



**BHARAT COKING COAL LIMITED**  
( A Subsidiary of Coal India Limited )  
Office of the Chief General Manager(MM)  
Materials Management Department  
Commercial Block L-III , Koyla Bhawan : Koyla Nagar  
Dhanbad : 826005(Fax No- 0326-2230183)  
E-mail – bcclegmmm@cmpdi.co.in

**Under jurisdiction of Dhanbad Court and Jharkhand High Court only.**

TENDER NO –Pur/ 200345/Coil & commutator/SWS/06-07/136

DUE DATE & TIME FOR SUBMISSION- 25.02.2008 up to 1 PM

DUE DATE & TIME FOR OPENING- 25.02.2008 at 3 PM

COST OF TENDER DOCUMENT – RS.5000.00

REQUIRED AMOUNT OF EARNEST MONEY –RS.1,25,160.00  
( Please see clause no.11 & 13)

C.R.NO.....DATED....

**OPEN DOMESTIC TENDER ENQUIRY**

Document issued to: ..... ..... .....	If this Tender Document has been downloaded from our website Part-III envelope(Clause 7[c] bearing required Bank Draft for the requisite Tender Fee must be enclosed along with the tender otherwise their offer shall be rejected out rightly without any reference.
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Dear Sirs,

Sub: Notice Inviting Tender for supply of –Coils and Commutators for motor generator

1. Sealed tenders are invited in duplicate only from the proven manufacturers or their exclusively authorised sole selling agents authorised by their manufacturer to offer against this tender for supply of Coils and Commutators for motor generator to various Areas of BCCL as per detailed specifications enclosed as annexure – “A ”(items list & technical specification)( 8 pages).

**FOR SPARE PARTS.**

**PROVEN MEANS THOSE MANUFACTURERS OR EXCLUSIVELY AUTHORIZED SOLE SELLING AGENT WHO HAVE SUPPLIED TENDERED ITEMS IN PAST TO a) OEM OR b) TO THE MINING INDUSTRY AND / OR TO THE OTHER INDUSTRIES (PRIVATE OR GOVERNMENT / PUBLIC SECTOR UNDERTAKING – INDIGENOUS OR GLOBAL) AGAINST REGULAR (FIRM) ORDER (NOT TRIAL ORDER) PLACED BY COMPANY’S HQ. FOR THIS PURPOSE THE FIRM SHOULD SUBMIT AUTHENTICATED COPY OF SUCH PURCHASE ORDERS RECEIVED BY THEM. HOWEVER, TRIAL ORDERS PLACED BY BCCL CO.HQ. MAY BE CONSIDERED IF THE FIRM OBTAINS PROVEN STATUS ON PERFORMANCE BASIS AGAINST SUCH TRIAL ORDRS.**

2. The offers are to be submitted before the closing date and time as mentioned above. Late Tenders will not be considered.

3. Tenders may be deposited in person by the tenderer in the Tender Box kept at Tender cell, Purchase Department, office of the CGM(MM), Bharat Coking Coal Limited , Commercial Block, Level –III , Koyla Bhawan , Koyla Nagar , Dhanbad or sent by post or courier to the above address . Bharat Coking Coal Limited however , do not take any responsibility for loss of tender in transit. Tender must be received on or before the due date and time of submission of tender. Tender received after due date of submission of the tender shall not be considered. . No request for relaxation in this respect will be entertained.

4. Tenders sent through telegram ,telex ,Fax or E-Mail will not be considered.

5. Tender documents/forms purchased by one firm are not transferable to another firm.

6. The tender document is divided into the following parts:

- i) Annexure 'A' - Technical specification
- ii) Annexure 'B' - Commercial terms without price.
- iii) Annexure 'C' - Check List

7. ( a ) The offers are to be submitted in three parts. The first part “Part- I i.e. Techno-commercial offer ” should contain the detailed Technical and commercial terms of the offer . In other words it contains the required details as per annexure A to C as stated at clause 6. However, this should not contain the price. The envelope should be sealed superscribed with the tender number and the date of opening and must mark Part I

(b) The second Part “Part-II i.e. Price Bid” should contain the details of price only. The envelope should be sealed superscribed with the tender number and the date of opening and must mark Part II.

( c ) “Part – III” [ Applicable for those tenderers who will down load tender documents from our web site. ]

In this case the intending tenderer must enclose the requisite tender fee as Bank Draft from any schedule Bank drawn in favour of “BHARAT COKING COAL LIMITED” payable at Dhanbad in the “Part – III ” envelope. The envelope shall be sealed , superscribed with tender number and due date of opening and must mark “Part-III”.

All the envelopes containing the tender shall be properly sealed . Envelopes stapled shall not be accepted. The name and address of the bidder must also be indicated on the envelopes. Please note that envelopes stapled shall not be accepted.

All these three sealed envelopes i.e. “Part – I ” [ Techno-commercial bid] , “Part- II ” [ Price bid] and “Part – III ” [ Requisite tender fee as indicated in the tender notice ] should be kept in a bigger envelope giving details of the tender No. and due date and time of submission and opening along with the name and address of the bidder.

In absence of “Part-III” envelope offer shall be rejected out rightly without any reference for those tenderers who have down loaded the tender documents from our website.

08. Part - I (Techno commercial Offer) and “Part – III” (Tender fee) will be opened on the due date of tender opening in presence of the authorised representative of the attending bidders

**NOTE.**

a) Tenders not submitted in the above manner will not be accepted.

b) If tenderer disclose their price in the techno-commercial bid(Part-I) , the offer will be re-sealed and will be treated as invalid offer by the Tender opening Committee.

09. The price bids i.e. Part- II of only those tenders whose Part- I is found to be techno-commercially acceptable to BCCL will be opened later on. Date and time of opening will be suitably be intimated to such bidders whose offers are found techno-commercially acceptable.

10. Bharat Coking Coal Limited reserves the right to accept or reject any or all offers in part or in full without assigning any reason thereof. No dispute of any kind can be raised against this right of the buyer in any court of law or elsewhere.

11. Earnest Money:

- a) An Earnest money of **Rs.1,25,160.00.** in terms of Bank Draft of any schedule Bank drawn in favour of Bharat Coking Coal Limited payable at Dhanbad must accompany the Part I(Techno-commercial offer) otherwise offer shall be considered unresponsive.
- b) If it is accompany the Part-II(Price bid) , it will be presumed that tenderer has not deposited the requisite Earnest money and their offer shall be considered unresponsive.

12. Security money – Successful tenderer are required to deposit security money in the form of Bank Draft / Bank Guarantee of any schedule Bank of 10% value of the order(value means F.O.R destination price) within 15 days from the date of receipt of order. Bank Draft should be drawn in favour of “ Bharat Coking Coal Limited” payable at Dhanbad .In case they fail to deposit the same , the order shall be cancelled and the case shall be processed to order elsewhere and the firm’s performance is to be kept recorded for future dealings with them. The security will be refunded to the firm within 30 days of satisfactory execution of the contract. ( Execution of the contract means successfully completion of supply against the order) For unsatisfactory performance and/or contractual failure the security money shall be forfeited. Please note that security money may be converted in to Performance Bank Guarantee wherever required . Please note that validity of Performance Bank Guarantee shall be as per clause 11(a) of Commercial terms & conditions. Please confirm the acceptance of this clause clearly.

13. State/Central Govt. Organisation /PSU & Valid DGS&D/NSIC registered (for tendered items) , firm shall be considered for exemption from submission of EMD/ Security money ,if they can submit these documents after duly signed by Notary Public .

14. The bidders must give a declaration that they have not been banned or de-listed by any Government or quasi-Government agencies or PSUs. If a bidder has been banned by any Government or quasi-Government agencies or PSUs , this fact must be clearly stated and it may not necessarily be a cause for disqualifying them. If this declaration is not given , the bid will be rejected as non-responsive.

15. Bharat Coking Coal Limited reserves the right not to make any procurement against this tender without assigning any reasons.

16. Tenders of those tenderers who suo moto offer different prices or change the terms which effects the quoted price of the firm within the validity of the offer shall be treated as invalid offer ab initio and the action against such tenderer as per CIL rules / procure will be taken.

17. ALL CONTRACTS WILL BE IN ACCORDANCE WITH THE PREVALENT INDIAN LAW AND ALL DISPUTES ARE SUBJECT TO THE JURISDICTION OF DHANBAD COURT AND JHARKHAND HIGH COURT ONLY.

IMPORTANT NOTE:.

(i). The tenderers are requested to go through all the Annexure and furnish specific replies to each question raised therein.

(ii). Printed terms and conditions of the vendor shall not be considered. Tenderers are requested to submit their offer complete in all respects maintaining serial number of items , terms and conditions as per tender documents along with all supporting documents failing which offer may not be considered .

(iii). Normally no deviation is acceptable to our tender documents. Terms and offers which are in deviation are liable for rejection without asking back reference to the tenderers. Offers as asked must be submitted complete in all respects.

(iv). Self attested copies of orders received from subsidiaries of CIL for the quoted items should be submitted along with the quotation in the Part-I(Techno-commercial offer). List of past supplies with the details of order reference and the performance report if any should be furnished along with the offer

(v). The complete offer should be typed in the letter head of the tender(Hand written quotation will be summarily rejected). If firm's letter heads are not sufficient to accommodate technical and pricing details preferably bigger papers may be used , such sheets along with other pages of the offer should be signed and stamped by company's authorised signatory.

(vi). All pages of tender documents should be signed including all enclosures submitted with the tenders except printed leaflets / catalogues and have company's seal . This is must otherwise offer shall be rejected.

(vii).Erased and over written quotations will be summarily rejected unless corrections are authenticated with the tenderer's signature.

(viii) BCCL reserves the right to increase or decrease the tendered qty. against any/all the items of the tender.

(ix). The tenderer must submit separate sheet in Part 'I' ( Techno-commercial offer) indicating any deviation in their offer from the Technical and Commercial terms specified/required.

(x) Offer of those tenderers will not be considered commercially acceptable who did not successfully execute previous order placed on them by BCCL despite giving commercial notice and against whom penal action have been initiated for breach of contract.

(xi) In case a firm is proven for a sub-assly of any particular Equipment , it will be considered proven for components of that particular sub-assly of the Equipment only.

(xii) Purchase Preference Policy as per Govt. of India's office memorandum no. DPE 13(12)/2003-Fin.Vol II dt.18<sup>th</sup>. July,2005 valid up to 31/03/2008 is applicable for any Govt.Deptt / PSU tender. It is applicable to contracts of value of 5.0 crore and above but not exceeds 100.00 crore.

(xiii) As per Central Vigilance Commission(CVC) guidelines , no post tender negotiations may be held except in case of Proprietary Purchase or for items with limited source of supplies (negotiation in such case may be held only with L-1 / preferred L-1 vendor)

(xiv) If L1 tenderer do not have adequate capacity to supply full quantity tendered , the uncovered quantity order may be distributed to L-2 tenderer at L-1 rate.

Notwithstanding anything said above, BCCL reserves the right to follow any guideline or instruction received from the Government or any statutory bodies from time to time.

Encl: As above

Yours faithfully

For & on behalf of Bharat Coking Coal Limited .

**COMMERCIAL TERMS:-**

1. Part-I in Techno-commercial offer, should contain the following (but not the price of any item):
- i) Name and address of the original manufacturer along with full details of the contracts persons, telephone no., Fax No., E.mail address etc.
  - ii) Details of order received giving the name of the buyer, their address and country, date of order and number/quantity of item ordered and supplied. Specific details should be given regarding the item supplied with full address of the user, so that the same can be verified if felt necessary
  - iii) Details of collaborations, if any.
  - iv) Details of After Sales Service to be provided, namely address of service depots, if any, strength of after sales service personnel and their qualifications and backgrounds.
  - v) Details of Training offered, if any.
  - vi) Details of quality control measures stage inspections carried out, accreditation of any approved standard Quality Control Institute or Organization, may be indicated certifying the quality system of the bidder.
  - vii) Details regarding location of the Works. The purchaser reserves the right to inspect the works of the bidder. What are the facilities they would provide to carry out pre dispatch inspection in stages of manufacturing process, if buyer wishes to do so.
  - viii) A Statement certifying that the bidder accepts all the commercial terms and conditions of Bharat Coking Coal Limited given in this bid documents without any reservation what so ever.

1. (A) PART II i.e. PRICE BID should contain the following:-

- i) Rate (Prices) must be quoted FIRM & FOR Destination basis with the following break up.
  - a) Ex-Works Price
  - b) Freight, Insurance, Packing & Forwarding charges on lump-sum basis.
  - c) Excise duty if applicable (It will be payable extra on Ex-works price basis)
  - d) Sales Tax/VAT (It will be payable extra as applicable)

**Note:** Commercial status of the bidders shall be determined after offsetting the amount if any, payable towards VAT

NOTE: -

1. Please confirm in the technical bid Part-I that their rate is not inclusive of sales tax otherwise their offer may be ignored. However if their rate is inclusive of Ex-duty they must indicate the applicable rate of Excise duty in the technical bid i.e. Part-I.

2. The rate must be indicated both in figure and words. If there is difference between both, the amount appearing in words shall be taken for consideration.

- i) In case of direct import by us(BCCL) , price will be on F.O.R. delivery Port basis only . The Price must be on FIRM basis.
- ii) In case of Imported stores and prices are in Indian rupees on FOR destination basis , only applicable sales tax and statutory local levies(if any) will be payable extra. The price must be on FIRM basis.

- iii) Conditional discount including quantity discount will not be considered for comparative purpose . Cash discount or Prompt payment discount will also be treated in the same manner. However only unconditional discount will be taken into account for comparative evaluation to ascertain the competitiveness of the tender. In case of F.O.B price all discount attracts custom duty etc. except trade discount
- iv) In case of imported stores other than direct import by BCCL , the firm should quote FOR destination price in Indian rupees and firm shall give a certificate along with their offer of their Auditors certifying that they have paid Customs and other applicable Duties as per prevailing Customs Rates and refund if any shall be passed on to the buyer.

2 (B) (a) In spite of mentioning that offers should be submitted by the tenderers on FOR destination basis as per clause 2(A)(i) above , in case a tenderer does not specify the basis of price or quoted on ex-works or FOR despatching station basis , the price will be loaded to arrive at the F.O.R. destination price on the following manner.

Approximate distance of dispatching Station from Consignee's end.	Percentage FOR dispatching station price regarding Freight.	Packing and Forwarding Charges	Transit Insurance Charge
Above 2001 Km	5%	2%	½%
1501Km - 2000 Km	4%	2%	½%
1001 Km -1500 Km	3%	2%	½%
501 Km – 1000 Km	2%	2%	½%
Below 500 Km	1%	2%	½%

2 (B) (b) In case of Imports , the tenderers are required to quote on FOB delivery port basis. The total price will be estimated in the following manner to arrive at the CIF price & landed price of the import offers.

Sl.no	Description	Imported from USA ,Canada and Japan	Imported from European and other countries.
1	Freight & Insurance	12% of FOB value	10% of FOB value
2	Insurances Charges	1/2% of FOB value	1/2% of FOB value
3	Custom Duty	As applicable	As applicable
4	Port handling and clearance Charges , Inland transportation and other miscellaneous charges	5% of FOB value	5% of FOB value

To arrive the FOR destination Price in Indian Rupees , the exchange rate published in National Newspaper applicable on the date of opening of Price Bids will be taken. The applicable rate will be “Selling BC Rate”.

2. **VALIDITY:** The offer must be valid for acceptance for a period of 6(Six) months from the date of opening tender. Offers will not be permitted to be withdrawn during this period.
3. **ULTIMATE CONSIGNEE:-** The materials may be consigned to any of the depot of BCCL.
4. **PRICE VARIATION:** Only FIRM price shall be quoted .No price variation will be allowed during the pendency of the contract excepting for price fall clause.
6. **PAYMENT TERM;-**
  - a) For indigenous supplies.  
100% within 30 days of receipt and acceptance of the materials by the consignee or from the date of receipt of Bill , whichever is later by the consignee.
  - b) For imported supplies if Price is on FOB basis.

In case of imported items where the price is on F.O.B. value 100% will be paid against letter of credit. Agency commission will be paid in Indian Rupee .Clearly indicate the quantum of Agency Commission included in the F.O.B Price.

7. Either the Indian Agent on behalf of the foreign principal or the foreign principal may directly bid in a tender but not both.

If an agent participates in a tender on behalf of one manufacturer , he should not quote on behalf of another manufacturer along with the first manufacturer for the same item.

8. In case of indigenous supplies , Tenderers are required to furnish the following details/information in the techno-commercial bid Part-I for transferring the Money to the supplier's account through e-banking while making payment.

- a. Name of the Bank.
- b. Name of the Branch with complete address.
- c. Party's Account Style.
- d. Party's nature of Account.
- e. Party's Account Number.

9. DELIVERY:-

i) Required delivery schedule-

Sl.no	Item	Delivery Schedule
		<b>As per Annexure-A</b>

ii) The bidder should be in a position to supply in specific delivery period at least 25% of the total tendered quantity, otherwise offer shall be considered unresponsive.

iii) The delivery schedule quoted in the offer shall be firm and final. Delivery will be counted from the date of receipt of the order. Failure to supply the material in time may attract penalty as per clause No. 10

10 .PENALTY FOR FAILURE TO SUPPLY IN TIME:

- As per Appendix -I

11. **GUARANTEE/WARRANTY/PERFORMANCE BANK GUARANTEE** (For Equipment only) – Applicable for tendered item

i) The item will be warranted against any manufacturing defect /workmanship for a period of 12 months from the date of commissioning or 18 months from the date of receipt and acceptance .Any defect observed on this account shall be attended to immediately and in no case beyond a period of one month. For specific warranty on assemblies and sub assemblies, details given in technical specification may be referred to.

ii) Special Warranty Clause:- If the order is decided to be placed on the bidder, the bidder should confirm against the clause that in the event of any breakdown or failure of performance due to defects in materials, design, workmanship, spare parts etc. BCCL shall promptly notify the supplier in writing of any claims arising under this warranty. The supplier at site at no cost to the purchaser shall carry out the repairs replacement or rectification work within 21 days of settlement of warranty claims.

“At no cost to the purchaser” means, the supplier will have to bear all the expenses up to the destination site i.e. Ex-works prices, Excise duty, Sales tax, Insurance, Inland Transportation charges, etc. as applicable to ensure free delivery of warranty replacement at BCCL colliery sites. The supplier will be required to stock spares to take care of warranty period breakdown. Spares should be available immediately from the date of intimation of breakdown.

iii) The suppliers must ensure that there is no major breakdown due to manufacturing / design defect during the warranty period. In case such breakdown occurs, the purchaser will reserve the

right to extend the warranty period suitably as per the availability clause mentioned in the Technical Specification.

iv) A performance Bank Guarantee on scheduled/Nationalized Bank in India valid for Guarantee / Warranty period for 10% value of the order as a coverage towards the supplier's performance against the contract (**in the standard form at Appendix-III enclosed** herewith), must be submitted within 20 days of placement of order. No payment will be without submission of the performance bank guarantee. The order value means F.O.R, destination price including taxes, duties, transportation & insurance charges and other charges.

#### 12. PACKING FOR TRANSIT.

The bidder should confirm provision of proper packing of the goods to be shipped by them if order is placed on them as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand , without limitation , rough handling during transit . Packing case size and weights shall take into consideration , where appropriate , the remoteness of the goods final destination and absence of heavy handling facilities at all the points in transit. The packing , marking and documentation within and outside the package shall comply strictly with such special requirement as shall be expressly provided for in the order.

#### 13. QUALITY CONTROL MEASURE

The bidder shall furnish details of quality control measures being adopted by him, including any International / Indian standard being followed.

#### 14. PRICE FALL CLAUSE:

- As per Appendix -II

#### 15. FORCE MAJEURE CLAUSE

If the execution of the contract/supply order is delayed beyond the period stipulated in the contract / supply order as a result of out-break of hostilities, declaration of an embargo / curfew or blockade or fire , flood, acts of nature or any other contingency beyond the supplier's control due to act of God then BCCL 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 BCCL the contract/supply order shall be read and understood as if it had contained from its inception the delivery date as extended. Further this clause state that:

- a) The successful bidder will , in the event of his having to resort to this clause by a registered letter duly certified by the local Chamber of Commerce or statutory authority , the beginning and end of the causes of the delay , within fifteen days of the occurrence and cessation of such Force Majeure Conditions. In the event of delay lasting out of Force Majeure , BCCL will reserve the right to cancel the contract and provisions governing termination of contract , as stated in the bid documents will apply.
- b) For delays arising out of Force Majeure , the bidder will not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure and neither BCCL nor the bidder shall be liable to pay extra costs provided it is mutually established that Force Majeure Conditions did actually exists.
- c) If any of the force majeure conditions exists in the place of operation of the bidder even at the time of submission of bid, he will categorically specify them in his bid and state whether they have been taken into consideration in their quotations.

#### 16. INSPECTION & TESTS.

i)The purchaser of 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.

- ii) If the inspections and tests is conducted on the premises of the supplier or its subcontractor(s) at point of delivery and/or at the goods final destination when conducted on the premises of the supplier or its subcontractor(s) , all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the purchaser.
- iii) Should any inspected or tested Goods fail to conform to the specifications, the purchaser may reject them and the supplier shall replace the rejected goods and make all alternatives necessary to meet specification requirements free of cost to the Purchaser.
- iv) The materials will be inspected on arrival at site by the consignee, which will be considered as final. This shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative's i.e. third party prior to the dispatch of the Goods.
- v) Nothing in these documents shall in any way release the supplier from any warranty or other obligations under this contract.

For Chief General Manager(MM)

## PENALTY FOR FAILURE TO SUPPLY IN TIME

### APPENDIX-I

The time and date of delivery of stores stipulated in Purchase order shall be deemed to be of the essence of the contract and delivery of the stores must be completed by the date specified . No materials should be supplied beyond the specified delivery period, unless specific approval has been obtained from the purchaser.

In the event of failure to delivery or dispatch the stores within the stipulated date/ period in accordance with the samples and/or specification mentioned in the supply order, and in the event of breach of any terms and conditions mentioned in the supply order. Bharat Coking Coal Limited reserves the right:

- a) To recover from successful tenderer, as agreed liquidated damages, a sum not less than 0.5% (half percentage) of the price of the stores which successful tenderer has not been able to supply (for this purpose part of a unit supplied will not be considered) as aforesaid for each week or part of a week during which the delivery of such stores may be in arrears limited to 10%. Where felt necessary the limit of 10% can be increased to 15% at the discretion of Head of the Materials Management Division .
  - b) To purchase elsewhere, after due notice to the successful tenderer on the account and at the risk of the defaulting supplier the stores not supplied or others of a similar description without canceling the supply order in respect of consignment not yet due for supply or
  - c) To cancel the supply order or a portion thereof, and if so desired to purchase the store at the risk and cost of the defaulting supplier and also
  - d) To extend the period of delivery with or without penalty as may be considered fit and proper. The penalty , if imposed shall not be more than the agreed liquidated damages referred to in clause(a) above.
  - e) To encash any Bank guarantee which is available for recovery of the penalty or
  - f) To forfeit the security deposit full or in part.
  - g) Whenever under the contract a sum of money is recoverable from and payable by the supplier, BCCL shall be entitled to recover such sum by appropriating , in part or whole by deducting any sum or which at any time thereafter may be due to the successful tenderer in this or any other contract with Bharat Coking Coal Ltd. or any subsidiary of Coal India Ltd. Should this sum be not sufficient to cover the full amount recoverable, the successful tenderer shall pay BCCL on demand the remaining amount. The supplier shall not be entitled to any gain under this clause.
- The bidder must confirm the acceptance of this Penalty clause which will not be altered.

## PRICE FALL CLAUSE.

### APPENDIX-II

- i) The prices charged for the stores supplied under the contract by the supplier shall in no event exceed the lowest price at which the supplier offer to sell the stores of identical description to any other organization from date of offer till completion of supply under the contract.
- ii) If at any time during the said period the supplier offers lower sale price of such stores to any other organization at a price lower than the price chargeable under this contract, the supplier shall forthwith notify such reduction or sale to the consignee concerned under intimation to CGM(MM), Bharat Coking Coal Limited , Commercial Block , Level –III , Koyla Bhawan , Koyla Nagar , Dhanbad and the price payable under the contract for the stores supplied after the date of coming into force of such reduction or sale, shall stand correspondingly reduced. The above stipulated will not , however apply to exports by the supplier.

The bidder should confirm their acceptance of the above clauses.

**CHECK- LIST**

( To be filled by the Tenderer duly signed and stamped )

- |  |        |
|--|--------|
| 1. Whether the tenderer is a Manufacturer  | Yes/No |
| 2. Whether the tenderer is a exclusively authorized marketing outlet of a manufacturer   | Yes/No |
| 3. If the reply against(2) above is yes, then indicate name & full address of the Principal.                                     |        |
| 4. In case of (2) above whether the Principals Authorisation as Exclusive Authorised Marketing Outlet is enclosed with the offer | Yes/No |
| 5. Acceptance of 180 days offer's validity period as per NIT   | Yes/No |
| 6. Whether quoted prices are FIRM as per N IT.   | Yes/No |
| 7 Whether Price quoted is on FOR destination basis as per NIT  | Yes/No |
| 8 Acceptance of Payment terms as per NIT   | Yes/No |
| 9. Acceptance of Liquidated damages & Risk purchase clause as per NIT.   | Yes/No |
| 10. Acceptance of Price fall clause as per NIT.  | Yes/No |
| 11. Whether banned or delisted by any Government or quasi-Government agencies or PSUs.   | Yes/No |

NOTE: NON -ACCEPTANCE OF ANY OF THE TERMS AND CONDITIONS MAY LEAD TO REJECTION OF OFFER.

SIGNATURE OF THE TENDERER  
WITH SEAL & STAMP

LETTER OF PERFORMANCE GUARANTEE.

APPENDIX-III

1. Messers ----- a company having its office at -----  
-----hereinafter called the Seller has entered into a  
Contract No.-----dt.------(hereinafter called the said Contract) with  
Bharat Coking Coal Limited (hereinafter called , the Purchaser) to supply equipment on the terms and  
conditions in the said Contract.

It has been agreed that hundred percentage( 100% ) payment of the value of the equipment will be  
made to the seller in the terms of the said Contract on the seller furnishing to the Purchaser a Bank  
Guarantee for the sum of ----- equivalent to 10 % of the value of each equipment and accessories  
dispatched by the seller 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 the purchaser by reason of  
any of the terms or conditions contained in the said contract.

The----- Bank having its office at ----- has at the request of seller  
agreed to give the guarantee herein after 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 of any of the terms or 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 purchase and the seller regarding the  
claim. However , our liability under this guarantee shall be restricted to an amount not exceeding -----  
-----.

3. We,----- Bank Ltd., 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 purchase under or by virtue of the said contract have been fully paid and its claim satisfied or purchase  
certified that the terms and conditions of the said contract have been fully and properly carried out by the  
said seller and accordingly discharged the guarantee .Unless a demand or claim under this guarantee is  
made on us in writing on or before the -----( date to be given-----months from the date of  
Bank Guarantee) 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 affecting in any manner no 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 relived 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 by any such matter or thing whatsoever which under the law relating to sureties  
would be for this provision have effect of an 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 this purchaser the said sum of ----- or such lesser sum as may  
than be due the purchaser and as the purchaser may demand.

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

6. The Bank has under its constitution power to give this guarantee and Mr.-----Manager ,  
who has signed it on behalf of the Bank has 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.

Date----- Day of -----20

For ----- Bank Limited Signature of the authorised person  
for and on behalf of the Bank

		DECIPTION OF ITEM		U.M.	REQUIRED QTY
SL.NO	MATERIAL CODE	DESCRIPTION	DRAWING NO.		
1	2	3		4	
01	15501950914	STATOR COIL FOR 250KW, 6.6KV AC MAIN MOTOR OF EKG/ EQC 4.6 Cu.M/ 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 5523.217	SET (1set = 60 coils)	<b>2</b>
02	15501987278	ARMATURE COIL FOR 192KW / 200KW DC HOIST GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 14134038037	SET (1set = 62 coil pairs)	<b>2</b>
03	15501972132	ARMATURE COIL FOR 120KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24134038010	SET (1set = 59 coils)	<b>3</b>
04	15501972144	ARMATURE COIL FOR 100KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24134038014	SET (1set = 39 coils)	<b>2</b>
05		ARMATURE COIL FOR 132KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 814 spl.	SET (1set = 37 coils)	<b>2</b>
06		ARMATURE COIL FOR 42KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 34134038016	SET (1set = 41 coils)	<b>3</b>
07		ARMATURE COIL FOR 50KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 810 spl.	SET (1set = 37 coils)	<b>3</b>
08	15501972267	ARMATURE COIL FOR 12KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 34134038000	SET (1set = 39 coils)	<b>3</b>
09	15501987234	ARMATURE COIL FOR 15KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. DC 280 / E.	SET (1set = 37 coils)	<b>4</b>
10	15501480569	ARMATURE COIL FOR 112.5KW DC C / P GENERATOR OF P&H 1900AL SHOVEL	GENERATOR MAKE 'SHINKO' JAPAN	SET (1set = 42 coils)	<b>1</b>
11		ARMATURE COIL FOR 200KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL MAKE MOTOR FRAME NO - MDME 816	SET (1set = 62 coils)	<b>2</b>

12	15506997191	ARMATURE COIL FOR 200KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE MOTOR FRAME NO. KMDC 816 spl.	SET (1set = coils)	<b>1</b>
13		ARMATURE COIL FOR 175KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24114038012	SET (1set = 46 coils)	<b>2</b>
14	15501972279	ARMATURE COIL FOR 60KW DC SWING MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24114038013	SET (1set = 35 coils)	<b>2</b>
15	15501480592	ARMATURE COIL FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 1414038040	SET (1set = 35 coils)	<b>13</b>
16		ARMATURE COIL FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE MOTOR FRAME NO. KMDC 808 spl.	SET (1set = 43 coils)	<b>9</b>
17	15501972152	ARMATURE COIL FOR 70HP DC CROWD MOTOR OF P&H 1900AL SHOVEL	MOTOR MAKE 'SHINKO' JAPAN	SET (1set = 49 coils)	<b>1</b>
18	15501972073	ARMATURE EQUALISING COIL FOR 112.5KW DC C / P GENERATOR OF P&H 1900AL SHOVEL	GENERATOR MAKE 'SHINKO' JAPAN	SET (1set = 105 coils)	<b>1</b>
19	15501987242	ARMATURE EQUALIZING COIL FOR 200KW DC HOIST GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 620 spl.	SET (1set = 50 coils)	<b>2</b>
20	15501987242	ARMATURE EQUALIZING COIL FOR 200KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL MAKE MOTOR FRAME NO - MDME 816	SET (1set = 62 coils)	<b>2</b>
21	15501981773	MAIN POLE COIL ASSY. FOR 200KW DC HOIST GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 620 spl.	SET (1set = 04 pair of coils)	<b>1</b>
22		MAIN POLE COIL ASSY. FOR 100KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238063 ( SELF) 24133238064 (SEP.)	SET (1set = 04 pair of coils)	<b>2</b>
23	15501972164	MAIN POLE COIL ASSY. FOR 132KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 814 spl.	SET (1set = 04 pair of coils)	<b>2</b>
24	15504993718	MAIN POLE COIL ASSY. FOR 42KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238067 ( SELF) 24133238068 (SEP.)	SET (1set = 04 pair of coils)	<b>4</b>

25	15501998239	MAIN POLE COIL ASSY. FOR 50KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 810 spl.	SET (1set = 04 coils)	<b>2</b>
26	15501972085	MAIN POLE COIL ASSY. FOR 12KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238060 ( SHUNT) 24133238015 (SERIES.)	SET (1set = 04 pair of coils)	<b>5</b>
27	15501972097	MAIN POLE COIL ASSY. FOR 15KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. DC 280 / E.	SET (1set = 04 coils)	<b>1</b>
28		MAIN POLE COIL FOR 60KW DC SWING MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24113238032	SET (1set = 04 coils)	<b>3</b>
29		MAIN POLE COIL FOR 60KW DC SWING MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE MOTOR FRAME NO. KMDC 803 spl.	SET (1set = 04 coils)	<b>1</b>
30	15501972105	MAINPOLE COIL FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24113238032	SET (1set = 04 coils)	<b>4</b>
31	15501981682	MAINPOLE COIL FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE MOTOR FRAME NO. KMDC 808 spl.	SET (1set = 04 coils)	<b>1</b>
32		COMPOLE COIL ASSY. FOR 192KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238066(COMPOLE) 34133238017(STAB.)	SET (1set = 04 pair of coils)	<b>2</b>
33		COMPOLE COIL ASSY. FOR 100KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238066(COMPOLE) 34133238017(STAB.)	SET (1set = 04 pair of coils)	<b>1</b>
34		COMPOLE COIL ASSY. FOR 120KW DC HOIST GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238061(COMPOLE) 34133238014(STAB.)	SET (1set = 04 pair of coils)	<b>1</b>
35		COMPOLE COIL ASSY. FOR 132KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 814 spl.	SET (1set = 04 coils)	<b>1</b>
36	15501950973	COMPOLE COIL ASSY. FOR 42KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24133238070 ( COMPOLE) 34133238018(STAB.)	SET (1set = 04 pair of coils)	<b>2</b>

37		COMPOLE COIL ASSY. FOR 50KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 810 spl.	SET (1set = 04 coils)	<b>2</b>
38	15501972302	COMPOLE COIL ASSY. FOR 12KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 34133238016	SET (1set = 04 coils)	<b>4</b>
39	15501972341	COMPOLE COIL ASSY. FOR 15KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. DC 280 / E.	SET (1set = 04 pair of coils)	<b>2</b>
40	15501972117	COMPOLE COIL FOR 60KW DC SWING MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 34113238007	SET (1set = 04 pair of coils)	<b>1</b>
41		COMPOLE COIL FOR 60KW DC SWING MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 803 spl.	SET (1set = 04 pair of coils)	<b>1</b>
42		COMPOLE COIL FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	BHEL DRAWING NO - 24113238062	SET (1set = 04 pair of coils)	<b>10</b>
43		COMPOLE COIL FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 808 spl.	SET (1set = 04 pair of coils)	<b>5</b>
44		COMMUTATOR FOR 192KW DC HOIST GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL. NO. OF SEGMENT - 186	BHEL DRAWING NO - 34134238001	NO.	<b>1</b>
45		COMMUTATOR FOR 120KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO OF SEGMENT -177	BHEL DRAWING NO - 34134238003	NO.	<b>2</b>
46	15501972322	COMMUTATOR FOR 100KW DC SWING GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO OF SEGMENT -195	BHEL DRAWING NO - 24134238013	NO.	<b>2</b>
47	15501982022	COMMUTATOR FOR 42KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO OF SEGMENT -205	BHEL DRAWING NO - 34134238000	NO.	<b>4</b>

48	15501972334	COMMUTATOR FOR 50KW DC CROWD GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO OF SEGMENT -185	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. KMDC 810 spl.	NO.	<b>3</b>
49	15501972358	COMMUTATOR FOR 12KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO OF SEGMENT -156	BHEL DRAWING NO - 34134238002	NO.	<b>2</b>
50	1551972361	COMMUTATOR FOR 15KW DC EXCITER GENERATOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO OF SEGMENT -111	KIRLOSKAR ELECTRIC CO. LTD MAKE GENERATOR FRAME NO. DC 280 / E.	NO.	<b>1</b>
51		COMMUTATOR FOR 112.5KW DC C/P GENERATOR OF P&H 1900AL SHOVEL. NO. OF SEGMENT - 210	GENERATOR MAKE 'SHINKO' JAPAN	NO.	<b>1</b>
52		COMMUTATOR FOR 200KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL. NO. OF SEGMENT - 168	USSR MAKE MOTOR FRAME NO - A3 - 816 - T2	NO.	<b>1</b>
53		COMMUTATOR FOR 200KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL. NO. OF SEGMENT - 186	BHEL MAKE MOTOR FRAME NO - MDME 816	NO.	<b>1</b>
54		COMMUTATOR FOR 175KW DC HOIST MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL . NO. OF SEGMENT - 184	BHEL DRAWING NO - 24114038012	NO.	<b>2</b>
55	15501951001	COMMUTATOR FOR 60KW DC SWING MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL . NO. OF SEGMENT - 105	BHEL DRAWING NO - 24114038007	NO.	<b>2</b>
56	15501148146	COMMUTATOR FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO. OF SEGMENT - 139	BHEL DRAWING NO - 24114238014	NO.	<b>6</b>
57		COMMUTATOR FOR 54KW DC CROWD / PROPEL MOTOR OF EKG / EQC 4.6 Cu.M / 5.0 Cu.M SHOVEL NO. OF SEGMENT - 139	KIRLOSKAR ELECTRIC CO. LTD MAKE MOTOR FRAME NO. KMDC 808 spl.	NO.	<b>4</b>
58		COMMUTATOR FOR 70HP DC CROWD MOTOR OF P&H 1900AL SHOVEL NO. OF SEGMENT - 147	MOTOR MAKE 'SHINKO' JAPAN	NO.	<b>1</b>

## **(1) TECHNICAL SPECIFICATION OF COILS & COMMUTATOR**

### **CONDUCTOR FOR ALL COILS: -**

99.94% or above electrolytic grade class - F / class - H (for motor coils only) **enameled** copper strip/round conductor as per original size with class -F / class - H (for motor coils only) varnished double glass covering as per IS specification no. - 10114.

HOWEVER, FOR COMPOLE COILS OF BHEL MAKE ONLY THE CONDUCTOR WILL BE 99.94% OR ABOVE ELECTROLYTIC GRADE & ANNEALED COPPER STRIP WITHOUT ANY SHARP EDGE, CRACKS & VOIDS.

INSULATION SCHEME : -

### **A) STATOR COILS , 3.3KV / 6.6 KV (Item Sl.No.1 )**

- i) Inter- layer separation by 3mills silicone glass - mica insulation for turn-to-turn separation.
- ii) Conductors to be bunched together with epoxy bonding and wrapped with one layer 0.05 mm thick kapton tape through out the coil length.
- iii) Bend protection by Teflon FER tape.
- iv) Slot portion insulation with epoxy resin bonded thermo-reactive type samicatherm molding and cured for dielectric strength of 15KV AC for 6.6KV application and 9KV AC for 3.3 KV applications for one minute.
- v) Overhang portion insulation by samicatherm taping half overlap.
- vi) Lead portion by kapton adhesive tape & samica tape with overall taping by superfine quality glass-fiber tape.
- vii) Overall finish taping for complete coil length or overhang portion only as per requirement will be of 3mills superfine quality glass-fiber tape of IS 5352 - 13 - 4 and to be varnished properly.
- viii) Class of insulation - F.

### **B) ARMATURE COILS FOR D. C. GENERATOR / MOTOR (Item Sl. No. 2 to 17 )**

- i) Interlayer separation by 3 mills silicone glass-mica sheet throughout the coil length.
- ii) Coil conductors to be bunched together without void or bulged out portion. Bend protection by TEFLON FER tape only.
- iii) Slot portion insulation to be mould with samicaflex & epoxy bonding for a minimum dielectric strength of 2KV DC for one minute.
- iv) Overhang portion insulation by samicaflex tapes only.
- v) Conductor lead taping by samica tape & 3 mills superfine quality glass-fiber tape with proper varnishing. Conductor end leads are to be tinned properly with 2% silver contained solder.
- vi) Overhang portion to be final taped by 5 mills superfine quality glass-fiber tape as per IS: 5352-13-4 half - overlap & to be varnished properly.
- vii) Class of insulation - Class-F (for generator coils) / class - H (for motor coils).

### **C ) DC ARMATURE EQUALISING COIL (Item Sl. No. 18 to 20 )**

Conductors to be wrapped with samica tape half - overlap and final tape with super fine quality glass tape properly varnished. Lead portion to be tinned similar to armature coils. The coils may be supplied in single conductor or five conductors bunched together as per armature coil insulation in respect of inter-turn & overall insulation.

### **D ) MAIN POLE COIL ASSY. FOR DC GENERATORS (Item Sl. No. 21 to 27)**

i) The conductor to be wound as per size of coil with layer to layer epoxy bonding without any bulged out portion and smooth corner finish, so that the gap between core & coil inside wall will be uniform for all four sides at the time of fitting. Proper bindings of the coil packs are to be provided for firm holding of the coil layers. The end connection terminals are to be properly secured within the coil pack & to be tinned properly.

For BHEL/ USSR make no overall taping of the coils are required. For KEC make , the coils are to be formed in pre-mould glass-epoxy based bobbin.

- ii) Spray type epoxy based insulating paint to be used for final finish.

iii) Coil pack separators as per size of the coils & core made out of high quality glass epoxy laminated sheet (specific gravity not less than 1.8) are to be provided. The thickness of the sheets will be ranging from 2mm to 4mm & four nos for each coil assly.

iv) Class of insulation -'F'

#### **E ) COMPOLE COIL ASSLY. FOR DC GENERATOR ( Item SI.No. 32 to 39 )**

##### **For commutating coils :-**

i) Inter layer separation & bonding by PERMACEL\* INTERCEM or eqvt. epoxy resin based ceramic sheet with proper curing at required temp. & pressure for gapless & void free rigid bonding of the layers.

ii) No overall taping of any kind will be provided considering the heat dissipation factors , But proper end connection leads to be provided.

##### **For stabilizing coils: --**

The stabilizing coils are to be wound with layer-to-layer epoxy bonding & overall taping of the coil packs to be provided with SAMICAFLEX tape & PERMACEL P--300 or eqvt. tapes . All end connection leads are to be provided with appropriate size Silicon rubber insulated multi core copper cable including end lugging etc.

iii) Coil pack separators as per size of coil & core made out of high quality epoxy-laminated glass-fiber sheet (specific gravity not less than 1.8) are to be provided. Thickness of sheet ranging from 2mm to 4mm & three nos. for each coil are required.

iv) Spray type epoxy paint are to be used for final coating & finish.

v) Class of insulation: -- 'F'.

For KIRLOSKAR Make the insulation scheme will be same as MP Coil in pre - mould glass -epoxy bobbin.

#### **F ) MAIN POLE COIL FOR DC MOTORS (Item SI. No. 28 to 31 )**

i) For BHEL / USSR make - conductor to be wound as per size of coil in layers with layer to layer epoxy bonding as per the shape of original coils sample.

For Kirloskar make - Conductors to be wound in layers with layer to layer epoxy bonding in a pre-mould bobbin made out of high quality glass epoxy & as per shape & size of original sample coils.

ii) For both type proper end terminal connectors are to be provided. The terminal connectors are to be properly secured within the coil pack to avoid any chance of breakage or loosening of the connectors.

iii) For BHEL / USSR make - The coil conductor pack to be wrapped with multi layer samicaflex tape only with epoxy bonding for ground insulation. Overall taping to be done by PERMACEL \*P-- 300 or eqvt. tape completely cured at 125 deg. C for 8 hours as per process of curing . For Kirloskar make, no ground insulation is required.

iv) Spray type epoxy paint to be used for final finish for both the models.

v) Class of insulation --'H'

#### **G ) COMPOLE COIL FOR DC MOTOR (Item SI. No. 40 to 43 )**

i) Inter layer separation & bonding by PERMACEL \* INTERCEM or epoxy resin based ceramic sheet with proper curing at required temperature & pressure for gapless & void free rigid bonding of the layers.

ii) Ground insulation by SAMICAFLEX tapes with epoxy bonding. Overall taping by PERMACEL \*P--300 or eqvt. tape completely cured as per process of curing as stated above.

For Kirloskar make bobbin as per size of coil & core made out of glass epoxy to be used in which the conductor are to be wound in layers with epoxy resin bonding.

iii) Spray type epoxy paint to be used for final finish.

iv) Class of insulation--'H'.

#### **TESTING OF THE COILS**

i) Conductor test certificate indicating size of conductor for conductivity, enamel grade & chemical grade of copper from GOVT. APPROVED test house/ conductor manufacturer or by the OEM for each set of coils.

ii) High voltage test by the coil manufacturer for each set of coils.

iii) Inter-turn insulation / impulse test/tan-delta test certificate and short circuit test for each set of coils

iv) Resistance / voltage drop test for each set of coils.

ALL THE TEST CERTIFICATES ARE TO BE PROVIDED ALONGWITH SUPPLY.ANY SUPPLY WITHOUT ABOVE TEST CERTIFICATES WILL BE TREATED AS NON-SUPPLY.

**SIZE & WEIGHT**

The size & shape of the coils will be as per the original drawing of OEM's or as per original samples available at our shop. The weight of the coils will be as per annexure --I (Enclosed).

**COMMUTATORS (Item Sl.No. 44 to 58)**

All commutators are to be strictly as per IS: 5885 - 1977.

- i) Type of segment: - High conductivity hard drawn oxygen free silver bearing (silver content 0.06% or more) copper trapezoidal section with proper vee-groove & dimensions. The hardness & electrical conductivity will be as per IS--4519/1977& without any sharp edge, crack, void, concave/convex surface, pitting marks etc.
- ii) Inter-segment insulation:- Alkyde veenyle treated hard pressed commutator mica sheet of appropriate size with proper thermal compressive & bonding property .
- iii) Mica V-cones; - All mica vee-cones are to be formed separately by alkyde veenyle as per size of segment groove in separate moulds with commutator mica sheet.
- iv) Steel V-rings :- Steel vee - rings are to be made from forged steel/high quality structural steel with provision of nut -bolts/check-nuts fastening arrangement as per requirements. The Commutators hubs are to be of same materials. Proper locking of each part is to be done so that the complete Commutators must act as a rigid single piece. All Vee rings must be projected from the copper segments on both side.
- v) Sealing:- Gaps between vee-ring & copper segments are to be sealed with high quality RTV silicone sealant. The vee-ring projected portion to be banded with resin-glass only.
- vi) Risers: - Risers for flexible/ sprocket type are to be made out of virgin silver bearing copper sheet & must be tinned. Size & shape will be as per sample/ drawing.
- vii) Ground insulation: - 5KV for one minute & bar to bar test at 500 volts.
- viii) Class of insulation - Class 'F' ( for generators )/class-'H' (for motors).
- ix) Seasoning: - All commutators must be seasoned static & dynamically as per IS recommended load & cycles depending on duty & size of the commutator. Spin test certificate at a speed of 1.2 times of the rated rpm of the commutator to be done.
- x) Dynamic balancing: - All commutators are to be dynamically balanced at following RPM.
  - a) For all generators -- 2000 rpm.
  - b) For hoist motor of EKG--1000 rpm.
  - c) For other motors --1500 rpm.

**Testing:-**

- i) Copper & silver percentage (in exact) of commutator segments by chemical tests from GOVT. APPROVED test house or by the OEM to be done.
- ii) Following tests are to be done by the commutator manufacturer.
  - \* High voltage test
  - \* Dynamic Balancing
  - \* Bar to bar test.
  - \* Spin test & seasoning certificate for each commutator to be submitted at following speed.
  - \* For generators of EKG/EQC--1800rpm.
  - \* For generators of P&H -- 2000 rpm.
  - \* For hoist motor of EKG --1000 rpm.
  - \* For other motors-- 1500 rpm.

ALL THE ABOVE TEST CERTIFICATES ARE TO BE PRODUCED ALONGWITH SUPPLY.

**(2) Delivery Schedule: -**

Delivery should start within 02 months from the date of receipt of order and it should be completed within 06 months thereafter.

**(3) Warranty / Guarantee: -**

18 months from the delivery or 12 months from the date of fitment whichever is earlier against faulty materials or bad workmanship.

**(4) After Sales Services: -** To be provided by the firm

**(5) Fitment Guarantee: -**

You have to provide a guarantee that the spares which will be supplied by you will be 1:1 replacement of the item as per their drawing no & will pose no problem in fitting in original machines.

**APPROX. WEIGHT OF EACH COIL**

(For estimation purpose only)

IETM NO.	DESCRIPTION	RATINGS	QTY.	APPROX.WEIGHT IN KG.
01	STATOR COIL	250KW, 6.6KV MAIN MOTOR (BHEL)	EACH	2.2
02	ARMATURE COIL	192KW HOIST GENERATOR (BHEL)	EACH	1.45
03	ARMATURE COIL	120KW SWING/PROPEL GEN.(BHEL)	EACH	0.9
04	ARMATURE COIL	100KW SWING/PROPEL GEN. (BHEL)	EACH	1.25
05	ARMATURE COIL	132KW SWING/PROPEL GEN. (KEC)	EACH	1.3
06	ARMATURE COIL	42KW CROWD GENERATOR (BHEL)	EACH	0.9
07	ARMATURE COIL	50KW CROWD GENERATOR (KEC)	EACH	0.9
08	ARMATURE COIL	12KW EXCITER GENERATOR (BHEL)	EACH	0.5
09	ARMATURE COIL	15KW EXCITER GENERATOR (KEC)	EACH	0.45
10	ARMATURE COIL	112.5KW C/P GENERATOR (P&H)	EACH	1.5
11	ARMATURE COIL	200KW HOIST MOTOR (BHEL)	EACH	1.8
12	ARMATURE COIL	200KW HOIST MOTOR (KEC)	EACH	2.0
13	ARMATURE COIL	175KW HOIST MOTOR (BHEL)	EACH	2.2
14	ARMATURE COIL	60KW SWING MOTOR (BHEL)	EACH	1.1
15	ARMATURE COIL	54KW CROWD MOTOR (BHEL)	EACH	1.1
16	ARMATURE COIL	54KW CROWD MOTOR (KEC)	EACH	0.8
17	ARMATURE COIL	70HP CROWD MOTOR (P & H)	EACH	0.9
18	ARM. EQLG. COIL	112.5KW C/P GENERATOR (P&H )	EACH	0.06
19	ARM. EQLG. COIL	200KW HOIST GENERATOR (KEC)	EACH	0.06
20	ARM. EQLG. COIL	200KW HOIST MOTOR (BHEL)	EACH	0.05
21	MAIN POLE COIL ASSY.	192KW HOIST GENERATOR (BHEL)	EACH	28.0
22	MAIN POLE COIL ASSY.	100KW SWING/PROPEL GEN. (BHEL)	EACH	24.0
23	MAIN POLE COIL ASSY.	132KW SWING/PROPEL GEN. (KEC)	EACH	18.0
24	MAIN POLE COIL ASSY.	42KW CROWD GENERATOR (BHEL)	EACH	10.5
25	MAIN POLE COIL ASSY.	50KW CROWD GENERATOR (KEC)	EACH	10.0
26	MAIN POLE COIL ASSY.	12KW EXCITER GENERATOR (BHEL)	EACH	4.0
27	MAIN POLE COIL	15KW EXCITER GENERATOR (KEC)	EACH	4.0
28	MAIN POLE COIL	60KW SWING MOTOR (BHEL)	EACH	22.0
29	MAIN POLE COIL	60KW SWING MOTOR (KEC)	EACH	18.0
30	MAIN POLE COIL	54KW CROWD MOTOR (BHEL)	EACH	22.0
31	MAIN POLE COIL	54KW CROWD MOTOR (KEC)	EACH	18.0
32	COMPOLE COIL ASSY.	192KW HOIST GENERATOR (BHEL)	EACH	16.0
33	COMPOLE COIL ASSY.	100KW SWING/PROPEL GEN.(BHEL)	EACH	12.5
34	COMPOLE COIL ASSY.	120KW SWING/PROPEL GEN. (BHEL)	EACH	12.5
35	COMPOLE COIL ASSY.	132KW SWING/PROPEL GEN. (KEC)	EACH	10.0
36	COMPOLE COIL ASSY.	42KW CROWD GENERATOR (BHEL)	EACH	8.0
37	COMPOLE COIL ASSY.	50KW CROWD GENERATOR ( KEC )	EACH	7.5
38	COMPOLE COIL ASSY.	12KW EXCITER GENERATOR (BHEL)	EACH	2.5
39	COMPOLE COIL ASSY.	15KW EXCITER GENERATOR (KEC)	EACH	2.5
40	COMPOLE COIL	60KW SWING MOTOR (BHEL)	EACH	7.0
41	COMPOLE COIL	60KW SWING MOTOR (KEC)	EACH	7.0
42	COMPOLE COIL	54KW CROWD MOTOR (BHEL)	EACH	7.5
43	COMPOLE COIL	54KW CROWD MOTOR (KEC)	EACH	7.0

IMPORTANT NOTE – Offers of those tenderers will not be commercially acceptable who do not successfully execute previous order placed on them by BCCL despite giving commercial notice and against whom penal action have been initiated for breach of contract.