic orbitrol power steering and emergency steering system provided will comply with ISO 5010. Electrically operated Emergency steering will be activated in the event of failure of the normal steering power source. The equipment is having a provision of emergency steering motor with pump. Emergency steering will be automatically activated through emergency steering switch in the event of failure of the normal steering power source.</p> <p>Mechanical steering locking to prevent untoward movement of steering wheel and tyre while work persons working below the cabin while engine is running. Pin structure kept near the Tie rod (RH side of the horse collar). The plates which are weld to the steering arm RH and tie rod is to be made in line and pin structure is to be inserted between these two plates. This will prevent the steering movement while work persons working below the cabin when engine is running.</p> <p>The above system is provided alongwith the equipment.</p>
<p>4.6 Hoses</p> <p>All hoses shall be Fire/heat resistant / retarder hydraulic hoses grouped as far as possible and suitably clipped to lessen damage from scuffing. All the sleeves and conduits where cable / wire are passed shall be fire / heat resistant</p>	AGREED	<p>All hoses are grouped as far as possible and suitably clamped to reduce damage from scuffing. Hoses are fire retardant conform to MSHA & all sleeves & conduits are fire retardant type is provided.</p>
<p>4.7 Brakes</p> <p>Suitable reliable service, secondary and parking brakes, which comply with ISO: 3450 shall be provided.</p> <p>4.7.1 Service Brakes</p> <p>The front service brakes shall be air and/or oil actuated caliper type and should operate automatically in the event of low air/oil pressure.</p> <p>The rear service brakes shall be air and /or oil actuated multiple disc type and should operate automatically in the event of low air/oil pressure.</p> <p>They should preferably be fully enclosed to prevent entry of dust and water, and designed for low maintenance.</p> <p>4.7.2 Parking brakes</p> <p>The parking brakes system should be operational even at ZERO air pressure.</p> <p>4.7.3 Retarder</p> <p>A suitable retarding system to control speed while descending grades shall be provided.</p>	AGREED	<p>4.7 The service, secondary, parking and retarder brake system provided meets ISO 3450 performance requirement.</p> <p>4.7.1 Front service brakes are dry caliper disc type and actuated by air-over hydraulic system and operates automatically in the event of low air pressure.</p> <p>Rear service brakes are oil cooled multiple disc type and actuated by air-over hydraulic system.</p> <p>In the event of low air pressure, the Service brakes operate automatically.</p> <p>Rear brakes are fully enclosed to protect from dust and water and designed for very low maintenance.</p> <p>4.7.2 Spring applied air released Parking brake is automatically operated at 'Zero' Air pressure.</p> <p>4.7.3 Separate hand control valve is provided on steering column to actuate oil cooled wet multiple disc brakes on rear axle. This valve can be operated to control / retard the speed of the equipment while descending grades.</p>
<p>4.8 Tyres</p> <p>Tubeless, rock duty, cut-resistant E-4 type tyres of suitable size shall be provided. Supplier should provide additional 2(Two) nos. Tyres along with the tendered equipment.</p>	AGREED	<p>Tubeless, E-4 cut-resistant 18.00 x 25-32 PR tyres are provided.</p>
<p>4.9 Frame</p> <p>The frame should be rugged, durable construction of high strength steel and free from any stress concentration. The design must take care of all forces encountered during the operation of the water sprinkler.</p>	AGREED	<p>Box section main rails, proportion to accommodate relative bending and torsional loads are connected by tubular cross members, an integral front bumper and rugged horse collar. Large radii is provided between cross member to frame joints to minimise stresses. Castings at rear cross members incorporate the body pivot and rear suspension strut pivots. Castings are provided in the horse collar for maximum strength. The frame is rugged, durable construction of high strength steel, free from stress concentration and designed to take care of all forces encountered during the operation of the Water Sprinkler.</p>

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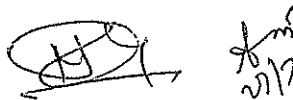
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<p>4.10 Water tank</p> <p>The water tank of capacity 28KL should be a welded and reinforced steel construction, and provided with cross baffles to avoid heavy surging. The interior of the tank should be coated with suitable anti corrosive non-toxic paint. The tank shall have covered opening on the top for filling using external pumps (or gravity feed). The tank shall also be provided with suitable, easy fit, adaptor and valve to enable its use as source of water by fire-fighting equipment. A suitable centrifugal type water pump capable of using unfiltered mine water for spraying shall be provided. Both gravity sprinkling and pressurized water sprinkling having a high impinging force with suitable spraying nozzles covering the entire width of the machine shall be provided. The impinging force should be such that a dust thickness of at least 25mm can be kept suppressed until the next pass of the water sprinkler when operating on a haul road of 2 km lengths. The body design should be such that the stability of the machine is maintained in all operating conditions especially during turning.</p>	<p>AGREED</p>	<p>The water tank has a capacity of 25,000 litre and is of welded and reinforced steel construction. It is provided with cross baffles to avoid heavy surging. The interior of tank is coated with suitable anti-corrosive, non-toxic paint. The tank is provided with a covered opening on the top for filling, using external pump (or gravity feed). Quick connecting adaptor and valve is provided to enable its use as a source of water by fire fighting equipment. In addition, canvas hose and triple purpose nozzle is provided which can be used for fire fighting in case of emergency. Self filling arrangement is also provided by connecting the pump suction to outside reservoir or pond through armoured hose foot valve unit. A suitable Centrifugal type Water pump capable of using unfiltered mine water for spraying is provided. Both gravity sprinkling and pressurized water sprinkling having a high impinging force with suitable spraying nozzle covering the entire width of the machine is provided. The impinging force is sufficient enough to suppress a dust thickness of 25 mm until the next pass of the water sprinkler when operating on a haul road of 2000 m length. The body design is such that the stability of the machine is maintained in all operating conditions especially during turning.</p>
<p>4.11 Fuel Tank</p> <p>The fuel tank shall be of sufficient capacity for 16 hours operation without refueling, and be provided with a level indicator and a lockable-hinged cap. Construction of the tank should be such that it provides for easy accumulation and drainage of water with minimum loss of fuel.</p>	<p>AGREED</p>	<p>Fuel tank capacity is sufficient i.e 500 ltrs for 16 hours of continuous operation without re-fuelling. Level indicator and lockable vadalium cap is provided. Construction of the tank is suitable for easy accumulation and drainage of water with minimum loss of fuel.</p>
<p>4.12 Lubrication System</p> <p>A proven automatic centralized lubrication system air/hydraulic operated of positive pressure type, positive displacement lubrication measurement for multiple lubrication points, through injectors, should be provided. Alarms and / or indications for the failure of lubrication system shall be repeated on the instrument/ test panel. Flow of grease and pressure of the lubrication system shall be fully monitored through pressure switches to ensure that adequate lubricant flow is maintained to all major parts. The Lubricant container of adequate capacity shall be located suitably. The Lubricant container shall be fitted with refilling provision from easily accessible location and suitable cleaning arrangement. All lubrication lines shall be protected from damage. Location of all injectors shall be such that these can be conveniently inspected and repaired. The lubrication lines should be properly guided. Flexible lines shall only be used where there is relative movement between parts and for final connection to movable components. Steel piping shall be used for long runs and shall terminate in steel junction blocks to prevent disturbance to steel piping when flexible hoses are replaced. Lubricants recommended shall be of reputed make with Indian equivalent.</p>	<p>AGREED</p>	<p>A centralized automatic lubrication system of positive pressure type shall be provided with warning alarms for identification of failure of automatic lubrication system and the system is proven one. Lubrication system offered is fully monitored to ensure adequate lubricant flow to all major parts. Alarms and indications of the failure of Auto Lub System shall be repeated on the instrument/test panel (specified else where). The Lubricant container will be fitted with suitable cleaning arrangement. A filter element is provided inside the lubricant container for the cleaning purpose.</p> <p>All lubrication lines are protected from damage and all injectors are in gang blocks at points convenient for visual inspection. The lubrication lines are properly guided. Flexible lines are used where there is relative movement between parts and for final connection to movable components. Steel piping are used for long runs and will be terminate in steel junction blocks to prevent disturbance to steel piping when flexible hoses are replaced.</p> <p>Reputed Indian make M/s Lincoln Helios / Graco will be provided.</p>
<p>4.13 Operator's Cab</p> <p>A fully insulated, sound suppressed, air conditioned walk-through operator's cab with tinted safety glass, rear-view mirror, windshield wipers and washers and a ROPS which complies with ISO 3471 shall be provided. The operator's seat shall be a fully adjustable bucket type with foam rubber cushion and best quality upholstery. The seat belt should be provided. Heavy duty rubber floor mats and a cooling fan shall also be provided. All doors, windows and vents shall have dust and weather proof seals. All operating controls, gauges (with colour indication for safe and unsafe working), monitoring and working signals should be conveniently located within easy reach of the operator and shall comply with ISO 6405-1, ISO 6405-2. Non-slip type steps and handrails, which comply with ISO 2867, shall be provided for access to the operator's cab. Blind spot mirror or any other device apart from rear view mirror to enable operator to have clear visibility of blind spot in and around the equipment.</p>	<p>AGREED</p>	<p>A fully insulated, sound suppressed Air conditioned operator's cab with tinted safety glass, rear view mirror, windshield wipers and washers are provided. Integral ROPS cabin complies to ISO 3471. The operator's seat is of fully adjustable bucket type with foam rubber cushion and best quality upholstery. Retractable type Safety belts is provided for operator seat, heavy-duty rubber floor mats and a cooling fan are also provided. All doors, windows and vents are provided with dust and weather proof seals. Operating controls, gauges (with colour indication for safe and unsafe working), monitoring and working signals are conveniently located within easy reach of the operator and comply with ISO 6405-1 and ISO 6405-2.</p> <p>Steps and hand rails which comply with ISO 2867 are provided for access to the operator's cab.</p> <p>Blind spot mirror apart from rear view mirror to enable operator to have clear visibility of blind in and around water sprinkler. One No. blind spot mirror is provided at the front R.H floor structure corner. In addition 02 nos Rear view mirror will be provided in RH & LH side</p>

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<p>4.14 Gauges and Indicators</p> <p>The following shall be provided as a minimum:</p> <p>a) Water temperature gauge</p> <p>b) Air cleaner vacuum gauge</p> <p>c) Engine oil pressure gauge</p> <p>d) Converter oil temperature gauge/indicator (where applicable)</p> <p>e) Fuel capacity gauge</p> <p>f) Engine tachometer</p> <p>g) Engine hour meter</p> <p>h) Speedometer</p> <p>i) Air pressure gauge (if applicable)</p> <p>j) Voltmeter (where applicable)</p>	AGREED	<p>a) Provided</p> <p>b) Mechanical type dust indicator is provided</p> <p>c) Provided</p> <p>d) Transmission oil temperature gauge is provided</p> <p>e) Provided</p> <p>f) Provided</p> <p>g) Provided</p> <p>h) Provided</p> <p>i) Provided</p> <p>j) Provided</p>
<p>4.15 Warning Alarms/Lights</p> <p>Audio visual warning systems shall be provided for the following:</p> <p>a) Reversing</p> <p>b) Parking Brake actuation</p> <p>c) High torque converter oil temperature (where applicable)</p> <p>d) Low engine oil pressure</p> <p>e) High coolant temperature</p> <p>f) Low air pressure (where applicable)</p> <p>g) Emergency steering</p> <p>h) Indicator light for retarding, over speed & service brakes</p> <p>j) Warning alarms in case of failure of automatic lubrication system.</p>	AGREED	<p>a) Provided</p> <p>b) Provided</p> <p>c) High transmission oil temperature warning is provided</p> <p>d) Provided</p> <p>e) Provided</p> <p>f) Provided</p> <p>g) Provided</p> <p>h) Indication light for retarding brake is provided inside the cabin & service brake light indication provided on rear side of equipment.</p> <p>j) Provided</p>
<p>4.16 Electrical Equipment</p> <p>The water sprinkler shall be provided with the following :</p> <p>a. 24V DC electrical system with suitable rated alternator of reputed make</p> <p>b. Electric start</p> <p>c. Reputed make high capacity batteries</p> <p>d. Battery isolation switch</p> <p>All electrical circuits shall be protected by adequately rated fuses/MCBs, which shall be easily accessible for maintenance. In case of fuses, at least two spare fuses of each size/ratings shall be provided in each fuse box, which shall be easily accessible for maintenance.</p>	AGREED	<p>The water sprinkler is provided with the following :-</p> <p>(a) 24V DC electrical system with 24V, 45A alternator of reputed make.</p> <p>(b) 24V, 7.5 kW Electric Starting Motor</p> <p>(c) Reputed make high capacity, 12V, 200Ah- 2 nos. low maintenance free batteries</p> <p>(d) Battery isolation through key switch control</p> <p>Electrical circuits are provided with adequately rated MCB's which is easily accessible for maintenance. Hence additional fuses are not required.</p>
<p>4.17 Lighting</p> <p>Adequate lighting shall be provided for safe nightshift operation. The lighting system should include the following as minimum:</p> <p>a. 4 nos. headlights</p> <p>b. Stop and tail lights</p> <p>c. Turn signal lights (left and right) on both front and rear</p> <p>d. Cabin dome light</p> <p>e. Fog lamps</p> <p>Headlights and rear lights shall be fitted in steel protective enclosures.</p>	AGREED	<p>Adequate lighting is provided on the equipment for safe night operation which include the following :-</p> <p>(a) 4 nos. Headlights</p> <p>(b) Stop and Tail lights</p> <p>(c) Turn signal lights (left and right) on both front and rear</p> <p>(d) Cabin dome light</p> <p>(e) Fog lamps</p> <p>Headlights and Rear lights are fitted / protected by structure of fender / rear bumper</p>
<p>4.18 Guards and Shields</p> <p>Adequate guards and shields, which comply with ISO3457, shall be provided throughout the water sprinkler.</p>	AGREED	<p>Adequate Guards and shields which comply with ISO 3457 are provided on the Water sprinkler.</p>
<p>4.19 Fire Extinguisher</p> <p>A fire extinguisher shall be provided on the water sprinkler, suitably mounted in a heavy-duty bracket for ease of removal. The extinguisher shall be of dry powder (cartridge type) with a minimum capacity of 5 kg and shall comply with Indian standard IS:2171.</p>	AGREED	<p>One No. DGMS approved Fire extinguisher is provided on a suitably mounted bracket for ease of removal. The extinguisher is of dry powder (cartridge type) with a capacity of 5 Kg and complies with Indian Standard IS 2171.</p>



<p>4.20 Safety Features</p> <p>The following safety features shall be provided in the equipment</p> <p>a) Suitable steering locking to prevent untoward movement of steering wheel and tyre while work persons working below the cabin while engine is running.</p> <p>b) Blind spot mirror or any other device apart from rear view mirror to enable operator to have clear visibility of blind spot in front and sides of water sprinkler.</p> <p>c) Anti collision device/ system to avoid head to tail collision on haul road such as tailgate, bumper extension or any other strong device.</p> <p>d) Fire/ heat resistant/ retarder hydraulic hoses in place of ordinary hoses to decrease the chance of fire. All the sleeves and conducts where cable/wire are passed shall be fire/heat resistant.</p> <p>e) Seat belt for operator</p> <p>f) Methodology/ facility to be provided in the Water Sprinkler 28KL to restrict/ control the speed of the water sprinkler as per the requirement of management.</p> <p>g) Propeller shaft guard</p> <p>h) Proximity warning device.</p> <p>i) Mirrors, right and left</p> <p>j) Hot zones shall be separated from cold zone by providing suitable arrangement</p> <p>k) Exhaust pipes and turbocharger shall be adequately guarded.</p> <p>l) Manual wheel stopper while parking Water Sprinkler 28KL in gradient</p> <p>m) Automatic fire detection & suppression system.</p>	<p>AGREED</p>	<p>The following safety features will be provided in the Water Sprinkler offered :</p> <p>(a) Steering lock is provided.</p> <p>b) Blind spot mirror</p> <p>Rear view mirrors, right & left</p> <p>c) The Rear bumper provided in water sprinkler will take care of any rear to front collision between similar eqpts.</p> <p>d) Fire retardent hose confirm to MSHA will be provided.</p> <p>e) Provided</p> <p>f) Speed limit only by selecting gear position in shift lever</p> <p>g) Provided</p> <p>h) Electronic type proximity device will be provided.</p> <p>i) Rear view mirrors, right & left provided</p> <p>j) Turbo charge guard is provided</p> <p>k) turbocharger guard provided</p> <p>l) Provided</p> <p>m) Provided</p>
<p>5. Ancillary Equipment and Other Requirements</p> <p>The following shall be provided on the Water Sprinkler 28KL:</p> <p>a. Front and Rear tow hooks and two lifting loops</p> <p>b. Pressurized radiator cap with chain attachment.</p> <p>c. Head light high-beam indicator.</p> <p>d. Water Separators in air lines</p> <p>e. Tyre inflation kit</p> <p>f. Rock ejector bar/chains between each set of dual rear wheels</p>	<p>AGREED</p>	<p>a) Front and rear tow hooks are provided and tow hooks can be used as lifting loops</p> <p>b) Radiator cap is provided</p> <p>c) Provided</p> <p>d) Provided</p> <p>e) Provided</p> <p>f) Rock ejector chain type is provided</p>
<p>6. Special Guarantees</p> <p>The following guarantee will apply for the different components from the accepted date of commissioning</p> <p>i) Body, Chassis & Differential - 10,000 hours or 1000 calendar days (whichever is earlier)</p> <p>ii) Complete engine system - 24 months or 6000 hours (whichever is earlier) In case of failure of engine system within 6000 hrs. , the failed components of the engine system will have to be replaced / repaired depending on the merit of the case, free of cost by the supplier.</p> <p>In case of failure of engine system beyond 6000 hrs. the system will have to be replaced on prorata payment basis taking the life of the engine system as 7550 W/hrs.</p> <p>iii) Transmission Assy. - 24 months or 6000 hrs. (whichever is earlier)</p> <p>iv) Electrical Items , 24V DC - 6 months or 1000 hrs. (whichever is earlier)</p> <p>v) Engine Hour Meter - 12 months or 3000 hrs. (whichever is earlier)</p> <p>In case of any guarantee failure intimated reasonably in time to the bidder, the replacement or repair job (as per guarantee settlement) must be completed within 21 days at site by the bidder at no cost to the purchaser.</p>	<p>AGREED</p>	<p>Noted and agreed</p>
<p>7. Performance Guarantee</p> <p>Will be as per Section VI-Part F (MARC)</p>	<p>AGREED</p>	<p>Noted and agreed</p>

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<p>8.3.9 Brakes</p> <p>8.3.9.1 Service Brake</p> <p>Front</p> <p>a. Type</p> <p>b. Actuating System</p> <p>Rear</p> <p>a. Type</p> <p>b. Actuating System</p> <p>8.3.9.2 Secondary Brakes</p> <p>a. Type</p> <p>b. Actuating System</p> <p>8.3.9.3 Parking brakes</p> <p>a. Type</p> <p>b. Actuating System</p>	AGREED	<p>8.3.9 Brakes</p> <p>9.3.9.1 Service Brake</p> <p>Front</p> <p>a. Dry disc caliper</p> <p>b. Air over hydraulic actuated</p> <p>Rear</p> <p>a. Oil cooled wet multiple disc brake</p> <p>b. Air over hydraulic actuated</p> <p>8.3.9.2 Secondary Brakes</p> <p>a. Either front or rear brakes independently meets the secondary braking requirement.</p> <p>b. Air over hydraulic actuated, automatic actuation through relay emergency valve.</p> <p>8.3.9.3 Parking Brakes</p> <p>a. Disc type-parking Brake</p> <p>b. Spring applied, Air released & will automatically apply, whenever air pressure drops</p>
<p>8.3.10 Retarder</p> <p>a. Type</p> <p>b. Actuating System</p>	AGREED	<p>a. Oil cooled wet multiple disc brake</p> <p>b. Air over hydraulic actuated. Separate hand control valve is provided to actuate rear brake as retarder brake</p>
<p>8.3.11 Tyres</p> <p>a. Make, Size and type</p> <p>b. Tread</p> <p>c. Ply / Star rating</p> <p>d. Rim Size for front & rear</p> <p>e. Expected Life</p>	AGREED	<p>a. MRF/CEAT/JK Tyres/APOLLO, 18.00 X 25, 32 PR and (E4) tubeless type</p> <p>b. Deep tread rock grip</p> <p>c. 32PR</p> <p>d. 13.00 X 25</p> <p>e. 3000 hrs</p>
<p>8.3.12 Hydraulic System</p> <p>a. Number, flow rates and operating pressures of pumps</p> <p>b. Number, piston diameters and stroke length of cylinders</p> <p>c. Relief valve operating pressures</p>	AGREED	<p>a. 1 No. Tandem gear pump for steering, hydraulic motor & brake cooling. Flow rate 213 Litre/min + 70 Litre/min @ 2100 rpm</p> <p>b. 2 Nos. Steering Cylinder, double acting, BEML/UTWIPRO make</p> <p>Piston dia : 110 mm, Stroke: 435 mm</p> <p>c. Relief valve operating pressure : Hyd Motor - 12.7 Mpa (130 kg/cm²)</p> <p>Steering system : 12.4 Mpa (126 kg/cm²)</p> <p>Brake cooling system - 0.54 Mpa (5.5 kg/cm²)</p>
<p>8.3.13 Electrical System</p> <p>a. Starter make and model</p> <p>b. Starter control make and model</p> <p>c. Alternator make and model</p> <p>d. Batteries numbers and rating</p> <p>e. Lighting details</p>	AGREED	<p>a. LUCAS-TVS/ Delco Remy (India) - 42 MT / REIL Make</p> <p>b. Key switch of reputed make</p> <p>c. Lucas TVS28A23-45 Amp - 24V / Any reputed make</p> <p>d. 2 X 12V, 200Ah - Low maintenance</p> <p>e. Tail and stop light LED type, Turn signal lamp LH & RH LED type, Head light, Cabin lamp, Backup light, Fog light</p>
<p>8.3.14 Water System</p> <p>a. Make, type flow rate and operating pressure of pump.</p> <p>b. Suction and discharge diameters</p> <p>c. Spreading width</p> <p>d. Gravity sprinkling type</p> <p>e. Pressurized sprinkling type</p> <p>f. Nozzles, type and position</p> <p>g. Fire fighting adaptation details</p> <p>h. Self filling method</p> <p>i. Tank- Construction and interior coating details.</p>	AGREED	<p>a. M/s Flow Control System, Bangalore, Centrifugal pump, 1833 ltr./min (110 cum/hr) at 55 meter head</p> <p>b. 80 mm Suction and 50 mm delivery</p> <p>c. 14000 mm</p> <p>d. Through perforated manifold connected to tank bottom</p> <p>e. Constant sprinkling velocity maintained by centrifugal pump</p> <p>f. Fish tail type nozzle, 2Nos. At rear side</p> <p>g. Quick connecting adapter provided with canvas hose and triple purpose nozzle.</p> <p>h. By connecting the pump suction to the outside reservoir or pond through armoured hose foot valve unit</p> <p>i. Tank construction: All welded reinforced 6mm thick steel plate with baffle plate. Interior coating: Coated with special anti corrosive black paint.</p>
<p>8.3.15 General</p> <p>a. Details, number and location of fire extinguishers</p> <p>b. Make, Model and Operating range of all gauges/ indicators</p> <p>c. Make, Model of all warning alarms</p>	AGREED	<p>a. One no. portable fire extinguisher will be provided on LH side chassis front for easy removal. The extinguisher will be of dry powder (cartridge type) with a capacity of 5Kg</p> <p>b. Make: M/s Pricol</p> <p>Water Temperature Gauge: 40 to 120 degree</p> <p>Engine oil pressure gauge: 0 to 10 Bar</p> <p>Transmission oil temperature gauge: 40 to 160 degree</p> <p>Fuel capacity gauge: E, 1/2, F</p> <p>Engine Tachometer: 0 to 3000 rpm</p> <p>Hour meter: 99999 Hour, Brake oil temperature: 40 to 160 degree.</p> <p>Speedometer: 0 to 140 km/h, Air pressure gauge</p> <p>c. Indigenous make</p>
<p>10 Technical Evaluation Criteria (Water Sprinkler)</p> <p>In accordance with Part D of Section VI of NIT, the distribution of points for the technical evaluation will be as follows:</p>	AGREED	Noted and Agreed
<p>ITEM</p>	Value	AGREED
<p>TECHNICAL MERIT</p>	100	AGREED
<p>Water Power (flow rate x Pump pressure)</p>	12.5	AGREED
<p>Power - Weight Ratio</p>		Noted and Agreed
<p>Engine Net Power / Gross Vehicle Weight</p>	12.5	AGREED
<p>Specific Fuel Consumption as per ISO 9249</p>	12.5	AGREED
<p>Driving Speed fully loaded up 14% effective grade</p>	12.5	AGREED
<p>Retarding Performance fully loaded down 10% effective grade</p>	12.5	AGREED
<p>Service Braking Performance to ISO 3450</p>		Noted and Agreed

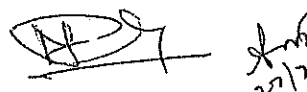


Actual Stopping Distance / Max. Allowable Distance		12.5	AGREED	Noted and Agreed
Secondary Braking Performance to ISO 3450				Noted and Agreed
Actual Stopping Distance / Max. Allowable Distance		12.5	AGREED	Noted and Agreed
Turning Dimensions to ISO 7457		12.5	AGREED	Noted and Agreed
SERVICE SUPPORT			AGREED	
Nearest Depot/Warehouse and Service facilities and Personnel		100	AGREED	
Service facility		30	AGREED	Noted and Agreed
Service Personnel		30	AGREED	Noted and Agreed
* Note For above facilities available, in consignee coalfields weightage is 100%, in India weightage is 80% & in outside India weightage is 60%			AGREED	Noted
Note: The best technical merit value quoted by any of the technically responsive bidder against above mentioned each item would score full points. Against these items other technically responsive bidders would score on proportionate basis based on their quoted technical merit points.			AGREED	Noted
The bidder is to submit and certify "Certified Information For Technical Evaluation Criteria" attached to this specification, detailing the information required for the 'Technical Merit' and 'Service Support' assessment. All technical information must be fully supported by relevant calculations, drawings, graphs, etc. Failure to submit these forms fully complete and in the manner described may deem a bid 'Non-Responsive'.			AGREED	Noted
Certified Information For Technical Evaluation Criteria				
TECHNICAL MERIT				
ASSESSMENT CRITERIA	DATA REQUIRED	UNITS	VALUE	
Water Power	Flow rate (refer 9.3.14 a)	lpm		AGREED
	Pump pressure (refer 9.3.14 a)	kPa		AGREED
Power – Weight Ratio	Engine Net Power (refer 9.2 a)	kW		AGREED
	Gross Vehicle Weight (refer 9.3.2 b)	kg		AGREED
Specific fuel consumption as per ISO 9249	Specific fuel consumption at rated output power (refer 9.2 a)	g/kWh		AGREED
Driving Speed	Driving Speed fully loaded up 14% effective grade (refer 9.2 c)	km/h		AGREED
Retarding Performance	Maximum constant speed fully loaded down a continuous 10% effective grade (refer 9.2 d)	km/h		AGREED
Service Braking Performance to ISO 3450	Test Course Slope (refer 9.2 e)	%		AGREED
	Machine Speed (refer 9.2 e)	km/h		AGREED
	Stopping Distance (refer 9.2 e)	m		AGREED
Secondary Braking Performance to ISO 3450	Test Course Slope (refer 9.2 e)	%		AGREED
	Machine Speed (refer 9.2 e)	km/h		AGREED
	Stopping Distance (refer 9.2 e)	m		AGREED
Turning Dimensions to ISO 7457	Turning diameter as defined in clause 3.2 of ISO 7457 (refer 9.2 f)	m		AGREED

Service Component				Nearest Location (Full Address)	Contact (Names with Full Address & Telephone & Fax Nos.)
Depot/Warehouse					Uploaded and enclosed with offline documents.
Group A					Uploaded and enclosed with offline documents.
Group B					Uploaded and enclosed with offline documents.
Service Facilities					Uploaded and enclosed with offline documents.
Group A					Uploaded and enclosed with offline documents.
Group B					Uploaded and enclosed with offline documents.
Service Personnel					Uploaded and enclosed with offline documents.
Group A					Uploaded and enclosed with offline documents.
Group B					Uploaded and enclosed with offline documents.
Group	Depot/ Warehouse	Service Facilities	Service Personnel	Agreed	
A	Major Sub-	Full machine	Fully trained erection /	Agreed	
B	Low cost	Minor component	Technicians	Agreed	Noted and Agreed
13 Equipment Acceptance The Equipment ordered will be finally accepted subject to the Supplier demonstrating to the Purchaser or its authorised representative (may be third party) that the equipment, or assembly or sub-assembly (selected at random by the Purchaser) when tested as indicated below, meets the Performance Data provided by the Supplier in accordance with the requirements of clause 8. A detrimental deviation of up to 2½% will be accepted.				AGREED	
1	Specific Fuel Consumption for engine	To be tested at Works. Minimum of 3 (three) readings at full load to be averaged	AGREED		Noted and Agreed
2	Water Power	To be tested at Works	AGREED		Noted and Agreed
3	Engine Net Power & RPM	To be tested at Works	AGREED		Noted and Agreed
4	Driving Speed - fully loaded up 14% effective gradient (assuming 2% Rolling resistance)	To be tested at Works / Site	AGREED		Noted and Agreed
5	Retard Speed - fully loaded down 10% effective gradient (assuming 2% Rolling resistance)	To be tested at Works / Site	AGREED		Noted and Agreed
6	Service Brake Stopping Distance as per ISO 3450	To be tested at Works	AGREED		Noted and Agreed
7	Secondary Brake Stopping	To be tested at Works	AGREED		Noted and Agreed
8	Turning Dimension as per	To be tested at Works	AGREED		Noted and Agreed



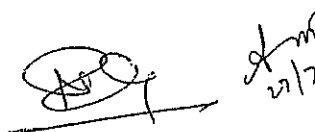
PART F - MAINTENANCE AND REPAIR CONTRACT (MARC)							Noted and Agreed
1. SCOPE OF MARC The Bidder will undertake responsibility for maintenance and repair of the equipment till the end of the contract period. The following conditions will prevail on the bidder who henceforth will be termed as MARC-holder. i(a) The Contract will start from the date of commissioning and will be for a period as indicated in the Table I given below.						AGREED	
Table-1							Noted and Agreed
Sl.No (1)	Equipm ent (2)	Period of MARC (in Yrs) (3)	Minimum Annual Guaranteed Percentage Availability (4)				
1	Water Sprinkle r	Yrs	Yrs 1-3	Yrs 4-6		AGREED	Noted and Agreed
	28KL	6	85	83		AGREED	Noted and Agreed
<p>i(b) The MARC period can be extended for the balance rated life, if agreed mutually both by BCCL & MARC Holders.</p> <p>i(c) MARC holder to Rehabilitate the Equipment during the MARC period as stipulated in table -1. Each Water Sprinkler 28KL has to be rehabilitated once during the MARC period. The maximum permitted time for rehabilitation would be 4 weeks for each Water Sprinkler 28KL. The period during which the equipment is under rehabilitation will not be considered as downtime on account of MARC Holder for calculation of availability. However the period in excess of the permitted time for rehabilitation would be treated as downtime on account of MARC Holder. The MARC holder shall only be entitled for supervision & overhead charges only upto a maximum period of 4 weeks permitted for rehabilitation. The exact duration of rehabilitation & its commencement date are to be clearly specified by MARC holder in their offer.</p> <p>(ii) The MARC Holder shall be responsible for supply of all spares, sub-assemblies/assemblies, components and all other items including all consumables required during the entire MARC period except fuel & power. However, in case of OTR tyres, the MARC-holder will be responsible for arranging & ensuring smooth supply of the same. The responsibility of repair & maintenance of tyres for the entire contract period also lies with the bidder to ensure minimum [4000] hours of operation in case of new tyres and minimum [1500] & [1000] hours of operation after 1st & 2nd retreading respectively. Retreading of tyres will be done after joint inspection by representatives of BCCL & MARC holder depending on the condition of the tyres after achieving the above stipulated minimum hours of operation. The cost of all such retreading / repairs & maintenance will be borne by the bidder. If minimum hours of operation as mentioned above are not achieved for a particular tyre, the responsibility lies with the bidder to arrange for suitable replacement/ repair at his cost so as to achieve the minimum specified hours. The price of the OTR tyres will be reimbursed by BCCL at actual (on landed price basis). The price payable as above will be subject to the ceiling of the price finalised and awarded in the preceding financial year (within last six months) by BCCL/ Subsidiary Companies of CIL from time to time for the same size & specification of tyres. If such prices are not available, due to no order having been placed during the period, budgetary price will be obtained from the tyre manufacturers directly for such verification. For the purpose of reimbursement of the cost of tyres, the MARC holder will have to submit the authenticated copy of invoice with excise certification for the type & size of the tyre supplied from domestic sources. In case of imported tyres, the notarized copy of assessed copy of Bill of Entry should be submitted as proof of price. Since tyres will be dealt with separately in the above manner, the cost of tyres should not be included in the cost of spares, assemblies, sub-assemblies and other consumables while quoting for the MARC charges. The period for which the equipment remains idle for want of tyres will be treated as breakdown on account of the MARC holder.</p> <p>(iii) MARC Holder will supply all the spares required for break-down, unscheduled repair, running repair, scheduled/preventive maintenance, major repairs, and overhauling of assemblies, sub-assemblies and capital overhaul of equipment.</p>						AGREED	<p>i b) Noted and Agreed</p> <p>i c) Rehabilitation of the equipment shall be during 4th/5th year of operation with consultation with the project.</p> <p>The rehabilitation time would be 4 weeks. ii) Noted and agreed. iii) Noted and agreed</p>



(iv) BCCL expect to utilize the each equipment annually as given in Table-2.			AGREED	Noted and agreed
Table-2				
Sl.No.	Equipment	Expected Annual Hours		
1	28KL Water Sprinkler	4500	AGREED	Noted and agreed
<p>(v) Spares & consumables for MARC period shall be under the custody and control of MARC holder and will be issued by their representative as and when required.</p> <p>(vi) The MARC Holder shall be responsible for all their properties and BCCL will not be responsible for any theft, pilferage etc.</p> <p>(vii) Collection of failed assemblies/ sub-assemblies and all other scrap from the maintenance yards. It shall be responsibility of the MARC Holder to keep the maintenance area clean from all such things.</p> <p>(viii) Replacement with float assemblies and sub-assemblies in ready to use condition at site shall be the responsibility of MARC holder.</p> <p>(ix) Spares & consumables cost per working hour shall be payable after expiry of warranty period of the individual equipment.</p> <p>(x) Supervision & overhead cost per available hour shall be payable from the date of commissioning of the individual equipment.</p> <p>(xi) The bidder should furnish a complete list of spares & consumables required for the scheduled maintenance during the warranty period. The purchaser will procure the same as initial set which are to be supplied along with the equipment. Anything required, (both in terms of item and quantity), in excess of the spares & consumables procured based on the list furnished by the bidder, will be supplied immediately by the bidder to the purchaser at their cost. The unused spares & consumables, if any, after warranty period shall be taken back by the bidder within 30 days from the expiry date of warranty period against payment thereof, at the same landed cost at which initially purchased by BCCL. The cost of the same shall be deducted from the next monthly payment to the bidder, even if the same has not been taken back by the bidder within specified time.</p> <p>(xii) Organise Training for BCCL Engineers, supervisors and workers for operation, maintenance & repairs for tendered equipment required to achieve guaranteed availability as per OEM recommendations.</p> <p>(xiii) (a) The MARC Holder shall also prepare a yearly programme to carry out the maintenance as per OEM recommendations for the tendered equipment, every year for the entire tenure of this Contract and shall submit the same to BCCL for approval.</p> <p>(b) The MARC Holder shall also provide the schedule on a monthly basis for the maintenance of the tendered equipment as per the equipment usage.</p> <p>The MARC Holder shall attend the scheduled meetings with the representatives of BCCL at agreed frequency to discuss the timeliness of each and every Service Scheduled. The MARC Holder shall also attend any unscheduled emergency meetings required.</p> <p>(xiv) The MARC Holder shall perform regular oil sampling and testing on all tendered equipments as per OEM guidelines and provide to BCCL results of sampling and shall under take necessary corrective & preventive actions based on the sampling results under intimation to BCCL.</p> <p>(xv) MARC-holder will be solely responsible for providing safety items to the personnel engaged by them for working in the mine area.</p> <p>(xvi) The MARC Holder shall conduct structural inspections of critical joints to be decided jointly at every 5000 hrs by Non - Destructive Test. Record and Report on defects of the structural components of the tendered equipments, if noticed, shall be undertaken subsequently for corrective and preventive actions by the MARC Holder on such equipments based on the said report. The frequency of such inspections shall full fill the statutory compliance wherever applicable or otherwise on mutually agreed terms.</p>			AGREED	Noted and agreed
(xvii) MARC-holder shall give expected life of major assemblies also in the Format given in Table-3 below, duly signed.			AGREED	Uploaded and enclosed with offline documents.
Table-3			AGREED	
EQUIPMENT	MAJOR ASSEMBLIES	EXPECTED LIFE* (in Hours)		
Water Sprinkler 28KLS	Body Chassis		AGREED	
	Differential (where applicable)		AGREED	
	Complete Engine system		AGREED	
	Wheel Motor (where applicable)		AGREED	
	Transmission Assembly		AGREED	
	Electrical items		AGREED	
Note - * Expected life means life before first overhaul.			AGREED	




2. MANPOWER The MARC-holder shall provide a list of officers/support personnel and system expert to be deputed at BCCL site/each project for maintenance and repair of the equipment and coordinating MARC, for BCCL approval. BCCL shall provide semi skilled & unskilled manpower for at each project site as per Table 4.	AGREED	Noted and agreed
Manpower Training & Induction The MARC holder shall provide training to the operators & maintenance personnel engaged by BCCL to a level of proficiency towards achievement of guaranteed availability. Training on Simulator Modules by the bidder at their works / suitable locations is mandatory. The MARC Holder, in consultation with BCCL, shall impart comprehensive classroom training, practical demonstration of the tendered equipment and on the job training, under actual working conditions to the operators and maintenance personnel engaged by BCCL. Safety should be an important part of the training. In the course of training the MARC Holder shall provide to such personnel, complete and comprehensive literature giving necessary technical information about the tendered equipment and detailed instructions for operation and maintenance of the same in English and Hindi. The MARC Holder, in consultation with BCCL, shall conduct annual training audits of the existing personnel and provide further training to enhance their skill for the operation and maintenance of the tendered equipments. All the MARC Holder's personnel and / or representatives shall, prior to commencing work at site, attend an induction course conducted by BCCL representatives, who shall introduce the MARC Holder personnel to the opencast mining, site practices, safety requirements contained in the Mines Act and any other law for the time being in force. The MARC Holder shall ensure that the persons deployed by them for the maintenance of the tendered equipments comply with the Mines Act and any other Law for the time being in force.	AGREED	<i>Training shall be organized at IT centers, BCCL, Dhanbad for site maintenance crews and operators also on the equipments at site. We shall impart simulator training on dumper at our works. Also if so desired, we shall impart training on the live equipment at our works.</i>
3. AVAILABILITY PROVISIONS & DOWNTIME 3.1 Availability Guarantee MARC Holder shall ensure that the equipments are available for putting to use at least for the guaranteed availability specified in Table - 1	AGREED	Noted and agreed
3.2 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 spares from the stock of the project, the period after 21 days till the supplier replaces the part shall be treated as 'deemed breakdown' (the credit for keeping machine available shall not be given to the supplier.) No payment on account of both 'spares & consumable' and 'supervision & overhead costs' will be made for such period to the MARC holder. 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. Even if the equipment is commissioned by taking out spare parts from any other breakdown equipment in the interest of BCCL, it shall be treated as deemed breakdown till the supplier replaces the spare parts	AGREED	Noted and Agreed
3.3 Method of Assessment Refer clause C 7.2.1 of part C of general requirements.	AGREED	



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<p>3.4 Unscheduled Maintenance</p> <p>If at any time the operator noticed any operational problem on the equipment, the same shall be reported to the MARC Holder's representative at site and BCCL shall stop operating the said equipment till it is rectified. The time taken to rectify the defect shall be treated as Downtime Hours. Equipment shall remain under breakdown unless maintenance in-charge of BCCL certifies that it has been properly repaired. Arranging spares and tools shall be responsibility of the MARC Holder. Any delay on this account will be considered as breakdown hours. MARC Holders Stores shall be opened round the clock and BCCL shall provide the necessary security arrangements existing at the site. The MARC Holder shall inform BCCL of any major defect or fault noticed by the MARC Holder in the equipment during the course of their maintenance, whereupon BCCL shall stop using the said equipment and the MARC Holder shall affix "out of service" notice on the equipment and shall proceed forthwith to perform repairs to rectify the defect. The MARC Holder in consultation with BCCL will make the repair plan and arrange the spares and BCCL shall provide the manpower skilled and unskilled out of the total manpower as indicated in Table 4, which will be decided jointly and other facility like crane to carry-out the repair. The MARC Holder will inform in writing the requirement of crane, if any, at least 12 hours in advance for planned maintenance & repair. For unscheduled breakdown & repair the MARC Holder shall give requirement of cranes, if any, immediately and BCCL will provide it at the earliest possible. If BCCL is able to provide cranes within 8 hours, down time shall be accounted in the MARC Holder's account, else down time beyond 8 hours will be on user's account. Both the Parties shall make necessary entries in the logbook for recording the details of the defect, date & time such defect is noticed, the person operating the equipment, the person attending the defect from the MARC Holder, the nature of repair, time taken for repair and the date and time when the said equipment is ready for operation. The purchaser and the MARC Holder, jointly to monitor the practicality of the Preventive maintenance schedule (indicated in clause xiii) and review this schedule of tasks periodically.</p>	AGREED	Noted and agreed
<p>3.5 Limitations of Guaranteed Availability</p> <p>MARC Holder shall ensure the guaranteed availability of the equipment. However, non-availability of any of the equipments due to the following reasons shall not be considered for calculation of down time hours. Similarly, repairing cost if any, due to these reasons will not be included in MARC Holder's account. In such cases, repair will be carried out by the MARC Holder for which cost will be borne by BCCL and separate work order will be released. Manpower required for correcting all such damages shall be provided by BCCL..</p> <p>a) Damage due to accident or otherwise if it is established that the damage has occurred due to operator's fault or negligence</p> <p>b) Natural disaster.</p> <p>c) Lack of accessibility to the equipment.</p> <p>d) Modification to equipment at the request of BCCL</p> <p>e) Non availability of fuel.</p> <p>f) Theft or pilferage of equipment part / parts.</p> <p>g) Any law & order problem causing disturbances leading to stoppage of work.</p> <p>h) Strike or stoppage of work by the purchaser's personnel.</p>	AGREED	Noted and agreed
<p>4. FACILITIES TO BE PROVIDED BY BCCL TO MARC HOLDER</p> <p>4.1 Electricity & fuel</p> <p>BCCL shall provide electricity up to the field Switches & fuel at the dispensing unit as required for operating the equipment.</p> <p>4.2 Other facilities</p> <p>The purchaser will assist the MARC Holder, without relieving the MARC Holder of any other obligations under the contract to achieve the guaranteed availability by:</p> <p>I. Providing following maintenance & repair facilities at the workshop:</p> <ul style="list-style-type: none"> • Covered space with compressed air facilities for repair of electrical & hydraulic components • work table with bench vice for electrical/hydraulic components • high pressure water jet washing facilities for cleaning of the equipment • welding set with accessories • machine shop facilities available in the workshop • covered space for warehouse and office available in the project site • tyre handler, tyre mounting and demounting machines(capacities to be specified by the MARC Holder) • fuel bouser / diesel dispensing unit for filling fuel in the equipment. • mobile crane. <p>II. Where appropriate, providing and maintaining such conditions as:</p> <p>Bench preparation</p> <p>Reasonable haul road with Dust suppression arrangement</p>	AGREED	Noted and agreed




<p>III. Providing MARC Holder's authorized representatives access at all reasonable times to the equipment service and repair facilities.</p> <p>IV. Providing requisite semi-skilled and unskilled supportive manpower for maintenance and repair of equipment (including machine shop & excluding manpower for crane) at the following rate for different population of equipment at the site.</p>		AGREED	Noted and Agreed
Table-4			
Water Sprinkler 28KL	Manpower	AGREED	
No.	No.	AGREED	
		AGREED	
1-5	10	AGREED	
6-10	13	AGREED	
11-15	20	AGREED	
16-20	26	AGREED	
21-25	32	AGREED	
26-30	39	AGREED	
<p>Note: Semi-skilled manpower means: Fitter, Electricians, Machinist, Welder</p> <p>Unskilled manpower means: Helper and General Mazdoors.</p>		AGREED	
<p>V. Maintaining a logbook for each shift, wherein the working hours, breakdown time (under MARC Holder's and BCCL's heads separately), maintenance hours, idle time, details of fuel & lubricant consumed shall be recorded. This record will be available for examination and signature of the MARC Holder's representative on daily basis.</p> <p>VI. Accommodation and Site Office</p> <p>BCCL shall provide suitable accommodation to the MARC Holder personnel as per prevailing BCCL rules. The MARC Holder shall submit the requirement of the accommodation for the personnel to be posted at site for the fulfilment of the terms and conditions under this contract. The MARC Holder shall pay maintenance and electricity charges for the accommodation as per the prevailing BCCL rules.</p> <p>VII. Medical assistance as available with the purchaser, on payment basis as per BCCL rule.</p> <p>VIII. General Security arrangement, as available for assets of BCCL, shall also be extended to the MARC holder.</p>		AGREED	Noted and Agreed
<p>5. PERSONNEL OF MARC-HOLDER</p> <p>Within seven (7) days of the commencement of this Agreement, the MARC Holder shall submit to BCCL, in writing:</p> <p>The Personnel who shall be Project in-charge for the MARC Holder at BCCL mine Site.</p> <p>The MARC Holder's project in-charge and other maintenance personnel shall have relevant technical qualification and experience in their respective fields to perform their duties to discharge the MARC Holder's obligations under this Contract.</p> <p>The number of personnel and their categories to be deployed by the MARC Holder for maintenance of equipment at each site and elsewhere has to be indicated.</p> <p>The MARC Holder shall be solely responsible for the safety and discipline of its personnel as required under safety and other applicable laws in India in force during the entire term of this Contract.</p> <p>The personnel deployed by the MARC Holder shall adhere to the rules, regulations and norms stipulated by BCCL's site management at all times.</p> <p>The MARC Holder shall be responsible for any misconduct or dereliction of duties on the part of its personnel.</p> <p>The MARC holder will be responsible for adherence to all statutory laws like Provident Fund, Minimum Wages Act ESI, Factory act etc.</p> <p>The MARC Holder personnel and other representatives shall follow the CODE OF CONDUCT as per manufacturer's recommendation duly vetted by BCCL management.</p> <p>MARC holder will indemnify the purchaser against any claim for compensation made by any personnel of the MARC holder due to accident, injury, death etc.</p>		AGREED	Noted and Agreed



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<p>6. MODIFICATIONS, STATUTORY REQUIREMENT, SAFETY & FIRST AID</p> <p>6.1 Modification and Up gradation The MARC Holder shall advise BCCL of any modifications or up-gradation of the equipment for increasing safety and reliability, improved production performance and fuel efficiency. If BCCL elects to implement such modification or up-gradations of equipment, on case to case basis, it will be carried out by the MARC Holder at the cost of BCCL on the terms and conditions as may be agreed to by the parties and in such case, the time spent to upgrade the equipment shall not be classified as Down time Hours. If MARC Holder on its own initiative wishes to upgrade or modify the equipment, the MARC Holder may carry out the up-gradation at its own cost with BCCL's prior consent. BCCL shall not withhold such consent unreasonably but the time spent in upgrading shall be classified as downtime hours. If modification is required in the equipment to comply with the provisions of any Law, which came into force after the commencement date of this contract, then such modification shall be taken up by the MARC Holder at BCCL cost and time taken for such job shall not be classified as downtime hours.</p>	AGREED	Noted and Agreed
<p>6.2 Statutory Requirement The MARC Holder, while performing of its obligation under this Contract, shall comply with the requirements of all the applicable laws, rules, regulation and byelaws. The MARC Holder shall at its own cost obtain all permits and licenses necessary for undertaking the activities under this contract and shall pay all, taxes and fees payable under any law for the time being in force and during the term of this Contract and shall provide the evidence to BCCL to prove compliance of the legal requirements as stated above as well as payment of taxes or fees. The MARC Holder shall comply with all the provisions of Labour Laws including Contract Labour (Abolition and Regulation) Act, 1970 & subsequent amendments, and the rules made there under, Minimum Wages Act, Payment of Wages Act, Employees Provident Fund Act etc. The MARC Holder shall conduct all checks as mandated by statutory law and DGMS circulars / orders and submit the reports to the concerned BCCL Mine Manager or his representative.</p>	AGREED	Noted and Agreed
<p>Dangerous occurrences & Accident The MARC Holder shall comply with the requirements under the Mines Act and all other law for the time being in force and report the Mine Manager regarding occurrence of any accident or incident, which may or may not cause any harm to persons or machinery but has the potential to cause serious harm / damage to the men or machinery or has the potential to seriously affect the working of the equipment or the mine. The MARC Holder shall also report accidents resulting in death, serious bodily injury and reportable injury or minor injury prescribed under the Mines Act. BCCL will not be responsible to pay any compensation whatsoever due to any injury/death of any person engaged by the MARC Holder during the Contract period. However it shall be the responsibility of the MARC Holder to pay the compensation to the persons engaged as per the law. The loss, if any, incurred due to any damage to the equipment arising out of mishandling or abuse by the MARC Holder shall be realized from the MARC Holder. It shall be the responsibility of MARC holder to pay all compensation to persons engaged by the MARC holders as per law.</p>	AGREED	Noted and Agreed
<p>6.3 Safety & First Aid The MARC Holder shall comply with the statutory requirement in respect to safety and first aid requirements as per the relevant statutes and shall in particular: (i) ensure that their personnel are properly equipped with Personal Protective Equipment and Protective Devices and are well versed in the safety measures required in the mining operation. (ii) ensure that their personnel follow the safe working practices at all times in the course of performance of their duties in discharge of MARC Holder's responsibilities under this Contract. (iii) ensure deployment of persons sufficiently trained in First Aid and that they are equipped with the first aid facilities at the mine site throughout the tenure of this Contract. BCCL shall provide the MARC Holder a copy of their safety policy and any amendment made thereto. The MARC Holder shall comply with BCCL's Safety Policy.</p>	AGREED	Noted and Agreed




<p>7. MAINTENANCE OF RECORDS The following reports are to be generated by the MARC holder or jointly with the purchaser whenever indicated here under and are required to be submitted to COMACE (Elev) of the each project of BCOL.</p> <p>i. Equipment Logbook indicating actual working hours per shift, breakdown hours on account of purchaser and MARC Holder, as the case may be, with reasons for breakdown, detailed defect, nature of repair, time taken for repair, day & time when equipment is ready for operation, maintenance hours, life hours with details of spares and consumables (usage) including fuel and lubricants shall be recorded. This record shall be maintained jointly by the representative of BCOL and MARC holder. The logbook shall be jointly signed on daily basis. This shall be the basis to arrive at equipment availability and utilization and for making payment thereof. Date and time when defect was noticed and name of persons operating the equipment and person attending the defect from the MARC holder shall also be noted in the format enclosed at Annexure I.</p> <p>ii. BCOL representative and the MARC Holder representative shall meet daily to certify the downtime hours incurred during the previous day. The agreed Downtime Hours shall be entered into the computers operated and maintained by BCOL on a weekly basis based on the jointly signed daily reports. At the end of each month the total Downtime Hours recorded during the month shall be calculated in respect of each equipment to compute availability of the equipment for that month.</p> <p>iii. All the equipment will be provided with necessary hour meters (service meters) for recording working hours. It will be the responsibility of the MARC Holder to keep these meters in working order. For all purposes, i.e. availability & utilization calculation, preventive/scheduled maintenance etc. hour meter reading only shall be considered. Equipment shall be treated as breakdown if the hour meter is replaced.</p> <p>iv. Monthly records of hours/ Kilometres run report of the each equipment.</p> <p>v. Maintenance (repair, service) forecast plan of each equipment.</p> <p>vi. Records of diesel consumption shall be kept so that abnormal rise in diesel consumption is checked.</p> <p>vii. Review for continuous improvement BCOL and MARC Holder shall review the performance of equipment in meetings to be held at regular intervals, as may be decided mutually, for continuous improvement in the performance and cost reduction of equipment operation as well as reduction of cost for its maintenance.</p> <p>viii. Management Reports BCOL and the MARC Holder shall mutually formulate a system to collect, and maintain data with respect to availability of equipment, Downtime Hours and the detailed reasons therefor, run-hours, fuel and lubricant consumption, spare parts usage, and maintenance cost, sub-assembly life, component exchange items life, type life of equipment etc. during the term of this Contract. These records shall be maintained during the term of this Contract. MARC holder shall submit a monthly report in the format as indicated in Annexure II.</p>	<p>AGREED</p>	<p>Noted and Agreed</p>
<p>8. JOINT SURVEY OF EQUIPMENT NEAR THE END OF MARC MARC holder shall handover each equipment in good running condition to BCOL after completion of MARC to utilize the same for the balance life wherever applicable. A joint survey report of these machines shall be conducted six (6) months before expiry of the contract and the MARC holder shall replace the worn-out assemblies with new one and overhaul the assemblies/sub-assemblies which require overhauling before handing over the equipment in reliable condition. It recommended replacement/overhauling based on joint survey report is not carried out by the MARC holder, suitable penalty proportionate to the cost of replacement required shall be paid by the MARC holder to BCOL, before handing over the equipment. For the joint survey report an indicative checklist is enclosed for guidance as per Annexure III.</p>	<p>AGREED</p>	<p>Noted and agreed</p>

[Signature] 27/2

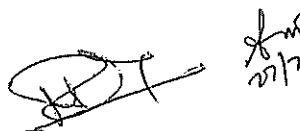
<p>7. MAINTENANCE OF RECORDS</p> <p>The following reports are to be generated by the MARC-holder or jointly with the purchaser wherever indicated here under and are required to be submitted to CGMICE (Excv.) of the each project of BCCL.</p> <p>i. Equipment Logbook indicating actual working hours per shift, breakdown hours on account of purchaser and MARC Holder, as the case may be, with reasons for breakdown, detailed defect, nature of repair, time taken for repair, day & time when equipment is ready for operation, maintenance hours, idle hours with details of spares and consumables usages including fuel and lubricants shall be recorded. This record shall be maintained jointly by the representative of BCCL and MARC-holder. The logbook shall be jointly signed on daily basis. This shall be the basis to arrive at equipment availability and utilization and for making payment thereof. Date and time when defect was noticed and name of persons operating the equipment and person attending the defect from the MARC Holder shall also be noted in the format enclosed at Annexure I.</p> <p>ii. BCCL representative and the MARC Holder representative shall meet daily to certify the downtime hours incurred during the previous day. The agreed Downtime Hours shall be entered into the computers operated and maintained by BCCL on a weekly basis based on the jointly signed daily reports. At the end of each month the total Downtime Hours recorded during the month shall be calculated in respect of each equipment to compute availability of the equipment for that month.</p> <p>iii All the equipment will be provided with necessary hour meters (service meters) for recording working hours. It will be the responsibility of the MARC Holder to keep these meters in working order. For all purposes, i.e. availability & utilization calculation, preventive/schedule maintenance etc. hour meter reading only shall be considered. Equipment shall be treated as breakdown till the hour meter is replaced.</p> <p>iv Monthly records of hours/ Kilometres runs report of the each equipment.</p> <p>v Maintenance /repair, service forecast plan of each equipment.</p> <p>vi Records of diesel consumption shall be kept so that abnormal rise in diesel consumption is checked.</p> <p>vii Review for continuous improvement</p> <p>BCCL and MARC Holder shall review the performance of equipment in meetings to be held at regular intervals, as may be decided mutually, for continuous improvement in the performance and cost reduction of equipment operation as well as reduction of cost for its maintenance.</p> <p>viii Management Reports</p> <p>BCCL and the MARC Holder shall mutually formulate a system to collect, and maintain data with respect to availability of equipment, Downtime Hours and the detailed reasons therefore, run-hours, fuel and lubricant consumption, spare parts usage, and maintenance cost, sub-assembly life, component exchange items life, tyre life of equipment etc. during the tenure of this Contract. These records shall be maintained during the term of this Contract. MARC holder shall submit a monthly report in the format as indicated in Annexure II.</p>	<p>AGREED</p>	<p>Noted and Agreed</p>
<p>8. JOINT SURVEY OF EQUIPMENT NEAR THE END OF MARC</p> <p>MARC holder shall handover each equipment in good running condition to BCCL after completion of MARC to utilize the same for the balance life wherever applicable. A joint survey report of these machines shall be conducted six (6) months before expiry of the contract and the MARC holder shall replace the outlived assemblies with new one and overhaul the assemblies/ subassemblies which require overhauling before handing over the equipment in reliable condition. If recommended replacement/overhauling based on joint survey report is not carried out by the MARC-holder, suitable penalty proportionate to the cost of replacement required shall be paid by the MARC-holder to BCCL before handing over the equipment. For the joint survey report an indicative checklist is enclosed for guidance as per Annexure III.</p>	<p>AGREED</p>	<p>Noted and agreed</p>

[Signature] 27/7

<p>9. PRICE BASIS FOR MARC(4500 HRS ANNUAL INTERVAL)</p> <p>9.1 Hourly Rate of Charges Bidders shall quote the prices for Maintenance and Repair Contract (MARC) in the following manner:</p> <p>a) The Spares and Consumables Price per working hour taking into account [4500] expected annual working hours.</p> <p>b) The Supervision and Overhead Price per Available hour taking into account [4500] expected annual working hours.</p> <p>However, the payment of Spares and Consumables Price shall be made on the basis of actual achieved working hours and the payment for Supervision and Overhead Price on the basis of actual Available hours.</p> <p>The bidder shall quote the MARC prices in accordance with Sec-II, ITB, clause-15.G and as per the price format given at Annexure- 4, Sample forms, sec-VII.</p> <p>Note: Preventive maintenance schedule at different intervals indicating the repair or exchange of the assemblies/sub-assemblies etc. shall also be indicated year wise. The MARC-holder should take note of the expected life for the major sub assemblies/assemblies and confirm that this aspect (Repair/replacement at no extra cost to BCCL) has been duly factored in the offered MARC hourly price basis. Further, since they are entitled to take back the scrap items, they should consider this factor also in the quoted hourly Price basis.</p>	AGREED	Noted and Agreed
<p>9.2 Taxes & Duties</p> <p>9.2.1 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 clause 21 of Sec-II, ITB. The foreign MARC-holder shall also be liable to pay the income tax on the salary of their expatriate personnel. The foreign MARC-holder(s) for this purpose are requested to make themselves aware of the Indian Tax Laws and other obligations for their employees.</p> <p>9.2.2 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 clause 21 of Sec.-II, ITB</p>	AGREED	Noted and Agreed
<p>10. COMPENSATION FOR NOT ACHIEVING GUARANTEED AVAILABILITY</p> <p>For Equipment (during warranty period) For Equipment (during warranty period) compensation will be as per clause 7.3.3 (1) of Part C, Technical Specification</p> <p>For MARC</p> <p>10.1 In the event that the Equipment fails to achieve the Guaranteed Availability herein provided calculated over each 12-month period, except for item 3.5, during the initial period of 3 years, the MARC-holder shall be liable to pay to the Purchaser, as compensation against not achieving guaranteed availability as indicated in table I, a sum equal to as indicated hereunder for each equipment in each year.</p> <p>a. 1% of the total actual annual MARC charges (for the year in which guaranteed availability has not been achieved) for reduction in every percentage or part thereof from the Guaranteed Availability for the first 5%.</p> <p>b. 10% of the total actual annual MARC charges (for the year in which guaranteed availability has not been achieved) for reduction beyond 5% from the guaranteed availability.</p> <p>10.2 In the event that the equipment fails to achieve the Guaranteed availability herein provided calculated over each 12 months, except for item 3.5, for the balance MARC period of 3 years, the MARC Holder shall be liable to pay to the purchaser as compensation against not achieving guaranteed availability as indicated in table I, a sum equal to as indicated hereunder for each equipment in each year.</p> <p>a. 0.5% of the total actual annual MARC charges (for the year in which guaranteed availability has not been achieved) for reduction in every percentage or part thereof from the Guaranteed Availability for the first 5%.</p> <p>b. 5% of the total actual annual MARC charges (for the year in which guaranteed availability has not been achieved) for reduction beyond 5% from the guaranteed availability</p>	AGREED	Noted and Agreed



<p>11. OTHER TERMS & CONDITIONS OF MARC</p> <p>11.1 Indemnification The MARC Holder shall indemnify BCCL against all damage and losses incurred or to be incurred including all expenses by BCCL due to non observance of statutory provisions, not obtaining proper permit /licenses from the appropriate authorities as mentioned under this contract. The MARC Holder shall indemnify BCCL against any claim or demands made by any employee or labourer either engaged by the MARC Holder or by BCCL as well as any other third party due to any accident or damage caused to the property or personal injury or workmen compensation in pursuance to the negligence or carelessness of the MARC Holder and /or its representatives. Similarly BCCL shall be responsible for any damage or compensation or claim made by the MARC Holder against any such claim made by any employee or third party due to the loss suffered by the said party/person in pursuance to the wilful negligence or carelessness by BCCL or its representatives.</p>	AGREED	Noted and Agreed
<p>11.2 RESOLUTION OF DISPUTES The purchaser and the MARC Holder shall make every effort to resolve amicable by direct informal negotiations any dispute arising between them in connection with the contract. Unresolved disputes if any arising out of contract, jurisdiction for the same shall be Dhanbad Court/Jharkhand High Court in India.</p>	AGREED	Noted and Agreed
<p>11.3 Exit Clause Due to any unforeseen / unavoidable circumstances, if the operation of the MARC at any time during entire MARC period of 7 years becomes undesirable, the contract shall be suspended / terminated with mutual consent of BCCL and MARC holder on mutually agreed terms & conditions.</p>	AGREED	Noted and Agreed
<p>11.4 Termination BCCL RESERVES ITS RIGHT TO SHORT CLOSE THE MAINTENANCE AND REPAIR CONTRACT (MARC) AT ANY STAGE DURING THE PENDENCY OF THE CONTRACT IN CASE MARC HOLDER FAILS TO MEET ITS OBLIGATIONS TOWARDS THE CONTRACT, AFTER LEVYING SUITABLE PENALTY AS DEEMED FIT.</p>	AGREED	Noted and Agreed
<p>11.5 Notices Unless otherwise specified in this Contract, all notices shall be given in writing in the persons and addresses listed below, or such other person or such other address and as the party receiving the notice would have previously indicated in writing. Unless otherwise specified, the effective date of any notice given in connection with this Contract shall be the date on which the addressee issues it. Address of MARC-Holder All notices to BCCL shall be given at the following address: CHIEF GENERAL MANAGER (MM) BHARAT COKING COAL LTD., COMMERCIAL BLOCK, LEVEL-III KOYLA BHAWAN, KOYLA NAGAR DHANBAD-826005</p>	AGREED	Noted and Agreed



ANX: 'B'

List of spares required during warranty period of 12 months / 4500 Hrs of Operation of One No. WS28-2 Water Sprinkler

SL. NO.	PART NO.	DESCRIPTION	Unit of Measurement	QTY	Basic Unit Price(Rs.)
ENGINE MAINTENANCE SPARES					
1	41Z9900472	SERVICE KIT (250 HRS.)	No.	18	4390.00
2	53Z1200016	ELEMENT ASSY.	No.	9	5200.00
3	0412222289	V-BELT	No.	2	6810.00
4	0412021933	V-BELT (ALTERNATER)	No.	2	590.00
CHASSIS CONSUMABLES					
1	560308020000	ELEMENT(T/M)	No.	4	5660.00
2	560308040000	RING FILTER SEAL (T/M FILT)	No.	4	3040.00
3	985AS91628	DESICCANT Cartridge	No.	2	4920.00
4	0706301210	ELEMENT(HYD)	No.	4	900.00
5	CHS0115175	ORING(HYD.FILTER)	No.	4	650.00
6	4196015250	ELEMENT (BREATHER)	No.	4	1530.00
7	575400160600	FILTER ELEMENT(STG.)	No.	4	12730.00
8	575400160800	BACK UP RING(STG.FILT)	No.	4	1720.00
9	575400160900	O-RING	No.	4	1040.00
10	575400160700	O-RING(STG.)	No.	4	830.00

List of Consumables required during warranty period of 12 months / 4500 Hrs of Operation of One No. WS28-2 Water Sprinkler

SL. NO.	PART NO.	DESCRIPTION	Unit of Measurement	QTY	Basic Unit Price(Rs.)
1	C600230210	ENGINE OIL (210L BARREL)	BARREL	3	40253.00
2	C600202210	HYDRAULIC OIL (210L BARREL)	BARREL	5	37449.00
3	C600212050	TRANSMISSION OIL (50L CONTAINER)	CONTAINER	3	10167.00
4	C600204210	FINAL DRIVE OIL (210L BARREL)	BARREL	1	30284.00
5	C600204050	FINAL DRIVE OIL (50L CONTAINER)	CONTAINER	3	7932.00
6	C600219020	SUSPENSION OIL (20L CONTAINER)	CONTAINER	1	2402.00
7	C600304000	GREASE EP2 (182KG BARREL)	BARREL	3	28137.00




ANNEXURE "C"Format of Bank Guarantee for Security Deposit:
(RS.250 non-judicial stamp paper)

Messers -----, a Company having its office -----
----- (hereinafter called the Contractor) has entered into a Contract No. -----

----- dated ----- (hereinafter called the said Contract) with Bharat Coking Coal Limited (hereinafter called BCCL, Buyer) to supply equipment on the terms and conditions contained in the said contract.

1. It has been agreed that hundred percent (100%) payment of the value of the equipment will be made to the Contractor in terms of the said contract on the Contractor furnishing to the purchaser a Bank Guarantee for the sum of ----- equivalent to 10% of the value of order by the Contractor, as security for the due and faithful performance of the terms of the said contract and against any loss or damage caused to or would be caused to or suffered by Purchaser by reason of any breach by the said Seller of any of the terms and conditions contained in the said contract.

The ----- having its office at ----- has at the request of Seller agreed to give the guarantee hereinafter contained.

2. We, ----- Bank Ltd. do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Purchaser stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Purchaser by reason of any breach by the said Seller or any of the terms and conditions contained in the said Contract or by reason of the Seller's failure to perform the said contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. We shall not withhold the payment on the ground that the Seller 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 purchaser and the Seller regarding the claim. However, our liability under this guarantee shall be restricted to an amount not exceeding -----.

3. We, -----, further agree that the guarantee herein contained shall come into force from the date hereof and shall remain in full force and effect during the period that would be taken for the performance of the said contract and that it shall continue to be enforceable till all the dues of the Purchaser under or by virtue of the said contract have been fully paid and its claims satisfied or purchaser certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Seller and accordingly discharge the guarantee.

Unless a demand or claim under this guarantee is made on us in writing on or before the ----- (date to be given), we shall be discharged from all liability under this guarantee thereafter.

4. We, ----- Bank Ltd., further agree with the Purchaser, that the Purchaser, shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the said seller (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser, against the said Seller and to forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason or any such variation or extension being granted to the said Seller or for any forbearance act or omission on the part of the Purchaser, or any indulgence by the Purchaser, to the said Seller or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

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 Purchaser the said sum of ----- (specify the amount) or such lesser sum as may then be due to the Purchaser and as the Purchaser may demand.

5. We, ----- Bank Ltd., further agree to renew the Bank Guarantee from time to time at the request of the BCCL.

6. We, ----- Bank Ltd., lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Purchaser, in writing.

7. The Bank has under its constitution power to give this guarantee and ----- who have signed it on behalf of the Bank have authority to do so.

7. This Bank Guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

Dated : ----- Day of ----- 20 -----,
for ----- Bank Limited.

Signature of the authorised person

for and on behalf of the Bank.

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ANNEXURE "C-I"

Format of Performance Bank Guarantee
(RS.250 non-judicial stamp paper)

Messers -----, a Company having its office -----
----- (hereinafter called the Contractor) has entered into a Contract No. -----

----- dated ----- (hereinafter called the said Contract) with Bharat Coking Coal Limited (hereinafter called BCCL, Buyer) to supply equipment on the terms and conditions contained in the said contract.

1. It has been agreed that hundred percent (100%) payment of the value of the equipment will be made to the Contractor in terms of the said contract on the Contractor furnishing to the purchaser a Bank Guarantee for the sum of ----- equivalent to 10% of the value of order by the Contractor, as security for the due and faithful performance of the terms of the said contract and against any loss or damage caused to or would be caused to or suffered by Purchaser by reason of any breach by the said Seller of any of the terms and conditions contained in the said contract.

The ----- having its office at ----- has at the request of Seller agreed to give the guarantee hereinafter contained.

2. We, ----- Bank Ltd. do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Purchaser stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Purchaser by reason of any breach by the said Seller or any of the terms and conditions contained in the said Contract or by reason of the Seller's failure to perform the said contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. We shall not withhold the payment on the ground that the Seller 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 purchaser and the Seller regarding the claim. However, our liability under this guarantee shall be restricted to an amount not exceeding -----.

3. We, -----, further agree that the guarantee herein contained shall come into force from the date hereof and shall remain in full force and effect during the period that would be taken for the performance of the said contract and that it shall continue to be enforceable till all the dues of the Purchaser under or by virtue of the said contract have been fully paid and its claims satisfied or purchaser certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Seller and accordingly discharge the guarantee.

Unless a demand or claim under this guarantee is made on us in writing on or before the ----- (date to be given), we shall be discharged from all liability under this guarantee thereafter.

4. We, ----- Bank Ltd., further agree with the Purchaser, that the Purchaser, shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the said seller (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser, against the said Seller and to forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason or any such variation or extension being granted to the said Seller or for any forbearance act or omission on the part of the Purchaser, or any indulgence by the Purchaser, to the said Seller or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

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 Purchaser the said sum of ----- (specify the amount) or such lesser sum as may then be due to the Purchaser and as the Purchaser may demand.

5. We, ----- Bank Ltd., further agree to renew the Bank Guarantee from time to time at the request of the BCCL.

6. We, ----- Bank Ltd., lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Purchaser, in writing.

7. The Bank has under its constitution power to give this guarantee and ----- who have signed it on behalf of the Bank have authority to do so.

7. This Bank Guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

Dated : ----- Day of ----- 20-----
for ----- Bank Limited.

Signature of the authorised person

for and on behalf of the Bank.

ANNEXURE "D"

GENERAL TERMS AND CONDITIONS OF SUPPLY OF STORES

- 1 Definition : In the interpretation of the Contract and the general and special conditions governing it unless the context otherwise requires :
 - i. "Contract" means the invitation of tender, instructions to tenderers, acceptance of tender, particulars and the general and special conditions specified in the acceptance of tender and includes a repeat order which has been accepted and acted upon by the supplier.
 - ii. The term "SUPPLIER" shall mean the person, firm or company with whom the contract is placed and shall be deemed to include the supplier in successors (approved by the Purchaser) representatives, heirs, executors, administrators and permitted assignee as the case may be.
 - iii. "CONTRACT PRICE" shall mean the sum accepted or the sum calculated in accordance with the price and / or terms accepted by or on behalf of the purchaser.
 - iv. The Chairman - cum- Managing Director means Chairman - cum Managing Director of Bharat Coking Coal Ltd. ,Dhanbad
 - v. The term DRAWING shall mean the drawings, the plans specified in or annexed to the schedule of specification.
 - vi. The term "PURCHASE EXECUTIVE" shall mean the purchaser or purchaser named in the schedule to the tender, his or their successors or assignees.
 - vii. The term INSPECTOR shall mean any person nominated by or on behalf of the purchaser to inspect supplies, Stores or works under the contract or his duly authorized agent.
 - viii. The term PROGRESS OFFICER shall mean any person nominated by or on behalf of the purchaser to visit supplier's works to ascertain the position of deliveries of stores purchased.
 - ix. The term MATERIALS shall mean anything used in the manufacture or fabrication of the stores.
 - x. The term PARTICULARS shall mean the following :
 - a. Specification
 - b. Drawing
 - c. Sealed pattern denoting a pattern sealed and signed by the inspector
 - d. Certified or sealed sample denoting a copy of the sealed pattern or sample sealed by the purchaser for guidance of the Inspector.
 - e. Trade pattern denoting a standard of the ISI or other standardizing authority of Bharat Coking Coal Ltd. and / or a general standard of the Industry and obtainable in the open market.
 - f. Proprietary make denoting the product of an individual manufacturer
 - g. Any other details governing the construction, manufacturer and or supply as existing in the contract
 - xi. STORES means the goods specified in the supply order or schedule which the contractor has agreed to supply under contract.
 - xii. The term TEST shall mean such test or tests as are prescribed by the specification or considered necessary by the Inspector or any agency acting under direction of the Inspector.
 - xiii. The term SITE shall 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.
 - xiv. Works denoting the persons shall include any company or association or body of individuals whether incorporated or not.
 - xv. WRITING shall include any manuscript, typewritten or printed statement under or over signature or seal as the case may be.
 - xvi. UNIT & QUALITY means the unit and quantity specified in the schedule.
 - xvii. SUPPLY ORDER or PURCHASE ORDER means an order for supply of stores and includes an order for performance.
- 2 The delivery of stores shall be deemed to take place on delivery of the stores in accordance with the terms of the contract after approval of stores by the Inspector to :
 - i. The consignee at his premises or
 - ii. Where so provided the interim consignee at his premises or
 - iii. A carrier or other persons named in the contract an interim consignee for the purpose of transmission to the consignee.
 - iv. The consignee at the destination station in case of contracts stipulated for delivery stores at destination station.
- 3 Words in the singular include the plural and vice-versa.
- 4 Words denoting the masculine gender shall be taken to include the feminine gender and work persons, shall include any company or association or body of individuals, whether incorporated or not.
- 5 Terms and expressions not herein defined shall have the meanings assigned to them in the India Sale of Goods Act 1930 or the Indian Contract, 1872 or the General Clauses Act 1897 and as amended in respect of all the Acts as the case may be.
- 6 (a) Parties :The Parties to the contract are the supplier and the purchaser named in the schedule or any other specifically mentioned in the contract




(b) Address to which communications are to be sent for all purposes of the contract, including arbitration there under, the address of the supplier mentioned in the tender shall be the address to which all communications addressed to the supplier shall be sent, unless the supplier has notified a change by a change by a separate letter containing no other communication and sent by registered post acknowledgement due to the head of the office placing the supply order. The supplier shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid. Any communication or notice on behalf of the purchaser in relation to the contract may be issued to the supplier by Purchase Executive and all such communications and notices may be served on the supplier either by registered post or under certificate of posting or by ordinary post or by hand delivery at the option of such executive.

- 7 i. The price quoted shall be either FOR place or Railway station of dispatch, FOR destination. Delivery free to the consignee, FOB or CIF as specified in the invitation to the tender. All offers from countries other than Purchaser's country shall quote on FOB and CIF basis.
- ii. In all cases the prices quoted must be net per unit shown in the enquiry and must include all packing and delivery where applicable. Refunds on account of returnable packages (if any) are to be separately specified. The price should show separately the Foreign Exchange element and the Rupee element for stores to be imported. Sales Tax shall be shown separately and whether it is State Sales Tax or Central Sales Tax. If no mention is made about Sales Tax, it will be assumed to be included in the price quoted.
- The prices should be included of Excise, or excise duty should be separately mentioned. In case where price is quoted inclusive of excise duty, the rate of quantum of the same should be separately indicated. In case of contracts providing for free delivery to the consignee, octroi charges shall be included where leviable.
- iii. The price must be stated separately for each item on unit basis.
- iv. When quotations are made for units other than those specified in the enquiry, the relationships should be stated.
- v. The prices quoted must be firm and the offers made must remain open for at least Six months from the date of submitting quotations unless otherwise specified.
- vi. Tender must invariably be submitted alongwith illustrated literature giving complete and detailed specifications, particulars etc. of the main unit and of the standard accessories to be supplied with the stores.
- vii. Tender must clearly specify their recommended spare parts that will be supplied along with the main unit and item wise prices of the spares parts, also what are fast moving, medium moving, slow moving and insurance spares and the period upto which they are likely to last.
- viii. Printed terms and conditions of the tendering firms shall not be considered as forming part of their tender. In case the terms and conditions of contract applicable to this invitation to tender are not acceptable to the tendering firms, they should clearly specify deviations there from in their tender.
- ix. Typed quotations should be submitted. Those containing erasures and over-writings are liable to be rejected. Any corrections made in the tenders must be initialed by the tenderers, failing which their tenders will not be considered.
- x. Insurance arrangement will be made as per instructions being issued from time to time by the Materials Management Division of Coal India Limited and / or its subsidiary companies.
- 8 i. Samples of each item, if considered necessary, should be submitted simultaneously by the contractor for inspection by Inspector / Inspectors unless the articles under tender are of considerable bulk in which case separate arrangement will be made for inspection of the articles offered while considering the quotation.
- ii. All samples required for inspection or test shall be supplied by the successful tenderer free of cost.
- iii. All samples must be clearly labeled with the tenderer's name, this offer enquiry number and the last date of opening of tender.
- 9 a) Subletting and Assignment : The supplier shall not save with the previous consent in writing of the purchaser, sublet, transfer, assign the contract or any part thereof or interest therein or benefit or advantage thereof in a manner whatsoever. Provided nevertheless that any such consent shall not relieve the supplier from any obligation, duty or responsibility under the contract.
- b) Change in a Firm:
- i. Where the supplier is a partnership firm, a new partner shall not be introduced in the firm except with the previous consent in writing of the purchaser (which may be granted only as an exception) of a written undertaking by the new partner to perform the contract and accept as liabilities incurred by the firm under the contract prior to the date of such undertaking.
- ii. On the death or retirement of any partner of the supplier firm before complete performance of the contract the purchaser may at his option cancel the contract in such case the supplier shall have no claim whatsoever for compensation against the purchase.
- iii. If the contract is not determined as provided in the sub-clause 1.ii above notwithstanding the retirement of a partner from the firm, he shall continue to be liable under the contract for acts of the firm until a copy of the public notice given by him under Section 32 of the Partnership Act has been sent by him to the purchaser by registered post acknowledgement due.
- 10 (a) Consequence of Breach: Should the supplier or a partner in the supplier firm commit breach of either of the conditions (a) or (b) of this sub-clause, it shall be lawful of the purchaser to cancel the contract and purchase or authorise the purchaser of the stores at the risk and cost of the supplier and in that event the provisions of clause 20 shall as far as applicable shall apply.

- (b) The decision of Coal India Ltd. and/or its subsidiary companies as to any matter or thing concerning or arising out of this sub-clause or any question whether the supplier or any partner of the supplier firm has committed a breach of any of the conditions in this sub-clause contained shall be final and binding on the supplier.
- 11 Use of raw materials secured with Government assistance:
- a. Where any raw material for the execution of the contract is procured with the assistance of CIL and or its subsidiary companies by purchase or under arrangement made or permit, license, quota certificate or release order issued by or on behalf of or under authority or by any officer empowered in that behalf by law, or is issued from government stock and where advance payments are made to the supplier to enable him to purchase such raw materials for the execution of the contract, the supplier.
- I. Shall hold such material as trustee of Coal India Limited and / or its subsidiary companies.
- II. Shall use such material economically and solely for the purpose of the contract.
- III. Shall not dispose of the same without the previous permission in writing of the purchaser; and
- IV. Shall tender due account of such material and return to the purchaser at such place as the purchaser may direct all surplus or unserviceable material that may be left after the completion of the contract or its termination for any reason whatsoever. On returning such material, the supplier shall be entitled to such price thereof as the purchaser may fix having regarding the condition of such material.
- b. Where the contract is terminated due to any default on the part of the supplier, the supplier shall pay all transport charges incurred for returning any material upto such destination as may be determined by CIL and / or its subsidiary companies whose decision shall be final.
- c. If the supplier commits breach of any of the conditions in this clause specified, he shall, without prejudice to any other liability, penal or otherwise, be liable to account to CIL and or its subsidiary companies all money, advantages of profits accruing from or which in the usual course would have accrued to him by reasons of such breach.
- d. Where the stores manufactured or fabricated by the supplier out of the materials arranged or procured by or on behalf of Coal India Limited and / or its subsidiary companies are rejected the supplier shall, without prejudice to any other right or remedy of the Government, pay to the Government on demand the cost price or market value of all such materials whichever is greater.
- 12 The tenderers in case of imported items, shall clearly mention in the question that in the event of the supply order being placed with them, they shall arrange for supply within a reasonable period of all necessary maintenance tools and spares parts that may be required from time to time during the normal life of the machines, on a continuous basis and at a price not in excess of the landed cost at their premises plus a stated percentage differential (such a differential should be indicated) and proper servicing of the main unit supplied by them as and when required. In case there is a Rate Contract with the DGS&D supply be made at the RC rates.
- 13 For orders placed directly on overseas suppliers, the tenderers should separately indicate whether their prices quoted include any commission for the manufacturer's agents in India and the amount of remuneration for the agent included in the quoted price. The Price shall include:
- a. The service that will be rendered by them as manufacturer's agent
- b. The name and address of agents, if any, in India, and
- c. The agency commission or remuneration or freight in case FOR prices are accepted will be paid in Rupees in India
- 14 On acceptance of the tender, a formal acceptance of tender or supply order will invariably be issued. Advance intimation in writing of acceptance of the tender will be given whenever considered necessary by the said authority. In case advance intimation has been given, the formal acceptance of tender of supply order shall follow in due course, but immediate action towards execution of supply order shall be taken on receipt of the advance intimation.
- 15 Inspection and Rejection : Generally the stores shall be of the best quality and workmanship and comply with the contract or supply order in all respect. The stores supplied shall be in accordance with specification unless any deviation is authorised and specified in the contract or supply order or any amendment thereof.
- a) Facilities for Test and Examination : The supplier shall, at his own expenses, afford to the Inspector all responsible facilities and such accommodation as may be necessary for satisfying it, that the stores are being and/or have been manufactured in accordance with particulars. The Inspector shall have full and free access at any time during the execution of the contract to the suppliers work for the purpose aforesaid, and he may require the supplier.
- b) Cost of Test : The supplier shall provide without any extra charge, all materials, tools, labour and assistance of every kind which the inspector may demand from him for any test, and examination, other than special or independent test, which he shall require to be made on the supplier's premises and the supplier shall bear and pay all costs attendant thereon. If the supplier fails to comply with the conditions aforesaid, the Inspector shall in consultation with the purchaser, be entitled to remove for test and examination all or any of the stores manufactured by the supplier to any premises other than his (suppliers) and in all such cases the supplier bear the cost of transport and/or carrying out such tests elsewhere. A certificate in writing of the Inspector that the supplier has failed to provide the facilities and the means, for test and examination shall be final.
- c) Delivery of Stores for Test : The supplier shall also provide and deliver the test free of charge, at such place other than his premises as the Inspector may specify, such materials or stores as he may require.
- d) Liability for Costs of Laboratory Test : In the event of rejection of stores or any part thereof by the Inspector in consequence of the sample thereof, which removed to the laboratory or other place of test, being found on test to be not in conformity with the contract or in the event of the failure of the supplier for any reason to deliver the



stores passed on test within the stipulated period, the supplier shall, on demand pay to the purchaser all costs incurred in the Inspection and/or test cost of the test shall be assessed at the rate charged by the laboratory to provide persons for similar work.

e) Method of Testing : 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.

f) Stores Expended in Test : Unless otherwise provided for in the contract, all stores/materials expended in test will be to suppliers account.

g) Inspector – Final Authority and to Certify Performance

i. The Inspector shall have the power : Before any stores or part thereof are submitted for inspection to certify that they can not be in accordance with the contract owing to the adoption of any unsatisfactory method of manufacturer.

ii. To reject any stores submitted as not being in accordance with the particulars.

iii. To reject the whole of the instalment tendered for inspection, if after inspection of such portion thereof as he may in his discretion think fit, he satisfied that the same is unsatisfactory; and

iv. To mark the rejected stores with a rejection mark so that they may be easily identified if resubmitted.

(h) Consequence of Rejection : If on the stores being rejected by the Inspector or consignee at the destination, the supplier fails to make satisfactory supplies within the stipulated period of delivery, the purchaser shall be at liberty to “

i. Allow the supplier to resubmit the stores, in replacement of those rejected, within a specified time, the suppliers bearing the cost of freight, if any, on such replacement without being entitled to any extra payment on the account; or

ii. Purchase or authorise the purchase of quantity of the stores rejected or so others of a similar description (when stores exactly complying with particulars opinion of the purchase executive which shall be final, readily available) without notice to the supplier's liability as regards the supply of any further installment due under the contract; or

iii. Cancel the contract and purchase or authorise the purchase of the stores or others of a similar description (when stores exactly complying with particulars are not in the opinion of the purchaser, which shall be final readily available) at the risk and cost of the supplier. In the event of action being taken under sub-clause (ii) above or this sub-clause in the provisions of clause 20 shall apply as far as applicable.

(i) Inspector's Decision as to Rejection Final : The Inspector's decision as regards the rejection shall be final and binding on the supplier.

(j) Where under a contract, the price payable is fixed on FOR station of despatch basis, the supplier shall, if the stores are rejected at destination by the consignee, be liable in addition to other liabilities to reimburse to the purchaser the freight paid by the purchaser.

(k) Notification of Result of Inspection : Unless otherwise provided in the specification or schedule, the examination of the stores will be made as soon as practicable after the same have been submitted for inspection and the result of the examination shall be notified to the supplier.

(l) Marking of Stores : The supplier shall if so required, at his own expense mark or permit the Inspector to mark all the approved stores with a recognised Government or purchaser's mark. The stores which can not be so marked shall, if so required by the Inspector, be packed in suitable package or cases each of which shall be sealed and marked with such mark.

(m) Removal of Rejection

i. Any stores submitted for inspection at a place other than the premises of the supplier and rejected shall be removed by the supplier subject as hereinafter provided within 14 days of the date of receipt of intimation of such rejection. If it is proved that letter containing such intimation is addressed and posted to him at the address mentioned in the schedule, it will be deemed to have been served on the supplier at the time when such letter would in the course of ordinary post reach the supplier. It shall be competent for the Inspector to call upon the supplier to remove what he considers to be dangerous, infected or perishable stores within 48 hours of the receipt of such intimation.

ii. Such rejected stores shall under all circumstances lie at the risk of the supplier for the moment such rejection and if such stores are not removed by the supplier within the period aforementioned, the Inspector/Purchaser may either return the same to the supplier at his 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.

(n) Inspection Notes: On the stores being found acceptable by the Inspector, he shall furnish the supplier with necessary copies of inspection note duly completed, for being attached to the supplier's bill thereof.

16 Packing and Transport

(a) It shall be the responsibility of the successful tenderers to arrange for the stores being sufficiently and properly packed for transport by Rail, Road or Sea as the case may be so as to their being free from loss or injury on arrival at destination. The packing of the stores shall be done at the expense of the successful tenderer.

(b) The successful tenderer is responsible for obtaining a clear receipt from the transport authorities specifying the goods despatched. He will not book any consignment on a "said to contain" basis. If he does so, he does it on his own responsibility. Bharat Coking Coal Ltd. shall pay for only such stores as are actually received by them in accordance with the contract.

- (c) All packing cases, containers, packing and other similar materials shall be supplied free by the successful tenderer and shall not be returned unless otherwise specified in the contract/supply order.
- (d) Packages must be so marked that identification is made easy. 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 words like 'Fragile', 'Handle with care'. Weight of each package will be marked on the package.
- (e) A complete list of contents in each package called the packing list will be prepared and one copy will be packed in the package itself and another copy will be forwarded to the consignee in advance.
- 17 Delivery: The time for and the date of delivery of the stores stipulated in the 'Purchase Order' shall be deemed to be the essence of the contract and delivery of the stores must be completed by the date specified.
- 18 If the execution of the contract / supply order is delayed beyond the period stipulated in the contract / supply order as a result of outbreak of hostilities, declaration of any embargo or blockage, or fire, flood, acts of nature or any other contingency beyond the suppliers' control due to act of God then CIL or its subsidiary Companies may allow such additional time by extending the delivery period, as it considers to be justified by the circumstances of the case and its decision shall be final. If and when additional time is granted by the CIL and its subsidiary companies, the contract / supply order shall be read and understood as if it had contained from its inception the delivery date as extended.
- 19 The supplier shall allow reasonable facilities and free access to his works and records to the Inspector, Progress Officer or such other Officer nominated for the purpose. Inspector of stores, i.e. supplies made by the successful tenderer against the supply order mentioned at (15) above, shall be carried out by the Inspector / Consignee at the Colliery site/ stores or by the Inspecting Wing (inclusive of all its branch officer) of the DGS&D, New Delhi or any other agency as may be specified in the supply order. Where necessary, inspection may be carried out at the supplier's premises.
- 20 Coal India Ltd and / or its subsidiary companies do not bind itself to accept the lowest or any tender and reserves to itself the right of accepting the whole or any part of the tender or portion of the quantity offered and the tenderer shall supply the same at the rate quoted.
- 21 The supplier shall at all times indemnify CIL and its subsidiary companies against all claims which may be made in respect of the supplies for infringement of any right protected by patent, Registration of Design, or Trade Mark, provided that in the event of any claim in respect of alleged breach of Letter Patent, Registered Design, or Trade Mark being made against CIL and / or its subsidiary companies, the said authority shall notify the supplier of the same and the supplier shall be at liberty at his own expense to settle any dispute or to conduct any litigation that may rise there from
- 22 Carrying vessels for Imported Items : In case of machinery imported from abroad, it is preferable that shipment should be effected in Indian Vessels, wherever possible. Supplies will however not be delayed on this account.
- 23 Freight: The stores shall be dispatched at Public tariff rates in the case of FOR station of dispatch contract and the stores shall be booked at full wagon rates whenever available and by the most economical route or by the most economical tariff available at the time of dispatch as the case may be. Failure to do so will render the supplier liable for any avoidable expenditure caused to the purchaser. Where alternative routes exist, CIL and or its subsidiary companies shall, if called upon also to do indicate the most economical route available or name the authority whose advice in the matter should be taken and acted upon. If any advice of any such authority is sought his decision or advice in the matter shall be final and binding on the supplier.
- 24 Passing of Property : Property in the stores shall not pass to the purchaser unless and until the stores have been delivered to the consignee or interim consignee as the case may be in terms of the contract.
- 25 Laws Governing the Contract.
- (a) This contract shall be governed by the Laws of India for the time being in force.
- (b) 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 which the acceptance of tender or supply order has been issued.
- (c) Jurisdiction of Courts: The courts of the place from the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of the contract.
- (d) Marking of Stores: The marking of the stores must comply with the requirement of the law relating to merchandise marks for the time being in force in India.
- 26 Corrupt Practices:
- (a) The supplier shall not offer or give or agree to give to any person in the employment of the purchaser or working under the orders of Coal India Ltd. and/or its subsidiary companies any gift or consideration of any kind as an inducement or reward for going or forbearing to do or for having done or forborne to do any act in relating to the obtaining or execution of the contract or any other contract with the purchaser or for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other with the Purchaser. Any breach of the aforesaid condition by the supplier or any one employed by him or acting on his behalf (whether with or without the knowledge of the supplier) or the Commission of any offence by the supplier or by any one employed by him or acting on the behalf under Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1947 and any amendments thereto or any other Act enacted for the prevention of corruption by Public Servants shall entitle Coal India Limited and or its subsidiary companies to cancel the contract and all or any other contract with the supplier and to recover from the supplier the amount of any loss arising from such cancellation in accordance with the provisions of Clause 20.

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(b) Any dispute or difference in respect of either the interpretation effect or application of the above condition or of the amount recoverable, the re-under by the purchaser from the supplier shall be decided by Coal India Limited and its subsidiary companies whose decision shall be final and binding on the supplier.

27 Insolvency and Breach of Contract

a) Coal India Limited and or its subsidiary companies may at any time by notice in writing, similarly determine the contract without compensation to the supplier in any of the following events that is to say -

If the supplier being an individual or if a firm any partner thereof shall at any time be adjudged insolvent or shall have a receiving order or order of administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any arrangements or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act.

b) If the supplier being a company is wound up voluntarily by the order of a court or a receiver, Liquidating Manager on behalf of the Debenture-Holders is appointed or circumstances shall have arisen which entitles the court or Debenture-Holders to appoint a Receiver, Liquidator or Manager.

c) If the supplier commits any breach of the contract not herein specifically provided for - Provided always that such determination shall not prejudice any right of action or remedy which shall have accrued or shall accrue thereafter to the purchaser and provided also the supplier shall be liable to pay to the purchaser for any extra expenditure he is thereby put to and the supplier shall under no circumstances be entitled to any gain on repurchase.

28 Progress Report

a) 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.

b) The submission, receipt and acceptance of such reports shall not prejudice the right of the purchaser under the contract, nor shall operate 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.

29 All disputes arising out of this contract shall be under the jurisdiction of Dhanbad /Jharkhand Court only and as per the "Law of the Land".

30. PROFORMA FOR COLLECTING PAYMENT THROUGH ELECTRONIC MODE INCLUDING ELECTRONIC FUND TRANSFER (EFT) & ELECTRONIC CLEARING SYSTEM

(To be submitted off line in triplicate)

1	VENCOR/SUPPLIER NAME AND ADDRESS (WITH TELEPHONE NO. AND FAX NO.)	
2	PARTICULARS OF BANK ACCOUNT	
	A. BANK NAME	
	B. BRANCH NAME (INCLUDING RTGS CODE)	
	ADDRESS	
	TELEPHONE NO. AND FAX NO.	
	C. 9- DIGIT CODE NO. OF THE BANK AND BRANCH(Appearing on the MICR cheque issued on the Bank) or 5-Digit code No. of SBI	
	D. ACCOUNT TYPE (SB Account/current account or cash credit with code 10/11/13)	
	E. LEDGER NO./LEDGER FOLIO NO.	
	F. ACCOUNT NO. (CORE BANKING) AND STYLE OF ACCOUNT (As appearing on the cheque book)	

3. DATE OF EFFECT

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 of me as a participant under the scheme. Any Bank charges levied by the Bank of such e-transfer shall be borne by us.

Date-----


(-----)

Signature of the vendor/supplier

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

(-----)

Signature of the authorised officials of the Bank

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Performance of equipment under performance guarantee during warranty period

Suppliers Name
M/c Model
M/cv No
D.O.C.
S.O.No.

Project
Area

Month	W/Hrs	M/Hrs	B/Dn Hrs		I/D Hrs	Shf Hrs	% AV	Remarks
			Users	Suppliers				

Certificate

- The deemed breakdown has been considered for calculating availability of Dumper during warranty period as above
- Warranty claim, if any, is detailed below:-

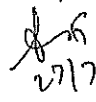
GM/CGM(Area)

SO(Excv)

Project Officer

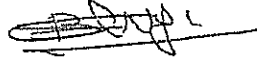
PE(Excv)

Service Engineer
(BEML)


Comprehensive Tools for WS28-2 Water Sprinkler				
SLNO.	PART NO.	DESCRIPTION	Q/E	
		TOOL KIT	1 SET	
1	451-TI-02016	BIHEX SOCKET 1/2" SQ. DRIVE	1	
a)	451-TI-11129	BIHEX SOCKET 1/2" SQ. DR. - 10 MM	1	
b)	451-TI-11137	BIHEX SOCKET 1/2" SQ. DR. - 13 MM	1	
c)	451-TI-11145	BIHEX SOCKET 1/2" SQ. DR. - 14 MM	1	
d)	451-TI-11153	BIHEX SOCKET 1/2" SQ. DR. - 17 MM	1	
e)	451-TI-11161	BIHEX SOCKET 1/2" SQ. DR. - 19 MM	1	
f)	451-TI-11178	BIHEX SOCKET 1/2" SQ. DR. - 22 MM	1	
g)	451-TI-11186	BIHEX SOCKET 1/2" SQ. DR. - 24 MM	1	
h)	451-TI-11194	BIHEX SOCKET 1/2" SQ. DR. - 27 MM	1	
i)	451-TI-11202	BIHEX SOCKET 1/2" SQ. DR. - 30 MM	1	
j)	451-TI-11218	BIHEX SOCKET 1/2" SQ. DR. - 32 MM	1	
2	451-TI-11023	ENGG PATERN SCREW DRIVER - 8 x 150 MM	1	
3	451-TI-11226	SLIP JOINT PLIER 200mm L	1	
4	451-TI-11234	NON REVERSBL RATCHET HANDLE	1	
5	451-TI-11242	BALL PEEN HAMMER WITH HAN	1	
6	451-TI-11259	UNIVERSAL JOINT	1	
7	451-TI-11275	EXTN. BAR - 1/2" SQ. DR. - 250 MM	1	
8	451-TI-11283	SWIVEL HANDLE 1/2" IN SQ D	1	
9	778-TI-01031	PIN STR	2	
10	778-TI-01048	DISC GAUGE	1	
11	935-TI-02061	WRENCH STR	1	
12	935-TI-02126	SOCKET STRUCTURE	1	
13	935-TI-11425	T HANDLE	1	
14	985-TI-01002	TOOL BOX	1	
15	985-TI-11103	THICKNESS GAUGE	1	
16	985-TI-11111	GREASE GUN WITH SUITABLE NOZZLE	1	
17	985-TI-11128	BAR	1	
18	985-TI-11306	WRENCH ADJ. 250 MM LONG	1	
19	985-TI-11314	PHILIPS SCREW DRIVER - 6 X 100 MM	1	
20	985-TI-11322	PHILIPS SCREW DRIVER - 8 X 150 MM	1	
21	985-TI-11396	L HANDLE 1/2 SQ. DR. - 210 MM	1	
22	985-TI-02048	OPEN JAW SPANNER DOUBLE E	1 SET	
a)	451-TI-11048	D.E.O.J SPANNER - 8 X 10 MM	1	
b)	451-TI-11056	D.E.O.J SPANNER - 12 X 14 MM	1	
c)	451-TI-11064	D.E.O.J SPANNER - 13 X 17 MM	1	
d)	451-TI-11072	D.E.O.J SPANNER - 19 X 22 MM	1	
e)	451-TI-11081	D.E.O.J SPANNER - 24 X 27 MM	1	
f)	451-TI-11097	D.E.O.J SPAN - 30 X 32 MM	1	
23	985-TI-02056	DOUBLE ENDED OPEN JAW SPANNER	1 SET	
a)	985-TI-11193	OJDE SPNR 3/8" X 7/16"	1	
b)	985-TI-11209	OJDE SPNR 1/2" X 9/16"	1	
c)	985-TI-11217	OJDE SPNR 11/16" X 19/32"	1	
d)	985-TI-11225	D.E.O.J SPANNER 7/8" X 13/16"	1	
e)	985-TI-11233	OJDE SPNR 15/16" X 1"	1	
f)	985-TI-11241	OJDE SPNR 1 1/16" X 1 1/4"	1	
g)	985-TI-11258	D.E.O.J SPANNER 1 1/8" X 1"	1	
h)	985-TI-11266	OJDE SPNR 5/8" X 3/4"	1	

Comprehensive Tools for WS28-2 Water Sprinkler				
SLNO.	PART NO.	DESCRIPTION	Q/E	
24	985-TI-02064	ALLEN WRENCH	1 SET	
a)	985-TI-11274	ALLEN WRENCH - 8 MM	1	
b)	985-TI-11282	ALLEN WRENCH - 6 MM	1	
c)	985-TI-11299	ALLEN WRENCH - 5 MM	1	
25	985-TI-02072	BIHEX, SOCKET 1/2 IN SQ.	1	
a)	935-TI-11741	SOCKET 1/2" SQ. DRIVE 1/2"	1	
b)	935-TI-11339	SOCKET 1/2" SQ. DRIVE 3/8"	1	
c)	935-TI-11347	SOCKET 1/2" SQ. DRIVE 7/16"	1	
d)	935-TI-11363	SOCKET 1/2" SQ. DRIVE 9/16"	1	
e)	935-TI-11371	SOCKET 1/2" SQ. DRIVE 5/8"	1	
f)	935-TI-11388	SOCKET 1/2" SQ. DRIVE 13/16"	1	
26	935-TI-02191	TYRE INFLATION KIT	1	
a)	935-TI-03009	TYRE INFLATOR	1	
b)	935-TI-11782	ADOPTER	1	
26	0901908035	WRENCH FILTER (09019-08035)	1	

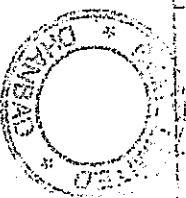

B. K. CHAUDHARY
 Sr. Manager



Ans
m/h

CUSTOMER:		SCOPE OF CUSTOMER INSPECTION RECORD FOR REVIEW	
DESCRIPTION OF STAGE / MAJOR PARAMETERS		WITNESS	RECORDS TO BE SUBMITTED
(1)	(2)	(3)	(4)
1. IN COMING MATERIAL (Indigenous)	Inspection of incoming material at source (Vendor's premises) is carried out by representatives of BEML. In view of this, inspection at division is limited to verification of inspection records. The general procedures to be followed is detailed in the departmental operating procedures. In case inspection of items is done at division, the same is carried out as per approved inspection plan / check sheet existing for the item. This does not apply to proprietary items. However performance checks on such items is covered during equipment testing.		
2. COMPONENTS SOURCED FROM FOREIGN SOURCE	Sourcing from foreign source is resorted to only on specialised items and only from reputed companies. In view of this, no further inspection is carried out at BEML. Inspection at receipt stage is limited to Visual Inspection for transit damages, conformance to packing list etc. However performance checks on such items is covered during Equipment testing.		
3. PROPRIETARY ITEMS	Items which are proprietary in nature are accepted based on Test Certificates / declaration by manufacturer. However performance checks on such items are ensured during Equipment Testing.		
4. ITEMS MANUFACTURED BY OTHER DIVISIONS OF BEML.	Since every division of BEML has accreditation to ISO : 9001 well established systems exist for manufacture & testing. In view of this, no further test is conducted by the Receiving Inspection. Inspection is limited to transit damages etc. However performance checks on such items is covered during equipment testing.		

B. K. CHAUDHARY
Sr. Manager
BEML Limited, Dharmad



S.O. No: 610143/89 dtd. 27.7.13

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Aves: G

BEM Limited		QUALITY ASSURANCE PLAN FOR WS28-2 WATER SPRINKLER		DOC NO: Y-QA-QAP-282-3		SHEET 02 OF 03	
		ISSUE : 01					
(1)		(2)		(3)		(4)	
5 INHOUSE MANUFACTURED COMPONENTS		For all critical components / aggregates documented process sheets. Work instructions which describe the method of manufacture and list of such items are available. The components / aggregates are suitably classified based on the criticality.					
6 PLUMBING WORK ON WATER TANK		Details of parameters to be checked and records to be maintained are documented in the inspection plan / check sheet & accordingly maintained.					
7 ASSEMBLY:		Plumbing work will be carried out as per the Drawing requirement					
8 FIELD TESTING		Well-defined process sheets, exploded view are available for all Major Assy activities. Inspection plans are also prepared which cover the various checkpoints. The check points cover all critical areas like Engine-Transmission alignment, Torques on all critical Hardware, Brake Adjustments, Hydraulic System Pressure Linkage Adjustments, Engine RPM, Lubrication oil Pressures, Steering System adjustments, Operating forces on control levers, checks for various safety features and attachments as per order terms.					
		Well-developed checklists are also developed & approved by competent authority, which cover the exact values of the parameters to be checked and their acceptance norms. Such checklists are maintained for each and every equipment and complete traceability is maintained.					
		Detailed work instruction exists for carrying out Field and Final testing. Suitable checklists are available & maintained. Field test comprehensively covers the following areas:					
		Greasing of various joints, Oil levels, Steering mechanism, Brake effectiveness, Stabilisation of Hydraulic Oil temperature, Speed test, Electrical functions, Drift in Hydraulic Cylinders, Water Tank Sprinkler function etc.					
		In addition, all Equipments are tested for specified duration					



[Signature]

M. K. Srinivasan

S. Manager

BEM Limited, Dharwad

[Signature]

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BEML Mysore		QUALITY ASSURANCE PLAN FOR WS28-2 WATER SPRINKLER		DOC NO: Y-QE-QAP-282-3		SHEET 03 OF 03	
(1)		(2)		(3)		(4)	
9	PAINTING:	Painting procedures are carried out as per company standards. Work instructions for ensuring process control & also for inspection of final painted product exists and suitable records are maintained. The parameters inspected include: paint viscosity, drying time, dry film thickness, peeling defects etc.					
10	ELECTRICAL CHECKS:	Electrical checks are carried out to check the functioning of all electrical gadgets / electricals.					
11	FINAL INSPECTION	On completion of all the above the Equipment is taken up for final inspection. Final inspection covers the following: <ul style="list-style-type: none">- Scrutiny of previous records to ensure satisfactory completion of all previous stages.- General inspection for satisfactory aesthetics.- Oil level checks for Engine, Hydraulic system, etc..- Availability of all safety features.- Availability of all attachments as per customer order.- Re-check on performance of various operations like steering, etc.. For all above activities, Work Instructions, Inspection Plan and suitable check list are available & maintained.					
12	STANDARD DOCUMENTS TO BE SUBMITTED	a) Engine Test Certificate b) Equipment Inspection Certificate c) Any other records as per order terms:					

The QAP meets the requirements of ISO 9001:2015 Quality Management System Standard.

APPROVED BY	NAME	SIGNATURE	DATE
	H.R. GURUNATHA NAIK (Q)		09/10/2012
	GM - CORPORATE QUALITY		

H. R. GURUNATHA NAIK
General Manager
CORPORATE QUALITY
BEML LIMITED
BEML Building, 97/1, 4th Main,
S. B. Nagar, Bengaluru-560 027



[Signature]

27/7

WATER SPRINKLER**Performance:**

High power BEML BSA6D140-1 engine, rugged AVTEC CLT 754 transmission with automatic lock-up clutch and heavy duty planetary axle provide optimum combination of speed and tractive effort. Pressurised discharge through sprinkling nozzles & higher spreading width for effective dust settling is assisted by hydraulic motor and centrifugal pump.

Adaptability:

Quick adaptability for fire fighting.

Reliability:

Adjustment-free wet multiple disc brakes for rear and dry caliper disc brakes for front axle offer longer life.

Manoeuvrability:

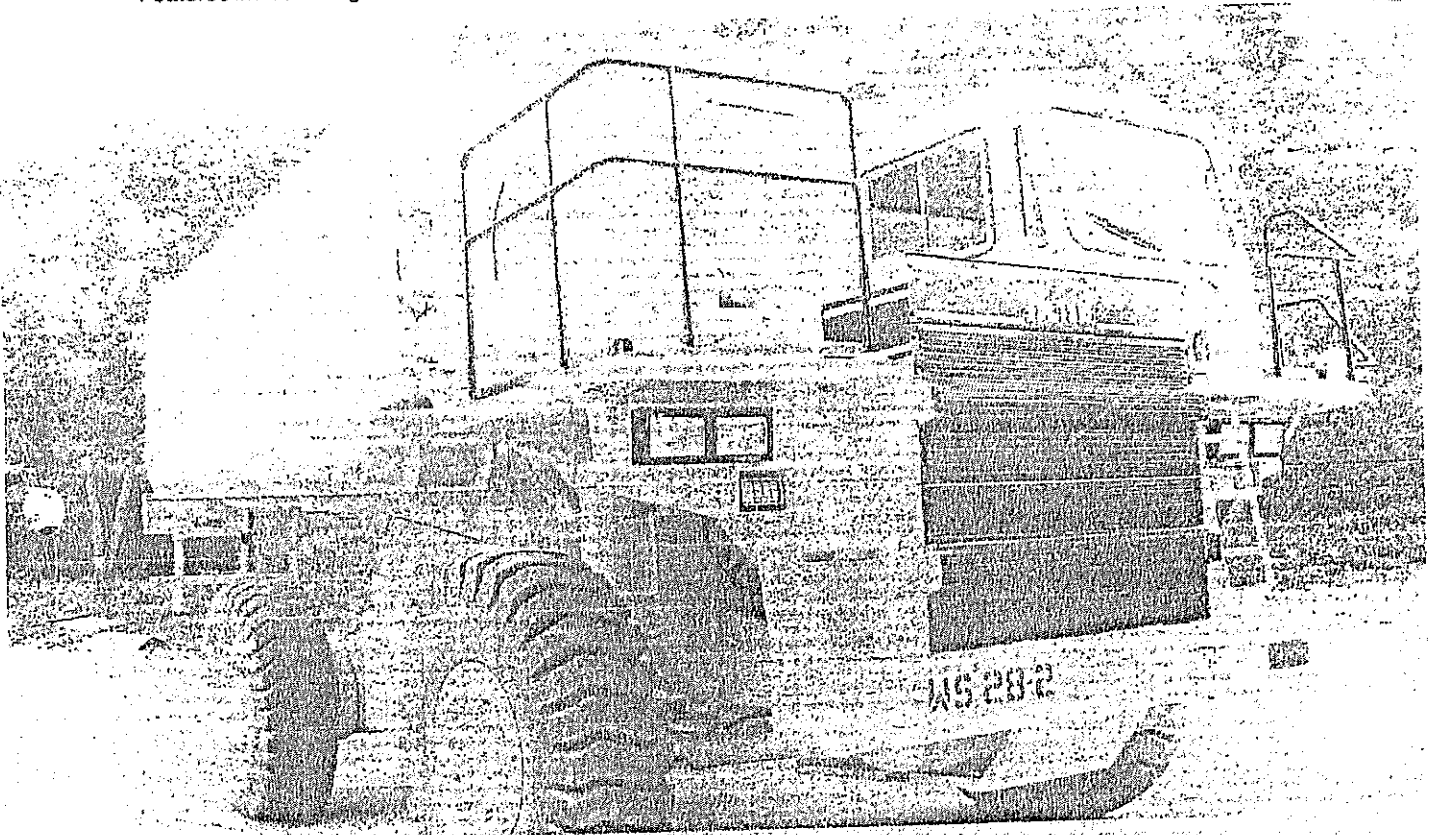
Orbitrol power steering with a good combination of steering angle, turning circle, tread and wheel base provide high degree of manoeuvrability. Water tank with baffles minimises surging and improves control of vehicle.

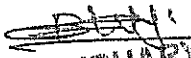
Comfort:

Ideally located spacious cabin with ergonomically designed operator seat and controls offer maximum comfort and operational ease. Pneumatically operated water valves reduce operator's effort.


Safety:

Features include integral ROPS cabin, emergency steering, dual brake system to meet relevant safety standards.




B. K. CHAUDHARY
Sr. Manager
BEML Limited, Dhanbad




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WS28-2 WATER SPRINKLER

Engine

Make	BEML
Model	BSA6D140-1
Type	IC-Diesel, 4-stroke, turbocharged, after cooled, Direct injection, water cooled
Number of cylinders	6, inline
Bore & Stroke (mm)	140 x 165mm
Displacement	15.5 L
Fly wheel power	280 kW (375 hp) @ 2100 rpm
Maximum net	1627 Nm (166 kgm) @ 1400 rpm
Meets SAE J 1349	
Electricals	
Starting motor	24V DC, 7.5 kW
Battery	2 x 12V, 200Ah
Alternator	24 V 45A

Power Train

Transmission	
Model	AVTEC CLT 754
Type	Powershift with automatic lockup clutch
Drive axle	Full floating
Differential	
Type	Traction sensing automatic
Ratio	3.23:1
Final Drive	
Type	Planetary reduction type
Ratio	4.578:1
Total reduction	14.787:1
Travel Speeds (km/h)	
Range	1st 2nd 3rd 4th 5th
Forward	7.74 12.57 19.35 29.06 40.11
Reverse	3.94

Tyres

Size (Front & Rear)

- 18.00 x 25, 32 PR (E-4) tubeless-Standard
- 18.00 x 25, 36 PR (E-4) tubeless-Optional
- 18.00 x 25, 40 PR (E-4) tubeless-Optional

Rim size 13.00 x 25

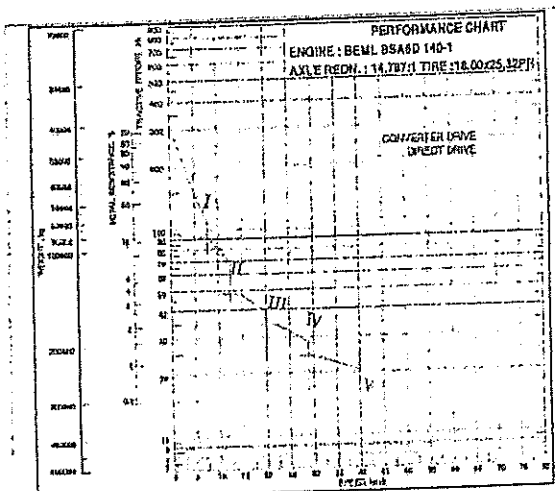
BEML recommends the user to evaluate all job conditions and consult the tyre manufacturer to make proper tyre selection.

Cabin

Type Integral ROPS with electronic display dashboard

(Meets ROPS Performance criteria as per ISO 3471)

Performance Chart



How to use this chart: Draw a straight line from gross vehicle mass to percent of total resistance (total resistance = grade resistance + rolling resistance) and extend the same line upto tractive effort. From this point draw horizontally to the curve with the highest obtainable gear, then vertically down to obtain maximum speed.

Steering System

Type	Orbitrol, full time power steering
Cylinder	
Type	Double acting piston type
Quantity	Two
Bore x Stroke	Ø 110 x 435 mm
Relief pressure	12.4 MPa (126 kg/cm ²)
Emergency steering	Electrically driven hydraulic pump & motor
Performance	
Turning radius	8.75 m
Vehicle clearance diameter	18.18 m

Brakes

Service Brakes	
Front:	Air-over-hydraulic, dry caliper disc
Rear:	Air-over-hydraulic, wet multiple disc
Emergency brakes	Air-over-hydraulic, automatic application through relay emergency valves
Parking brake	GI series dry disc type Parking brake on axle input flange
Retarder brake	Rear brake servers as retarder brake (Meets ISO 3450 performance requirements)

Tank

Construction	All welded reinforced, 6mm thick steel plates. Cross baffles to avoid heavy surging.
Interior coating	Coated with special anti-corrosive paint

St. Manager
BEML Limited, Dhara

Hydraulic System

Hydraulic Pump	
Type	One no tandem gear pump for steering, hydraulic motor and brake oil cooling
Flow of Hydraulic motor & steering,	213 l/min @ 2100 rpm
Flow of brake oil cooler	70 l/min @ 2100 rpm
Relief Pressure	
Motor	12.7 MPa (130 kg/cm ²)
Brake oil cooler	0.54 MPa (5.5 kg/cm ²)
Hydraulic Motor	
Type	Vane type
Power (Max.)	27 kW (36 hp) @ 12.7 MPa (130 kg/cm ²)
Speed	2900 rpm @ 128 l/min

Water System

Water pump	
Type	Centrifugal pump
Capacity	110 m ³ /hr @ 2900 rpm & 55 m head
Drive	Hydraulic motor through flexible coupling
Piping	
Suction	80 mm
Discharge	50 mm
Valves	Butterfly type
Sprinkling	
Pressurised sprinkling	Constant sprinkling velocity maintained by a centrifugal pump
Spreading width	14 metres
Gravity sprinkling	Through perforated manifold connected to tank bottom
Nozzles	Fish tail type
Self filling	By connecting the pump suction to outside reservoir or pond through armoured hose with foot valve unit
Fire fighting unit adaption	Quick connecting adaptor provided for fire fighting with canvas horse & triple purpose nozzle

System Refill Capacities

Systems	Capacity (Litres)
Cooling System	120
Fuel tank	540
Engine lub. oil	26
Transmission & Torque Converter	36
Final Drive (each side)	18
Differential	45
Hydraulic tank	225
Water tank	28,000
Air tank	150
Suspension - Front	17
Suspension - Rear	8.8

Frame

Type

Box section construction

D. K. CHAUDHARY
Sr. Manager
FEML Limited, Dhanu

Masses

Net Vehicle mass	25,700 kg	
Water weight	28,000 kg	
Gross vehicle mass	53,700 kg	
Mass distribution	Empty (kg)	Loaded (kg)
Front	12,079	17,721
Rear	13,621	35,979

Suspension

Type-Front	Frame mounted, hydropneumatic, integral rebound control	
Type-Rear	Axle mounted, inverted hydropneumatic, integral rebound control	
Cylinder	Front	Rear
Quantity	2	2
Bore x Stroke	Ø 216 x 365 mm	Ø 216 x 170 mm
Charging pressure	2.8 MPa (28.12 kg/cm ²)	1.9 MPa (19.5 kg/cm ²)
Load/Deflection rate		
(Empty)	482 kg/cm	408 kg/cm
(Loaded)	1132 kg/cm	5504 kg/cm

Standard Equipment**GENERAL:**

Integral ROPS cabin, Electronic Diagnostic system, Vandalism protection Cap (Fuel tank), Head and tail lights, Air horn, Turn signal lights, Alternator, Key-switch, Wiper motor, Manual emergency steering, Windshield washer, Right & left hand mirror, Portable fire extinguisher, Tool kit, Parking brake valve, Tilttable steering wheel and column, Exhaust muffler, Central warning lamp & buzzer, Battery relay, Backup Alarm with flasher, Catwalk, Mudflaps, Rock ejectors, Cabin floor mat, Safety seat belt, Air dryer, Front brake cut-off switch, Emergency brake, Engine shut-off switch, Co-operator seat & twin fresh air fans, Fog lights, Dial gauge for fuel tank, Auto retarder, Blind spot mirror & steering locking, Reflective stickers on all sides.

GAUGES:

Ammeter, Voltmeter, Air pressure, Engine oil pressure, Water temperature, Transmission oil temperature & pressure, Brake oil temperature, Air cleaner restriction, Speedometer, Tachometer, Electrical hour meter, Fuel level,

INDICATORS:

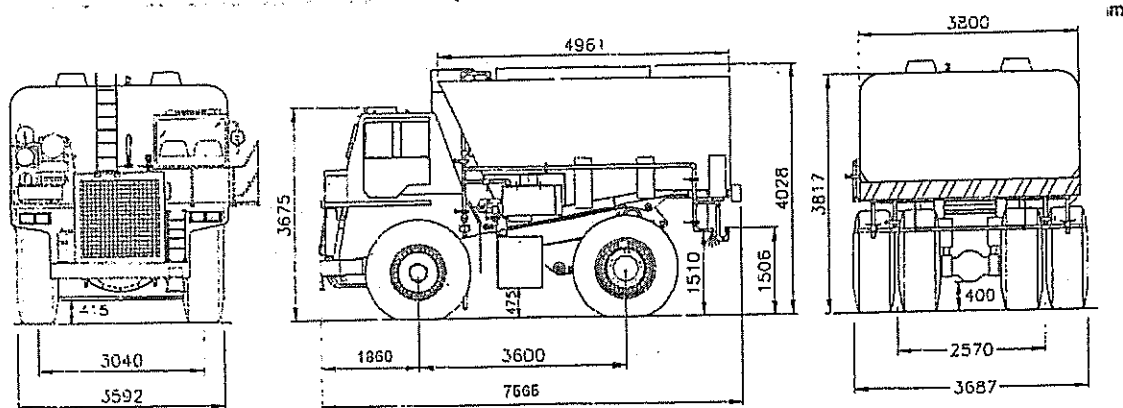
Hi-beam, Reverse, Turn signal, Lube oil pressure, Water temperature, Parking brake and emergency steering "ON", Alternator warning, Transmission oil temperature and pressure, Fuel level, Transmission filter clogging, Air pressure and hydraulic oil temperature, Electronic water level indicator for water tank.

ALARMS:

Air pressure, Water temperature, Transmission oil temperature and pressure, Lube oil pressure, Hydraulic oil temperature, Transmission filter clogging and Parking brake "ON", Low fuel level.

OPTIONAL:

Tyre inflation kit, Suspension charging kit, Auto emergency steering, Air conditioner & heater unit, Fast fill system for fuel, Automatic centralised lubrication system, Parking brake interlock, Radial tyres, Auto retarder, Front pressurised sprinkling, Full fledged fire fighting through



1. Illustrations may include optional equipment & accessories and may not include all standard accessories.
2. Materials and specifications are subject to change without notice.
3. All the specifications meet relevant ISO standards.



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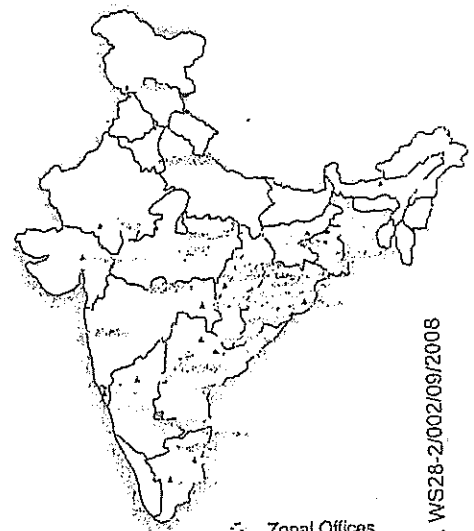
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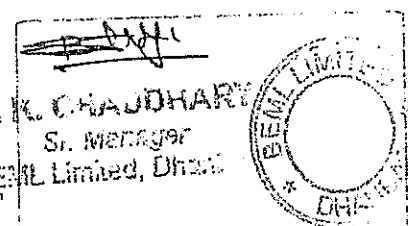
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(via-Mantlur), Karimnagar Dist (AP),
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- Regional Offices
- ▲ District Offices
- Activity Centres

Form No. WS28-2/002/09/2008



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S.O.No: 610143/89 dtd. 27.7.13

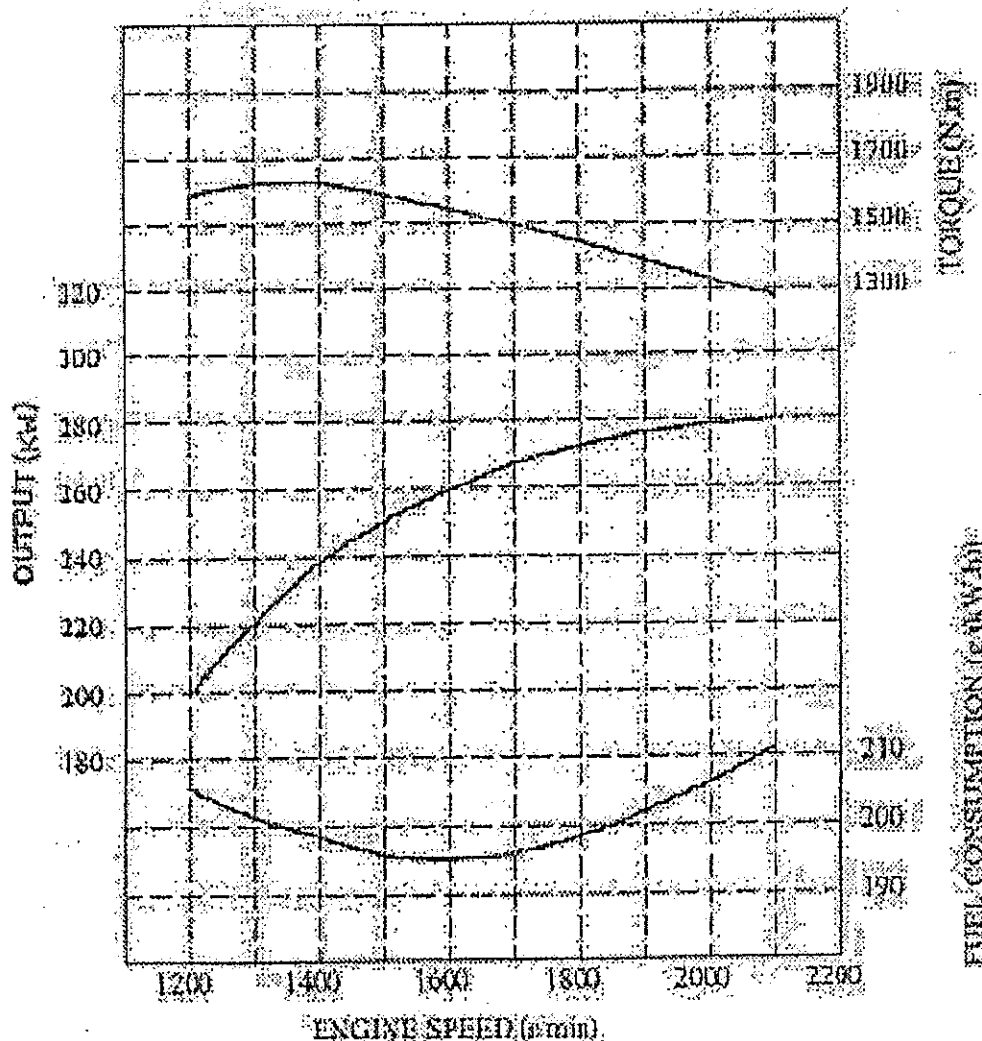
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ENGINE PERFORMANCE CURVE

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BSA6D140-1 (FOR WS28-2)

Flywheel horsepower : 280 kW @ 2100 r/min
Maximum torque : 1627 Nm @ 1400 r/min
Minimum fuel consumption ratio : 195 g/kW.h
Corrected in accordance with : IS 13116 / ISO 9249



POWER INCLUDES FAN POWER.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITH OUT NOTICE.

[Signature]
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BEM Ltd, Dharwad



[Signature]
A.S. THAMIL SELVAN
Dy. General Manager
BEM LIMITED
Engine Design & Development
Belavadi Post, MYSORE-570 018

[Signature]
27/7

[Signature]

ANX: 'J'

HYDRAULIC SYSTEM

Hydraulic system consists of four basic circuits: Power steering, Emergency steering, Motor & Brake cooler. These circuits share a common reservoir. One No. of tandem pump is used for the complete system. The tandem pump has got two modules out of which the front module supplies oil to the motor and steering circuit and the rear module supplies oil to the brake cooling circuit. The reservoir is provided with suction strainers & return line filter for filtering the hydraulic oil during the operation of the equipment.

POWER STEERING CIRCUIT

The power steering circuit consists of the following components:


- 1 Hydraulic Reservoir
- 2 Hydraulic Pump (tandem pump)
- 3 Control Valve (with built in flow divider)
- 4 High pressure Filter
- 5 Check Valve
- 6 Inline Filter
- 7 Steering Control Unit
- 8 Dual Relief Valve
- 9 Steering Cylinders

Oil flow from the front module of the tandem pump is routed to the control valve, with built in flow divider. The flow divider provides the operation of two parallel circuits, powered by a single pump. This flow divider is basically a priority flow control valve which ensures that the power steering circuit has oil flow at all times. The steering circuit has precedence over the motor circuit, to ensure safe operation of the equipment at all times. The motor & steering relief valves are housed in the control valve. The motor relief valve is set at 12.7 Mpa (130 Kg/cm²) and the steering relief valve is set at 12.4 Mpa (126 Kg/cm²).

Oil from the flow divider flows through a high pressure filter. The filtered oil is then allowed to flow through a check valve, which isolates emergency steering circuit from power steering circuit. Further, the oil flows through an inline filter provided on the steering control unit. The steering control unit supplies the amount of oil required for extension or retraction of the steering cylinder during steering operation. Dual relief valve is provided to protect the steering system from shock loads.

EMERGENCY STEERING CIRCUIT

Emergency steering system provided in the water sprinkler gives the operator steering control, in case of hydraulic system malfunction or failure. The components of emergency steering circuit are, Electrical Motor driven Hydraulic Pump, Check Valve,


B. K. CHAUDHARY
Sr. Manager

BEML Limited, Dhule

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Steering control unit and the steering cylinders. Emergency steering pump (with built in relief valve) supplies oil for the operation of emergency steering circuit and the check valve provided in the circuit isolates the emergency steering circuit from the remaining circuits. Auto Emergency steering is actuated whenever main hydraulic system malfunctions or fails. A flow sensor provided in the suction line switches "ON" the electric motor, which in turn drives the emergency pump to supply oil to the steering system thereby enabling Auto emergency steering.

MOTOR CIRCUIT

The Motor circuit incorporates the following components:

1. Hydraulic Reservoir
2. Hydraulic Pump
3. Motor

The Motor circuit is used for operating the Centrifugal Pump, which is used for pressurised water sprinkling and filling water tank. The hydraulic pump driven by a power take-off, supplies oil for motor and steering system. The control valve is pilot operated by a two position air valve, used for carrying out pressurised water sprinkling.

The following components are common for Motor and Steering system:


1. Hydraulic Reservoir
2. Hydraulic Pump (Front module of the Tandem Pump)

BRAKE COOLER CIRCUIT

The water sprinkler is provided with wet multiple disc type brake system in the rear axle. A separate cooling system has been provided for the cooling of the brake chambers during operation of the equipment. The main components of the system are :


- 1 Brake Cooler Pump (Rear module of the Tandem Pump)
- 2 Cooler
- 3 Control Valve

The flow from the rear module of the tandem pump is combined with the motor line return flow and then sent to brake oil cooler. Oil from the cooler circulated through rear brake chambers for absorbing the heat from the brake discs. The return oil from the rear brake chambers is sent back to tank through return line filters provided on the hydraulic tank. A relief valve is provided in the brake cooler circuit for protecting the system, The relief valve pressure is set at 0.54 Mpa (5.5 Kg/cm²).


Sr. Manager
Limited

ADVANCE LOG


B. K. CHATTERJEE



W324-2 HYDRAULIC CIRCUIT

THESE ARE

CENTRALISED AUTOMATIC LUBRICATION SYSTEM (INJECTOR TYPE)

The Centralized Lubrication system on **WS28-2** comprises of the following components as shown in the typical installation and in circuit diagram enclosed.

The system is ready for operation the moment the ignition switch is switched on there by switching on the timer. The timer operates the solenoid and allows the air to the pump, through the air regulator, and also closes the vent valve of the pump. The pump is operated by the regulated air and supplies the lubricant to the injectors at the front left hand side, at the front right hand side at the rear of the equipment, through the lubrication lines connected pump. The feed-lines connected from the heater the lubricant to the lube points connected to the system, thus one lubrication cycle is completed.

As soon as all the injectors cycled, the pump stalls against pressure, the timer switch contact is broken off and the solenoid valve is de-energized, shutting off the air-supply and air exhausts from the pump and the vent valve. During the pause time, the system pressure is vented through the vent valve and injectors re-set themselves for the next cycle. After expiry of the pause time, the timer starts a fresh cycle by switching on the solenoid valve.

The system may rise due to:


- blockage in the main line and/ or feed lines.
- blockage in any of the injectors.

The system pressure may drop due to:

- Leakage in the main line and/or feed lines.
- Leakage from the inlet/ outlet fittings of the components and/or intermediate connections.
- Non-functioning of the pump (this may be due to non-functioning of the solenoid valve and/or timer and/or the pump itself).
- Insufficient pressure developed at the pump outlet.

The working pressure of the lubrication system is between 75 bar and 170 bar. In case the pressure developed at the end of the injector banks drops or exceeds the above range. The pressure switch does not operate.

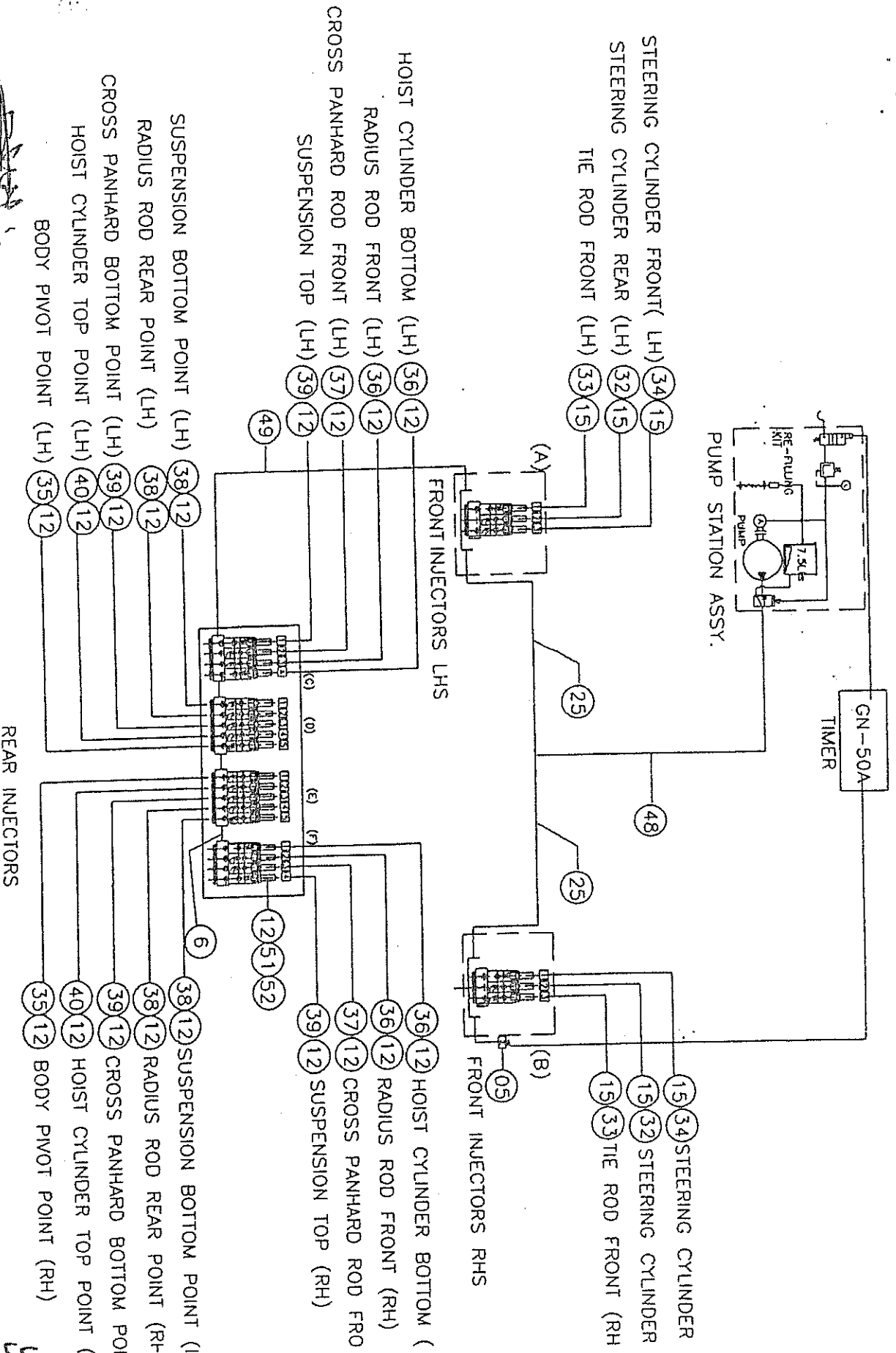
The operation of the timer (GN-50) is based on the principle that the pressure switch should make or brake the circuit at least once during the pump run time which is same as the supervisory time. In case of any fault caused due to the above reasons. The pressure switch does not operate and hence there is no make or brake of the circuit. This is monitored by the respective supervisory signals in the timer and indicated by the fault indicators on the timer unit. The fault should be reset by the reset switch on the timer (after rectifying the fault). The timer will start a fresh cycle after resetting.


B. K. CHAUDHARY
Sr. Manager
OEM Limited.

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WS28-2 AUTO-LUBE CIRCUIT DIAGRAM (INJECTOR TYPE)



WS28-2 AUTO-LUBE CIRCUIT DIAGRAM (INJECTOR TYPE)

TYPICAL INSTALLATION

S.O.No: 616143/89 dtd. 27.7.13

D.C TIMER



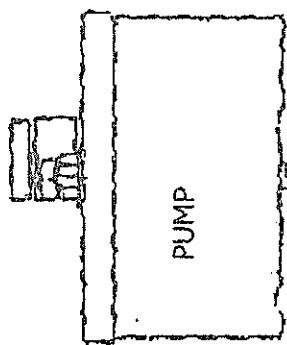
SOLENOID VALVE



AIR REGULATOR
AND GAUGE



PUMP



AIR SUPPLY



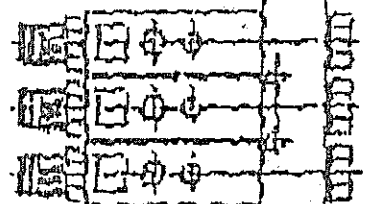
FEED LINE HOSE TO BEARING



LUBRICANT SUPPLY LINE HOSE



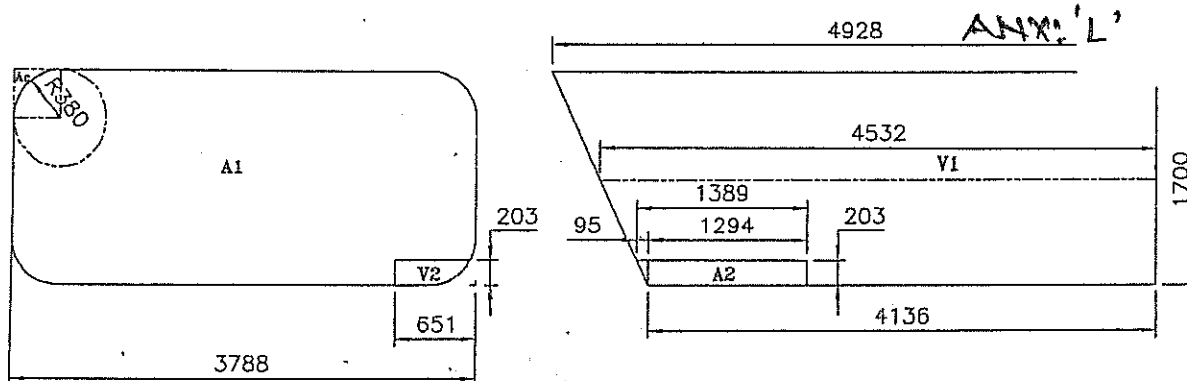
INJECTOR CIRCUIT



60.

1

WS28-2 WATER SPRINKLER TANK VOLUME CA 61



Area A1=3788 X 1700 - (4Area of corner Ac)

Area Ac= 380 X 380 - $\pi/16(2 \times 380)^2$

= 144400 - 113354

= 31046 mm²

Therefore A1=6439600 - 4X31046

= 6315416 mm²

Volume V1= A1 X mean length of the tank

Mean length = (4928+4136)/2

= 4532 mm

Volume V1 = 6315416 x 4532

= 28621465312 mm³

= 28.62 m³

Area A2= Area under triangle + Area under rectangle

= $\frac{1}{2} \times 95 \times 203 + 1294 \times 203$

= 272324.5 mm²

Volume V2= A2 X 651

= 272324.5 X 651

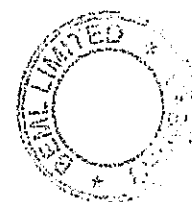
= 177283249.5 mm³

= 0.17728 m³

Total volume of water inside the tank = V1-V2

= 28.62 - 0.17728

= 28.44 m³



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27/11

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S.O. No: 610143/89 dtd. 27.7.13

ANX: 'M'

62.

DETAILS & DESCRIPTION OF MAJOR BOUGHTOUT
ASSEMBLIES & SUB-ASSEMBLIES.
FOR WS28-2 WATER SPRINKLER

SL. NO.	DESCRIPTION	SOURCE
1	CLT 754 TRANSMISSION	AVTEC LTD.,
2	ROPS CABIN	BEML Design Cabin manufactured by VIJAYALAXMI FAB / VIJAYALAXMI INDUSTRIES / KAMMAR
3	TYRES	MRF/CEAT/JK / APOLLO
4	AUTO FIRE SUPPRESSION SYSTEM	SOUTHERN ELECTRONICS
5	AUTO LUBE SYSTEM	LINCOLN HELIOUS / GRACO
6	HYDRAULIC PUMP	DOWTY MAKE/REPUTED MAKE
7	HYDRAULIC MOTOR	EATON MAKE/REPUTED MAKE
8	CENTRIFUGAL PUMP	KIRLOSKAR BROTHERS/REPUTED MAKE

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Sr. Manager

27/7

ANX: 'N'

DESCRIPTION OF AUTO FIRE PROTECTION SYSTEM FOR WS28-2 WATER SPRINKLER

Heavy duty vehicles Used on off-road application requires Fire Protection system to save,


- ✦ Costly vehicle replacement
- ✦ Costly down time
- ✦ Safety of operator

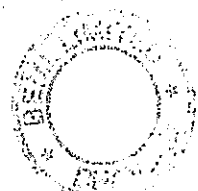
The system is pre-engineered system and consist of a pressurised container to store the dry chemical extinguishing agent, an actuation device to expel the dry chemical and a delivery system consisting of flexible hoses and fixed nozzles to transport the dry chemical to the fire hazard area.

Fire Suppression System is equipped with Automatic Fire Detection & System actuation. System includes monitoring control panel which indicate suppression system status and audible alarm. System includes test feature with back-up battery. Actuation may be manual or automatic, at the user's option.

Thermistor strip fire sensing wire is routed all around the equipment to detect fire. In case of fire, both audio alarm and indicator will be activated and control unit actuates the solenoid valve after 30 seconds time delay and pressurised nitrogen gas gets released and flows into DCP cylinder. Then the extinguisher powder flows out through high pressure hoses gets distributed to various locations through nozzles flooding the fire prone areas. The extinguishing agent is a Dry Chemical Powder suitable for extinguishing Class 'A', 'B' & 'C' class fires. The powder is not conductive physiologically inert and non abrasive.

General lay-out of the system is enclosed.


S. K. CHAUDHARY
Sr. Manager
BHEL Ltd.



27/2



[illegible]

B. K. CHAUDHARY
Sr. Manager
BEM Limited, Chennai



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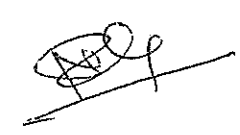
WS 28-2 WATER SPRINKLER

Training of Purchaser Personnel :

Type of Personnel	At Manufacturer's Works			At Site		
	No	Period	Total	No	Period	Total
Mech Engineer	3	1 week	3 Man Weeks	3	1 week	3 Man Weeks
Elec Engineer	2	1 week	2 Man Weeks	4	1 week	4 Man Weeks
Mech Supervisor	1	1 week	1 Man Week	5	1 week	5 Man Weeks
Elec Supervisor	1	1 week	1 Man Week	5	1 week	5 Man Weeks
Mech Fitter				6	1 week	6 Man Weeks
Electrician				6	1 week	6 Man Weeks
Operator				6	1 week	6 Man Weeks
Total			7 Man weeks			35 Man Weeks



27/7



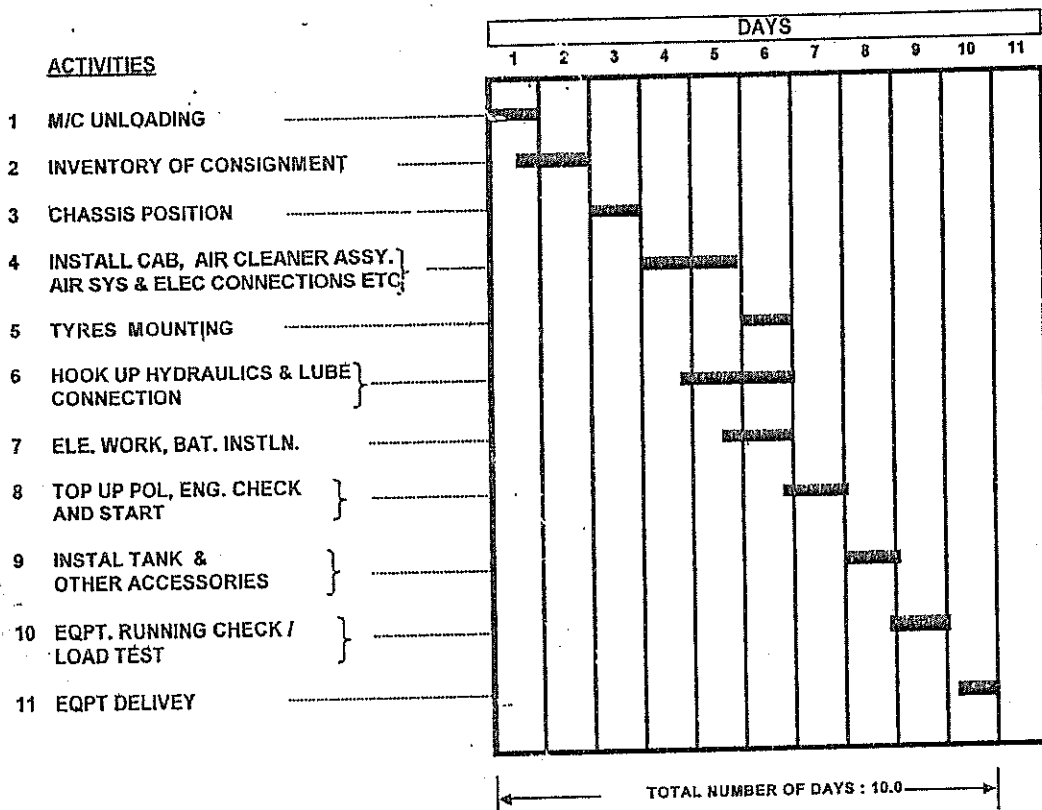
S.O.No: 610143/89 dt. 27.7.2013

66.

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ERECTION CHART FOR WS28-2 WATER SPRINKLER



Note: The above schedule is indicative only. However, depending upon the manpower and facilities being extended by the purchaser it may vary.

Erection & commissioning work will be commenced after receipt of full consignment at site.

Any delay in erection and commissioning due to non availability of facilities like, cranes of required capacity, manpower and other facilities which are to be provided by the customer, will be to the purchaser's account.

[Signature]
D. K. SHARMA
Sr. Asst.
DEPT. OF...



[Signature]
21/7

ANX: 'Q'

**PREVENTIVE & PERIODICAL MAINTENANCE SCHEDULE FOR WS28-2 WATER
SPRINKLER WITH BEML BSA6D140-1 ENGINE**

PERIODICAL MAINTENANCE CHECK

GROUP	TYPE OF PM	DETAILS OF PM	HRS Reqd	Man Power Reqd
A	Daily checks	Walk around check for oil leak & loose fasteners	0.5	Semi Skilled-1 Helper-1
		Check : Oil & Coolant level, tyre inflation pressure, Grease at all points, Suspns heights, Battery condition & function of Auto electrics. Drain Sediments from air & Fuel Tank		
B	Every 50 Hrs.	Pressure wash eqpt & remove stocked sediments Grease all grease points : 15 points	01	Semi Skilled-1
C	Every 100 Hrs.	Clean air filters	0.5	Semi Skilled-1
D	Every 250 Hrs.	Check : F/D, Hyd Tank Oil levels. Clean T/M & Hyd Tank breathers, Torque Prop Shaft Bolts. Engine Maintenance	05	Semi Skilled-1 Helper-1
E	Every 500 Hrs.	Replace Hyd. Tank Breather, Air cleaner element	0.3	Semi Skilled-1
F	Every 1000 Hrs.	Change Hyd Oil & filter Change F/D oil & Add Front Hub grease Change Steering high-pressure filter	06	Semi Skilled-1 Helper-2


PERIODICAL MAINTENANCE CHECKS

GROUP	TYPE OF PM	DETAILS OF PM	HRS Reqd	Man Power Reqd
G	Whenever T/M Filter clogging indicator comes ON or 1000 Hrs. whichever is earlier – change T/M Oil and Filter Element		04	Semi Skilled-1 Helper-1
H	Every 2000 Hrs.	Change Air Drier Desiccant	03	Semi Skilled-1 Helper-1

PREVENTIVE MAINTENANCE CHECKS

GROUP	TYPE OF PM	DETAILS
A	Every 2000 Hrs.	Front axle bearing preload check
B	Every 4500 Hrs.	Service brake chambers
C	Every 5000 Hrs.	Set Differential Bevel gears backlash, Pattern & Bearings end play.

The above preventive maintenance will be concurrently carried out during scheduled periodical maintenance.


B. K. CHAUDHARY
BEML
Chandabadi




21/7

ANX: 'R'

Winner of

Golden Peacock
Innovation Management Award

NEW DELHI

(Formerly BHARAT EARTH MOVERS LIMITED)
(A Govt. of India Mini Ratna Company under Ministry of Defence)

FORM FOR COLLECTING PAYMENT THROUGH ELECTRONIC MONEY AND/OR ELECTRONIC FUND TRANSFER (EFT) & ELECTRONIC CLEARING SYSTEM

NAME AND DESIGNATION
ADDRESS (WITH TELEPHONE NO. AND KAMAL KUNI

SARAIKHELA

DHANBAD

P.O. BOX NO. 12

220570

PAN NO. 0326

220570

PARTICULARS OF BANK ACCOUNT

BANK NAME

INDIA
OF THE STATE OF JHARKHAND
ANCHALIK

BRANCH CODE NO. OF THE

CODE OF BR

Current Account or cash credit with
CODE NO. 121

E LEDGER NO LEDGER FOLIO NO

NOT APPLICABLE

F ACCOUNT NO. CORE

1007487404

R/SK/PG/AN/ST/TYPE OF

ACCOUNT (As appearing on the

DATE OF EFFECT

IMMEDIATE

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all on reasons of discrepancy or incorrect information, I shall be held the user institution responsible. I have read the entire invitation form and agree to discharge responsibility expected of me as a participant under the scheme. I shall be held responsible for the delay or non-acceptance of the transaction.

Signature of the Vendor/Supplier

Certified that the particulars furnished above are correct and complete.

Signature of the authorized officials of the Bank

District Office "KAMAL KUNI" Kolakusma, P.O.: Saraidhela, Dhanbad - 028 127 (Jharkhand)
Phone: 0326 - 2206882, 2200180, 2205827, 2205882, Fax: 0326 - 2200182
E-mail: bemldha@rediffmail.com, dhanbad@rm.beml.co.in

S.O. No: 610143/89 dtd. 27.7.13

69.

Ann: 'S'

TENDER NO: PUR/610143/Water Sprinkler/11-12/13/117 dtd 22-01-2013

INTEGRITY PACT

Between

BHARAT COKING COAL LIMITED (BCL) hereinafter referred to as "The Principal"

And

BEML LIMITED hereinafter referred to as "The Bidder/Contractor"

Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for supply of 28KL Water Sprinkler - 09 Nos. The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s and Contractor/s.

In order to achieve these goals, the Principal cooperates with the renowned International Non-Governmental Organisation "Transparency International" (TI). Following TI's national and International experience, the Principal will appoint an external Independent Monitor who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.

The Principal will, during the tender process treat all Bidders with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidders the same information and will not provide to any Bidder confidential/additional information through which the Bidder could obtain an advantage in relation to the tender process or the contract execution.

The Principal will exclude from the process all known prejudiced persons.

If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder/Contractor

The Bidder/Contractor commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

The Bidder/Contractor will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

The Bidder/Contractor will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.

The Bidder/Contractor will not commit any offences under the relevant Anti-corruption Laws of India; further the Bidder/Contractor will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

The Bidder/Contractor will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

(2) The Bidder/Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder, before contract award has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or credibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process or to terminate the contract, if already signed, for such reason.

If the Bidder/Contractor has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is entitled also to exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of the transgressions within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 3 years.

The Bidder accepts and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

If the Bidder/Contractor can prove that he has restored/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

A transgression is considered to have occurred if in light of available evidence no reasonable doubt is possible.

Section 4 - Compensation for Damages

If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from the Bidder liquidated damages equivalent to 3 % of the value of the offer or the amount equivalent to Earnest Money Deposit/Bid Security, whichever is higher.

If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.


E. K. CHAUDHARY
Sr. Manager
BEML Limited, Dhanbad



The bidder agrees and undertakes to pay the said amounts without protest or demur subject only to condition that if the Bidder/Contractor can prove and establish that the exclusion of the Bidder from the tender process or the termination of the contract after the contract award has caused no damage or less damage than the amount or the liquidated damages, the Bidder/Contractor shall compensate the Principal only to the extent of the damage in the amount proved.

Section 5 - Previous transgression

The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any country conforming to the TI approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 - Equal treatment of all Bidders/Contractor/Subcontractors

The Bidder/Contractor undertakes to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

The Principal will enter into agreements with identical conditions as this one with all Bidders, Contractors and Subcontractors.

The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 - Criminal charges against violating Bidders/Contractors/Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 - External Independent Monitor/Monitors

The Principal appoints competent and credible external independent Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairperson of the Board of the Principal.

The Contractor accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder/Contractor/Subcontractor with confidentiality.

The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or heal the violation, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

The Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.

Monitor shall be entitled to compensation on the same terms as being extended to/provided to Outside Expert Committee members/Chairman as prevailing with Principal.

If the Monitor has reported to the Chairperson of the Board a substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairperson of the Principal.

Section 10 - Other provisions

This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. DHANBAD (JHARKHAND).

Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

If the Contractor is a partnership or a consortium, this agreement must be, signed by all partners or consortium members.

Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

For the Principal

Place.....
Date

For the Bidder/Contractor

Witness 1 :
Witness 2 :

CHANDRAY
Sr. Manager
USFAL Limited, Dhanbad


NAME OF THE INDEPENDENT MONITOR:
Justice Ashok Kumar Chakraborty (Retd.)
BB-69, Sector-I, Salt Lake, Kolkata-700064


S.O. No: 610143/89 dtd. 27.7.13

ANN: 'T'

Expected life of major assemblies for WS28-2 WATER SPRINKLER:

Major Assemblies	Expected Life
Body chassis	15000 to 25000 hrs
Differential (where applicable)	11000 to 15000 hrs
Complete engine system	8000 to 12000 hrs
Wheel motor (Where applicable)	Not applicable
Transmission assembly	7000 to 9000 hrs
Electrical items	3000 to 5000 hrs


 S. P. S. Srinivas
 Sr. Manager
 10, 11th Floor, 100, 101


 S. P. S. Srinivas
 Sr. Manager
 10, 11th Floor, 100, 101

S.O. No: 610143/89 dtd. 27.7.13

ANX: 'U'

RECEIVED

18/08/2013 11:05:22

August 17, 2013

TO WHOM SO EVER IT MAY CONCERN
 BRAKE TEST ON WS2B-2 WATER SPRINKLER
 (AS PER ISO 300)

- a) Type of machine: RIGID FRAME WATER SPRINKLER, 25000 LTS
- b) Make of machine: M/S. BISHU LIMITED
- c) Model: WS2B-2
- d) Mass and axle distribution of the machine as per design:
 Gross: 1000 Kgs
 Axle Distribution: Front Axle: 1125 Kgs
 Rear Axle: 2500 Kgs
- e) Test data: ISO 300 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
 Test Pressure: 6.45 MPa (Kilopascal)
- f) Test riding speed on 10% rise the gradient: 40 kmph
- g) Test riding speed on 10% fall the gradient: 40 kmph

Cc: ROAD, LUDHIANA

B. M. CHANDRA

Asst. General Manager
 Quality Engineering

B. M. CHANDRA

B. M. CHANDRA

21/7

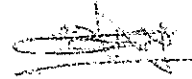
21/7


Result of Brake Test

e. Braking system tested, slope(%), Machine speed (Km/hr),
Stopping distance (m) – Service, Secondary

Braking System tested	slope(%)	Machine speed (Km/hr)	Stopping distance (m)
Service	9	40	16.5
Secondary	9	25	28.8

f. The Turning Diameter as defined in clause 4.2 of ISO : 7457 : 17.5m


S. K. Choudhary
Sr. Engineer
Mechanical


21/7

S.O. No: 610143/89 dtd. 22.2.13

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ANNEXURE-I Page 1 of 2

Name of the Company:

Name of the Project:

Shift:-

Date:-

EQUIPMENT MODEL:

EQUIPMENT SERIAL NO:

Name of the Operator:-

Shift Hours (1)	Working Hours			Breakdown Hours			Maintenance Hours (8)	Idle Hours (9)
	Initial HMR (2)	Final HMR (3)	Hours worked (4)	MARC Holder A/c (5)	BCCL A/c (6)	Total (7)		

Signature of BCCL representative

Signature of MARC Holder representative

ANNEXURE-I Page 2 of 2

B/d due to MARC Holder/ BCCL A/c (10)	Details of Breakdown					Fuel Consump. in ltrs. (16)	Lub. Consump. in ltrs. (17)	Time taken for repair (18)	Name of MARC holder person who attended B/d (19)	Time at which equipment made ready (20)
	Reason of B/d (11)	Time of B/d (12)	Nature of B/d (13)	Nature of Repair (14)	Description of Spares consumed (15)					
MARC Holder										
BCCL										

Signature of BCCL Representative

Signature of MARC Holders Representative

[Handwritten signature]
27/7

S.O. No: 61043/89 dtd. 22.7.13

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Annexure – II Page 1 of 2

MONTHLY MANAGEMENT REPORT (WATER SPRINKLER 28KL)

NAME OF THE COMPANY:

NAME OF THE PROJECT:

EQUIPMENT MODEL:

EQUIPMENT SERIAL NO:

DATE OF COMMISSION:

Shift Hours (1)	Work-ing Hours (2)	Idle Hours (3)	Mian-tenance Hours (4)	Break Down Hours				Percent-age Availa-bility (9)	Percent-age Utilisation (10)
				System/ Categories (5)	BCCL A/C (6)	MARC Holders A/C (7)	Total		
				Engine					
				Transmission					
				Differential					
				Brake					
				Chasis					
				Dump Body					
				Auto-electric					
				Cabin					
				Hydraulic Pump					
				Radiator/Cooling					
				Tyre					
				Others					
				TOTAL					

Annexure – II Page 2 of 2

MONTHLY MANAGEMENT REPORT (WATER SPRINKLER 28KL)

NAME OF THE COMPANY:

NAME OF THE PROJECT:

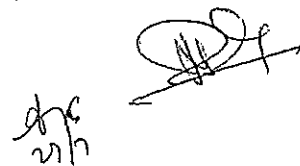
EQUIPMENT MODEL:

EQUIPMENT SERIAL NO:

Details of Spares consumed			Details of asslys/sub assly replaced				Fuel consump-tion (lires) (18)	Lubricant consump-tion (lires) (19)
Item Description (11)	Part No. (12)	Qty. (13)	Description (14)	Part No. (15)	Sl. No. (16)	Hours worked before replacement/failure (17)		

Signature of BCCL Representative

Signature of MARC Holders Representative



S.O. No: 610143/85 Dtd. 27.7.13

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ANNEXURE- III

Check List at the time of hand over of equipment

Engine
Radiator
Fuel Pump
Lub. Oil Pump
Transmission
Final Drive
Differential
Suspension
Steering System
Front & Rear Service Brake
Tyres
Fuel Tank
Automatic Lubrication System
Automatic Fire Suppression system
A.C. of Operator cabin
Hydraulic Tank
Hydraulic Pump
All Hydraulic Cylinders
Universal Joint
Self Starter
Alternator
Batteries
Gauges & Indicators
Warning Lights & Alarms

At
27/7

