



HEAVY ENGINEERING CORPORATION LIMITED

PROJECT DIVISION

PURCHASE DEPARTMENT

Open Tender

Tender Enquiry No. : HEC/PROJ/PUR/BLOCK B/17

Date: 18.10.2021

Dear Sir,

We request you to submit your most competitive offer for the following items as per the given schedule.

ENQUIRY SCHEDULE

SI No.	Description	Unit of Measure	Qty	Remarks
1.	Design, engineering, manufacture, testing, inspection, painting, supply, supervision of testing & commissioning, performance guarantee of Cross Belt Magnetic Separator for Coal Handling Plant, Block B Project, Northern Coalfields Limited.	No	1	Specification shall be exactly in line with Enclosure-II (Technical specification)

Schedule of tender receipt of Offer: : As mentioned in CPP Portal

Schedule of tender opening of

Techno-commercial bid: : As mentioned in CPP Portal

Price Bid opening date : Will be intimated later through E-tender Portal only.

Tender is available on our website in e-procurement section i.e. <https://etenders.gov.in/e procure/app> . Approved Bidders may go through the tender document. Bidders are required to upload the bid along with all supporting documents including priced part (BOQ) only on the e-tendering website (<https://etenders.gov.in/e procure/app>), on or before the due date and time for submission of bid.

EMD/Tender fee to be submitted and sealed in separate envelop superscribed Tender No. & Due date of offer submission.

Thanking you,

(Pradip Kumar)
Sr.Mgr /Purchase/PROJECT DIVISION
Heavy Engineering Corporation Limited HMBP ADM. BUILDING
(ANNEXE) DHURWA, RANCHI 834004
Ph.06512401266/240056 Fax. : 0651 – 2401533
E-mail: projectpurchase@hecltd.com



INSTRUCTIONS TO TENDERER (ITT)

All bidders are requested to go through the all parts of Tender Document very carefully in detail before submitting the offer.

1.0 Offer has to be submitted only online at E-tender Portal: www.etenders.gov.in. Offers submitted in Hard copy shall not be considered, however tender Cost, Earnest Money Deposit (Original Demand Draft/bank Guarantee) may be submitted to us in hard copy. Scan copy of tender Cost & EMD to be uploaded in part-1 of offer i.e technocommercial bid.

2.0 Prospective Tenderers are advised to get register themselves only on at NIC e-tender portal i.e. <https://etenders.gov.in/eprocure/app>, obtain 'User ID' & 'Password' and go through the 'Self Help files' available in the Home Page after log in to the portal <http://etenders.gov.in>. They should also obtain Class III Digital Signature Certificate (DSC) in parallel which is essentially required for submission of their application. Detailed instructions for online bid submission are attached in **annexure-3**. No registration fee would be charged from the bidders.

NOTE:

- i. Please note that there is no provision to take out the list of parties downloading the tender document from the above referred web site. As such, tenderers are requested to see the website once again before due date of tender opening to ensure that they have not missed any corrigendum uploaded against the said tender after downloading the tender document. The responsibility of downloading the related corrigenda, if any, will be that of the downloading parties.
- ii. No separate intimation in respect of corrigendum to this NIT(if any) will be sent to tenderers who have down loaded the documents from website. Please see website i.e., <http://www.hecltd.com> or <http://www.etenders.gov.in>
- iii. HEC reserves the right to extend / change the schedule of any activity by intimating the bidders through a notification on the e-tender portal only.

The Following two covers shall be submitted through online CPP - portal by the bidders. Last date and time of submission of bids (cover I, II) is as per given dates. **No other modes of bid submission is acceptable.**

Cover – I: - Containing techno-commercial bid and Technical Specification (As per ITT, Enclosure-I (Commercial terms & Conditions) and Enclosure-II (Technical Specification))

Scan copy of documents to be uploaded required as per Annex- 1 – Proof of Tender Fee submission document (DD/BG/NEFT/RTGS), SSI/NSIC/MSME certificate (for exemption of tender fee) and other relevant documentary evidence (PO copy, performance certificate etc.)

3.0 Cover - II: Price Bid (BoQ)

The tenderer shall upload the digitally signed Schedule of price bid in the form of BOQ.xls *Bidders may please note, the schedule of quantities is attached in the portal. The same (BOQ) shall be downloaded and be filled in the editable (un protected) cells only and they should necessarily submit their financial bids in the format provided after entering the financial quotes, name of the bidder etc.*

4.0 Bid Opening Process is as below:-

Cover-I: Technical bid opening date will be as per given dates. If any clarification is needed from the bidder about the deficiency in his uploaded documents in Cover-I, the bidder will be asked to provide it through Short fall documents folder in e-tendering portal. The bidder shall upload the requisite clarification / documents within time specified by HEC, failing which tender will be liable for rejection. Cover-II: The financial bids of the contractors / firms



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found to be meeting the qualifying requirements and technical criteria shall be intimated through portal. (Depending on Cover-I evaluation any changes in the date shall be intimated through e-tendering portal).

5.0 Earnest Money Deposit – The offers submitted shall be considered valid only when scan copy of EMD document .The scan copy of EMD document in form of DD/BG/Receipt of NEFT/RTGS have to be uploaded with the Techno- Commercial bid (Part 1) only.

Exemption of EMD shall be applicable on submission of valid SSI/NSIC/MSME certificate and as per prevailing govt guidelines. SSI/NSIC/MSME Certificate to be uploaded in Techno Commercial Part 1 . EMD detail as per the details mentioned below

- a. The Bidder shall submit EMD of **Rs. 70,000/-** in the form of Bank Guarantee (in prescribed enclosed proforma at *annexure-4*) / Bank Draft in favour of Heavy Engineering Corporation Limited, Ranchi from a Nationalised Bank / Scheduled Indian Bank.
- b. The validity of the Bank Guarantee shall be for a period of 120 days beyond the validity of the Bid.
- c. Tenders not accompanied with EMD shall be liable for rejection

The original EMD in form of DD/BG/Receipt of NEFT/RTGS should be reached us through courier or in person before the opening date of tender in following address

To , I/C /Purchase
PROJECT DIVISION
HMBP ADM. BUILDING (ANNEXE)
DHURWA, RANCHI- 834004
Fax. No. 0651-24015
Ph. No. 0651-2401266 / 2400562

Refund of EMD: The Earnest Money will be retained in the case of successful tenderer. The Earnest Money deposited by the successful bidder will be refunded on receipt of required Security Deposit from the bidder. EMD of the unsuccessful tenderers shall be refunded immediately after finalization of the tender. EMD shall be forfeited if any tenderer withdraw their offer before finalization of the tender.

6.0 Tender Fee of Rs. 500/- in the form of Demand Draft in favour of Heavy Engineering Corporation Ltd., payable at Ranchi

- a) Tenders not accompanied with Tender Fee shall be liable for rejection.

Exemption of Tender Fee shall be applicable on submission of valid SSI/NSIC/MSME certificate and as per prevailing govt guidelines. SSI/NSIC/MSME Certificate to be uploaded in Techno Commercial Part 1.

Note:

The tender fee and EMD exemption is applicable to MSMEs subject to conditions given below:

- i. MSMEs participating in the tender must submit valid & authorised copy of certificate of registration with any one of the above agencies. In case of bidders submitting DIC registration certificate shall attach original notarised copy of the DIC certificate. The MSME's Bidder to note and ensure that nature of services and goods/items manufactured mentioned in MSME's certificate matches with the nature of the services and goods /items to be supplied as per Tender.
- ii. Traders / resellers / distributors / authorized agents will not be considered for availing benefits under Public Procurement policy 2012 for MSMEs as per MSME guidelines issued by MoMSME.
- iii. The registration certificate issued from any one of the above agencies must be valid as on Bid closing date of the tender. Bidder shall ensure validity of registration certificate in case



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- bid closing date is extended.
- iv. The MSMEs who have applied for registration or renewal of registration with any of the above agencies / bodies, but have not obtained the valid certificate as on close date of the tender, are not eligible for exemption / preference.
- v. Where any aggregator has been appointed by the Ministry of MSME, themselves quote on behalf of some MSE units, such offers will be considered as offer from MSE units and all such facilities would be extended to these aggregators also.

7.0 Examination of Terms & Conditions- Technical Evaluation

Any bidder seeking benefit/preference under MSME / Make in India or any other policy/scheme of the Government of India, which is currently in force MUST at the time of bidding itself enclose all relevant documents / certificates etc. for claiming such benefits. The bidder must also clearly highlight the provisions of the policy and the kind of benefit being sought by it for which it meets the conditions for claiming such benefits. It may be noted that no other benefit / preference / concessions which is beyond the scope of the policy or the bidder's entitlement under the policy shall be given / considered by us. If the bidder fails to claim such benefit and/or fail to submit necessary documents/certificates in support of its claim at the time of bidding itself, its claim shall not be entertained at a later stage in the bidding process and no opportunity shall be provided to it to submit any document / certificate.

7.1 Evaluation and comparison of bids

The bids shall be evaluated on the basis of final landed cost which shall be arrived as under and as per format given in BOQ of e-Tender:

For Goods manufactured within India

i)	The price of the goods quoted Ex-works
ii)	GST which will be payable on the goods if the contract is awarded.
iii)	The charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination as specified in the BOQ.
iv)	The installation, commissioning and training charges including any incidental services, if any as given in Scope of Works of NIT
v)	Deviation to NIT payment terms.

The comparison between the offers shall be made on FOR destination on Landed cost basis.

Price preference to Local suppliers as per Make in India procurement policy of Govt. of India and Department for Promotion of Industry and Internal Trade (DPIIT) order No. P-45021/2/2017-PP (BE-II) dated 04th June, 2020

- A. Eligibility of 'Class-I local supplier', 'Class-II local supplier' and 'Non-local supplier'**
 - i. Only Class-I local suppliers are eligible to participate in tender if there is sufficient local capacity and local competition irrespective of the purchase value. L1 bidder amongst Class-I local suppliers shall be awarded contract subject meeting other requirements as per tender.
 - ii. In procurement of all goods or services not covered above, with the estimated value of purchases less than Rs. 200 Crore, only 'Class-I local supplier' and 'Class-II local supplier', shall be eligible to bid.
- B. Estimated value of procurement of tendered goods is below Rs. 200 Crore and it is not a Global Tender:**
 - i. Tendered goods are not divisible in nature, the following procedure shall be followed to evaluate L1 and award of contract:**
 - a. Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a Class-I local supplier, the contract will be awarded to L1.
 - b. If L1 is not from a Class-I local supplier, the lowest bidder among the Class-I local



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suppliers, will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such local supplier subject to matching the L1 price.

- c. In case such lowest eligible Class-I local supplier fails to match the L1 price, the Class-I local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the Class-I local suppliers within the margin of purchase preference matches the L1 price, then the contract may be awarded to the L1 bidder.

For more clarity in this regard, following table is furnished:

Quantity of Tended goods	Price quoted by Local suppliers	Finalization of tender
Cannot be Split	L1 is Class-I local supplier	Full Order on Class-I Local supplier
Cannot be Split	Not L1 but Class-I local supplier within L1+20%	Full Order on Class-I Local supplier subject to matching L1 price

Definitions of terms applicable to this clause

'Local content ' means the amount of value added in India which shall be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

'Class-I Local supplier' means a supplier or service provider whose goods or services offered for procurement, has local content equal to or more than 50% .

'Class-II local supplier' means a supplier or service provider, whose goods or services offered for procurement, has local content equal to or more than 20% but less than 50%.

'Non-Local supplier' means a supplier or service provider, whose goods or services offered for procurement, has local content less than or equal to 20%.

'L1' means the lowest tender or lowest bid or the lowest quotation received in this tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation .

'Margin of purchase preference' means the maximum extent to which the price quoted by a Class-I local supplier may be above the L1 for the purpose of purchase preference.

C. Verification of local content

- i. The 'Class-I local supplier'/ 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to provide self certification that the item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made. **(Annexure-5)**
- ii. In cases of procurement for a value in excess of ₹ 10 crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
- iii. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.
- iv. A supplier who has been debarred by any procuring entity for violation of the order of the Department for Promotion of Industry and Internal Trade (DPIIT) order No. P-45021/2/2017- PP (BE-II) dated 04th June, 2020 shall not be eligible for preference under the said order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect



prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed in the order of the Department for Promotion of Industry and Internal Trade (DPIIT) order No. P- 45021/2/2017-PP (BE-II) dated 04th June, 2020.

D. “Class-II local supplier” will NOT get purchase preference in any procurement.

8.0 PERIOD OF VALIDITY OF TENDER

Unless otherwise specified, the Tenderer shall keep his tender valid initially for a period of 120 days from the due date of opening of the tender.

9.0 LANGUAGE

The Tender shall be submitted in English language.

10.0 NO CLAIM OR COMPENSATION FOR SUBMISSION OF TENDER

The Tenderer whose Tender is not accepted shall not be entitled to claim any costs, charges, expenses of and incidental to or incurred by him through or in connection with his submission of Tenders, even though HEC Ltd may decide to withdraw the Invitation of Tender.

11.0 INCOME TAX / SALES TAX CLEARANCE CERTIFICATE / PAN

The Tenderer shall furnish the Income Tax Clearance Certificate, Sales Tax Clearance Certificate and copy of PAN with the tender duly countersigned by the respective officer under the seal of the office. Failure to produce the requisite certificate with tender, their quotation is liable to be rejected.

12.0 CONFIDENTIALITY

Tenderer shall note that all data/drawings/specifications enclosed with Tender document is confidential. Tenderer shall keep all data/drawings in strict confidence and shall not copy or pass on any of the Tender papers etc. to any third party. Tenderer shall return the Tender documents alongwith the Tender.

13.0 NOTICES ON BEHALF OF HEC LTD

Notice and Certificate on behalf of HEC LTD in connection with the Purchase Order may be given by duly authorised officers of HEC LTD. Any modification which may become necessary in the interim period will be intimated to you as soon as possible.

14.0 PURCHASER’S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Purchaser’s action.

15.0 Tenderer to note that procurement shall be done on PACKAGE BASIS i.e L-1 firm will be decided based on combined lowest landed value for all tendered items by adding individual quoted values for all respective items and purchase order will be awarded to overall L-1 firm on **Package basis** .In case there is deviation against NIT Payment term, loading as mentioned at note of clause 6.0 of commercial term will be applicable to arrive at L-1 firm.

16.0 General conditions of the contract :

Unless otherwise specified in the Terms & Conditions above, this order shall be governed by General conditions of contract of purchase of HEC Ltd, which is available in the web site of HEC.(www.hecltd.com):

Note:-

- 1. As per the govt. Guidelines it is to be specified clearly in your offer whether your firm is registered with SSI/NSIC/MSME and also confirm whether the firm is owned by SC/ST Entrepreneurs or not.**
- 2. Pl. provide UAM no to avail Facilities of MSME.**
- 3. Please get registered your firm with HEC Ltd.**



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Annexure – 1

PART – I

(To be filled by the bidder and to be uploaded alongwith techno-commercial bid)

Quotation No.....

SI No.	Requisite		Remark
1	Submission of the offer with signed and stamped copy of annexure-A,B & C of commercial Terms & conditions, Enclosure-I (commercial terms & conditions) and Enclosure-II (Technical specification)	Upload the relevant documents	
2	All NIT Items must be quoted otherwise offer shall not be considered as procurement is on Package Basis .	YES/NO	
3	Class of the bidder (Class-I / Class-II/ Non-Local supplier) must be specified in line with procurement policy of Govt. of India and Department for Promotion of Industry and Internal Trade (DPIIT) order No. P-45021/2/2017-PP (BE-II) dated 04th June, 2020	Class-I / Class-II/ Non-Local supplier	
4	Declaration of local content as per annexure -5 (Must be enclosed)	Enclosed/ Not Enclosed.	
5	Whether SSI/NSIC/MSME and confirm whether the firm is owned by SC/ST/WOMEN Entrepreneurs	Yes / No (In case yes, then upload certificate)	
6	Tender fee (Rs 500/-) / EMD (Rs. 70,000/-)	Yes / No (In case yes, then upload scan copy of DD/BG/Online receipt)	
7	F.O.R. BLOCK B CHP, NCL Site (As per clause 1 of Terms & condition)	Yes / No	
8	Payment Term (As per clause 6 of Terms & condition)	Yes / No (In case your answer is No, then please mention your term)	
9	Delivery Term (As per clause 5 of Terms & condition)	Yes / No (In case your answer is No, then please mention your term)	
10	Validity (one hundred and twenty (120) days from the due date of opening of the tender.)	Yes / No	
11	L.D. Clause (As per clause 9 of Terms & conditions)	Yes / No	
12	Guarantee Clause (As per clause 7 of Terms & conditions)	Yes / No	
13	Performance Bank Guarantee (As per clause 8 of Terms & conditions)	Yes / No	
14	Security Deposit (As per clause 8 of Terms & conditions)	Yes / No	
15	GST	Yes / No, Applicable GST (%).....	
16	Inspection (As per clause 4 of Terms & conditions)	Yes / No	
17	Whether Terms & Condition/Note etc. mentioned in the tender enquiry is acceptable to the tenderer	Yes / No	
18	GCC of HEC to be Accepted	Yes / No	

(Signature of Tenderer with seal)



Annexure - 2
PART-II (Price Bid)

1. The tenderer shall upload the digitally signed Schedule of price bid in the form of BOQ.xls
2. Bidders may please note, the schedule of quantities is attached in the portal. The same (BOQ) shall be downloaded and to be filled in the editable (un protected) cells only and they should necessarily submit their financial bids in the format provided after entering the financial quotes, name of the bidder etc.
3. Bidders to note that the price as per the offer is strictly to be mentioned under Part-II of Price bid and not to be disclosed in any manner under techno-commercial bid Part-I ,In case price of the bidder is disclosed under techno-commercial bid Part-I , the offer of the firm will be summarily rejected.
4. If any item of BOQ is not quoted then offer of the firm **shall not be considered** as procurement is on **PACKEGE BASIS**.



Annexure 3
Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- (i) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://etenders.gov.in/eprocure/app>) by clicking on the link "Online bidder Enrollment" on the CPP Portal which is free of charge.
- (ii) In case of any clarification please contact M/s NIC, before the schedule time of the submission of bid.
- (iii) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (iv) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- (v) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- (vi) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to *ensure that they do not lend their DSC's to others which may lead to misuse.*
- (vii) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- i) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- ii) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- iii) The bidder should make a note of the unique Tender ID assigned to each tender, in



case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- i) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- ii) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- iii) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- iv) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

SUBMISSION OF BIDS

- i) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- ii) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- iii) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
- iv) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by as specified in the tender documents. The details of the DD / any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- v) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (unprotected) cells with their



respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

- vi) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- vii) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- viii) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- ix) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- x) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 **CPP Portal** Helpdesk.

Note: For any query related to registration and processing on the Portal please visit FAQ available at <https://etenders.gov.in/eprocure/app?page=FAQFrontEnd&service=page>

You may call the Helpdesk. The 24 x 7 Help Desk Numbers are 0120-4200462, 0120-4001002, 0120-4001005, 0120-6277787

E-Mail: support-eproc@nic.in

Or

You may call to our service provider, :06512400562,06512401266

E-Mail: : projectpurchase@hecltd.com



Annexure 4
BANK GUARANTEE PROFORMA FOR
EARNEST MONEY DEPOSIT

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT)
(TO BE ISSUED BY ANY NATIONALISED/SCHEDULED BANK
AUTHORISED BY RBI TO ISSUE A BANK GUARANTEE)

To:

Heavy Engineering Corporation Limited
Ranchi-834004

WHEREAS _____ *[name and address of Tenderer]* (hereinafter called "the Tenderer")

shall be submitting its Tender dated _____ *[date of the Tender]* for the work.
[name of the work] (hereinafter called "the Tender").

KNOW ALL MEN by these present that we, _____ *[name of the bank]* of
[name of the country] _____ having our registered office at
[address of the bank] (hereinafter called "the bank"), are bound unto the Heavy Engineering Corporation Limited, P.O. Dhurwa, Dist. Ranchi (Jharkhand) (hereinafter called "the Purchaser") for the sum of *[amount of the Guarantee in words and figures]* for which payment well and truly to be made to the said Purchaser the Bank binds itself, his successors and assigns by these presents. SEALED with the Common Seal of the said bank this _____ day of 200_.

THE CONDITION of this obligation are :

1. If the Tenderer withdraws its Tender during the period of Tender Validity specified by the Purchaser on the Tender form ; or
2. If the Tenderer withdraws having been notified of the acceptance of its Tender by the Purchaser during the period of Tender Validity :
 - (a) Fails or refuses to execute the Contract Agreement when required ; or
 - (b) Fails or refuses to furnish the Security-cum-Performance Guarantee Security (if any) in accordance with the Tender conditions.

We, _____ *[name of the bank]* undertake to pay to the Employer up to the above amount upon receipt of its first written demand, without the Employer having to substantiate its demand, provided that in its demand the Employer will note that the amount claimed by it is due to it owing the occurrence of 1 or both of the 2 (a) or (b) specifying the occurred condition or conditions.

This guarantee will remain in full force up to and including the date and any demand in respect thereof should reach the Bank not later than the date of expiry of this guarantee.

For and on behalf of the Bank.

Signature
Name
Designation
Common Seal of Bank



Local Content Declaration

Date:

To,

M/s HEC Ltd ,
Plant Plaza Road
Ranchi-834004

Sub: Certificate as per clause 9 (a) of Revised Public Procurement (Preference to Make in India Order, 2017 of DPIIT dated 04/06/2020 and 16/09/2020.

Ref: HEC Tender / RFQ / NIT Number

I (authorized signatory for M/s)
declares the local content for the items of the tender with their location details in the below mentioned table :

Sl. No.	Description	Local Content (in %)	Location details at which local value addition is made (Factory address)
1	Cross Belt Magnetic Separator		

We also certify that if the details are true & correct and if found to be false then it shall be a breach of the Code of Integrity and our bid will be liable to be rejected and we will have no objection against rejection of bid.

For M/s

Authorized Signatory
(with company seal &Name)



HEAVY ENGINEERING CORPORATION LIMITED

PROJECT DIVISION

ENCLOSURE - I

COMMERCIAL TERMS AND CONDITIONS

DEFINITIONS :

EMPLOYER	BLOCK B OCP/ NCL, Singrauli (MP)
CONSULTANT	CMPDIL, Ranchi
PURCHASER	Heavy Engineering Corporation Limited
SUPPLIER	Successful Bidder
ITT	Instructions to Tenderer
Start-up	Refer Technical Specification (Enclosure- II)
Trial Operation	Refer Technical Specification (Enclosure- II)
Performance & Guarantee Test	Refer Technical Specification (Enclosure- II)
Site Engineer	Engineer In charge of Employer
Store/Site	Store/Site shall be the Store/Site of the Employer at BLOCK B OCP located in BLOCK B, P.O.-Gorbi, Distt- Singrauli (MP), Pin- 486892

1.0 SCOPE OF SUPPLY / WORK & SERVICES :

1.1 The scope of supply is to manufacture and deliver the total equipment / items in full and good condition as given in technical specification (enclosed at "Enclosure-II") FOR Site basis within BLOCK B OCP located in BLOCK B, P.O.-Gorbi, Distt- Singrauli (MP). The scope includes, inter alia, all auxiliary and ancillary related activities such as procurement of all inputs, raw materials, bought-out components and consumables including testing and inspection, painting, safe & secure packing, handling and transportation of finished equipment duly inspected and accepted by PURCHASER/representative of Employer/Consultant till safe delivery in Purchaser's Store at Project Site.

Any scope of supplies which is not specifically mentioned in this order but materially required for the completion of the supplies and/or for safe, trouble free normal operation shall be supplied free of cost to the Purchaser/Employer unless, expressly excluded in this order.

1.2 The approval by the Purchaser at any stage for any supplies by the supplier/supplier's sub-suppliers shall not relieve the supplier of his obligations under this order.

2.0 PRICE BASIS

2.1 FOR SUPPLIES :

2.1.1 Prices shall be firm and fixed till execution of order in full. No escalation will be admissible and granted on any account under any circumstances. Price schedule is to followed as per BOQ

2.1.2 The Prices are for the entire Scope of the Facilities including Commissioning spares, oils, grease, lubricants, flushing liquor, chemicals for pickling & Special Tools & Tackles if any etc., required till commissioning of the facilities.

2.1.3 The Prices are inclusive of all Taxes, Duties and freight upto site store. Price shall comprise of Basic Price, GST, freight, as may be applicable and prevailing on Base Date of the Purchase order.

2.1.4 The payment of duties, taxes, levies, etc., will be reimbursed (on actual) against documentary evidence to be produced by the Supplier, subject to a ceiling indicated in



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Price Schedule of the P.O. In no case the reimbursement towards duties and taxes, etc., shall exceed the amount indicated in price schedule of the P.O. towards duties, taxes, levies, etc. except on account of variation in Taxes & Duties.

2.1.5 If the commissioning spares mentioned in the offer are found inadequate, the Supplier shall supply additional required Commissioning Spares, without any extra cost to the Purchaser. However, unused Commissioning Spares shall be the property of the Employer.

2.1.6 If the Oil, Grease & Lubricants found to be inadequate, the Supplier shall supply additional required Oil, Grease & Lubricants, without any extra cost to the Purchaser. However, unused Oil, Grease & Lubricants shall be the property of the Employer.

2.2 PRICE BASIS FOR SUPERVISION OF ERECTION, TESTING, COMMISSIONING & PG TEST

- i) Prices should be quoted on the per man day basis and all applicable GST
- ii) GST for supervision of erection and commissioning if applicable shall be reimbursed against documentary evidence by PURCHASER. The price also includes all charges towards to and fro travel, boarding, local transportation, medical etc.
- iii) Price shall remain firm and binding and shall not be subject to any variation whatsoever on any account except for statutory variation on GST.
- iv) Purchaser will not entertain any additional visit charges under following circumstances :
 - a) In case of delay in erection/commissioning due to delay by supplier's engineer.
 - b) Due to lack of proper documents / knowledge to be possessed by supplier's engineer.
 - c) In case of additional visit necessitated due to fault / repair in the supplier's supplied equipment, because of design / manufacturing / workmanship fault.
 - d) In case of delays / loss of time beyond purchaser's control.
 - e) In case of short supplies by the supplier.

3.0 TAXES (GST)

3.1 FOR SUPPLY

- a) GST on finished items are included in the purchase order price. GST on finished items shall be paid at the rates prevailing at the time of delivery period or purchase order delivery period, whichever is earlier and will be limited to taxes and duties actually paid by the Supplier subject to a maximum value declared in their Bid. GST shall not be paid on the intermediate products, components, assemblies, raw materials etc. purchased by the Supplier.
- b) Any revised imposition of taxes/duties on the finished items within the purchase order delivery period will be reimbursed by PURCHASER against documentary evidence. Similarly, if any of existing taxes, duties, are reduced or abolished, PURCHASER shall be entitled to get the resultant benefit in full.
- c) Original copy of the GST Invoice as duty paying document (i.e., Buyer's Copy of GST Invoice) shall be furnished by Supplier for claiming GST on the finished items. In



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addition to the above, the Supplier shall furnish a certificate to the effect that no refund of GST has been obtained or claimed except credit under **GST rule**. In case any refund is obtained in future by the Supplier, the same shall be immediately passed on to PURCHASER in full.

- d) Duplicate copy of the GST Invoice (i.e., Transporter's Copy) shall be sent along with Transporter and it should be ensured that the transporter's copy of GST invoice is handed over to Site/Stores of EMPLOYER/PURCHASER, along with the consignment. Documentary evidence shall be furnished by the Supplier regarding receipt of Transporter Copy of invoice at site stores of EMPLOYER/PURCHASER.
- e) GST Invoice should be Drawn in favour of EMPLOYER as per the details indicated in the despatch instructions. PURCHASER shall not reimburse GST in case GSTInvoice is not drawn as stated in the despatch instruction. GSTInvoice should contain all the particulars as per Latest Notification issued by Central Board of Excise and Customs / other concerned authorities.
- f) GST No. of HEC: will be intimated before Issue of purchase order

3.2 **E-Way Bills(If Required)**

The e-way bill required in connection with supply of goods or services, if any, shall be arranged by the contractor/supplier. However, the e-way bill will be arranged by NCL if provisions of the relevant Act and the rules made there under specifically states that the e-way bill is required to be issued by recipient of goods.

4.0 **INSPECTION** : As per instruction in Technical Specification (Enclosure-II)

5.0 **DELIVERY**

Drawings and QAP will be submitted for approval within **15 days** from the date of issuance of P.O & commented drawing will be re-submitted within **10 days** from the date of receipt of commented drawing . Inspection call with all relevant documents as per approved QAP shall be submitted within **2 months** from the date of approved drawing and QAP whichever is later and all data from our side. Delivery at site shall be completed within **15 days** from the date of issue of despatch clearance/inspection certificate/way bill whichever is applicable.

6.0 **TERMS OF PAYMENT**

- 6.1 No advance payment will be made to the supplier and the payments will be linked with the progress.
- 6.2 **Ninety (90%)** of the basic price including P&F charges alongwith full GST and freight within 60 (sixty) days from date of receipt of materials at site and submission of documents and submission of following complete and correct documents in five (1 original + 4 copies) Sets at HEC, Ranchi after receipt of items at Site Stores of EMPLOYER/PURCHASER. Supplier ensure that despatches are made and Invoices are raised strictly as per the purchase order.
 - i) Five (5) copies of invoice duly signed by the Supplier.
 - ii) Challan/Lorry Receipt received by Employer's Material Receiving Department/ Stores/ Site.
 - iii) Packing list duly signed by the Supplier.
 - iv) Copy of E-way bill .



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- v) Intimation for insurance before dispatch of material .
- vi) Test certificates for bought-out items (if applicable)
- vii) Inspection certificates/Dispatch Clearance, issued by the HEC/Employer/ Consultant for manufactured items.
- viii) Certificate from the Supplier to the effect that contents in each case are neither more nor less than those entered in the invoice and packing list and quality of the goods is guaranteed and as per the relevant specification.
- ix) Guarantee Certificate as per clause no 7.
- x) GST-R1 (GST Return Copy)

6.3. **Five (5%)** of the Basic Price excluding GST shall be released upon issue of the Preliminary Acceptance Certificate (PAC) by Employer or 18 months from date of receipt of last consignment whichever is earlier.

6.4 **Five (5%)** of the Basic Price excluding GST shall be released upon issue of the Final Acceptance Certificate (FAC) by Employer or 24 months from date of receipt of last consignment whichever is earlier.

Note:

1. **In case there is deviation in payment terms against NIT Payment terms , credit for no. of days will be taken into consideration, while arriving at Landed cost of material to decide L-1 firm. Interest @ 12.05% per annum will be loaded while calculating the Landed cost.**
2. **For payment all the processing charges by the bank shall be on account of the firm.**
3. **Payment as mentioned above will be made after receipt of material , by I/c(Fin), Project division, HEC Ltd., Ranchi – 834004 through RTGS on submission of Mandate Form duly signed by Bank.**
4. The supplier within five (5) days of the Date of the approval of drawing shall submit detailed Billing Schedules for the purpose of progressive payment which will be scrutinized and approved by the purchaser based on approved billing schedule order.

Number & distribution of above noted dispatch documents including original LR are indicated in our Dispatch Instructions.

6.5 **FOR SUPERVISION OF ERECTION AND COMMISSIONING**

Total payment worked out for the actual deployment of Engineer/Expert on the basis of man day rate shall be made within 30 days upon receipt of the following documents:-

- a) **GST invoice in triplicate** with the actual period of deployment of Engineer/Expert duly signed by SUPPLIER and certified by PURCHASER's/ EMPLOYER's site engineer.
- b) Supervision (Part/ Full) completion certificate duly signed by PURCHASER/ EMPLOYER.
- c) **GST-R1 COPY**



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7.0 GUARANTEE :

The supplier shall must carry a guarantee of equipment/materials against faulty materials, faulty design, defective and bad workmanship for a period of 12 months from the date of FAC (Final Acceptance Certificate) or 24 months from the date of receipt of last consignment whichever is earlier.

8.0 BANK GUARANTEES

8.1 Security Bank Guarantee & Performance Bank Guarantee (as per Annexure – E)

The Supplier shall, within 15 (fifteen) days after the date of Purchase Order as specified, provide a Security Bank Guarantee (as per Annexure-E hereof) for the due performance of the contract an amount equivalent to 10% of the Total basic Price as indicated in the Price Schedule, the same shall be from any of the Nationalised Banks or Scheduled Banks in Ranchi and enforceable at Ranchi Jharkhand only.

The Public Sector Enterprises or State/Central Govt. Undertakings will not be required to submit Security Deposit, but however they shall submit "Performance Guarantee Bond" in lieu of Security Deposit

The Bank Guarantee for Security Deposit shall be valid till completion of supply which will be converted into performance Bank Guarantee valid till guarantee period as per clause 7.

8.2 Claims under Security (Bank Guarantee)

If the Purchaser considers itself entitled to any claim under any Bank Guarantee, it shall so notify the Supplier by registered/speed post, specifying the default of the Supplier upon which claim is based and it shall require the Supplier to remedy the same. If the Supplier fails to remedy or to take steps to remedy the same within fourteen days of receipt of such notice, then the Purchaser shall be entitled to invoke Security BG/PBG.

9.0 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION

If the Supplier fails to attain "Delivery Period" as defined in Clause 5.0 above or any extension thereof due to reasons not attributable to the Purchaser, the Purchaser shall recover the amount of Liquidated Damages, but not by way of penalty, by making deductions from the Supplier's account or as a last resort by encashment of Supplier's Bank Guarantees, at the rate of 0.5% of the Final Purchase Order basic Price, if any, paid or payable to the Supplier per complete week of delay up to a maximum of 10% of the Final Purchase Order basic Price, paid or payable to the Supplier.

10.0 TRANSIT INSURANCE

Shall be covered under Marine-cum-Erection & Commissioning(MCE) policy taken by us. The policy No. and detail address of the Insurance Company will be intimated to the supplier before despatch. Supplier shall have to furnish full despatch details to the Insurance Company with the copy to this office immediately after despatching the materials.

11.0 MODE OF DESPATCH

For the consignments to be despatched by Road, the supplier shall ensure that the following are observed by them :

- i) All despatches must be effected only on receipt of written despatch clearance from PURCHASER.
- v) Supplier shall despatch all the materials consigned to, GM, Block B, NCL P.O- Gorbi, Distt- Singrauli (MP), Pin-486892



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- ii) Identify and obtain the correct type of trucks/trailers, keeping in view the nature of consignments to be despatched.
- iii) Care shall be taken to avoid damages during transit to ensure that all packages are firmly secured.
- vi) All consignments despatched by truck/trailor shall be consigned on door delivery basis (Full or part lorry load). No. transshipment is allowed.
- vii) The transporter must be approved by Bank Association.
- viii) In case any other mode of transport has to be restored other than that mentioned in the Purchase Order, the same should be done only after obtaining prior approval in writing from the Purchaser. By allowing such transportation no increase in freight charges shall be allowed and in case there is decrease, the actual shall be payable to the supplier

12.0 PACKING, FORWARDING AND SHIPMENT

- a) The Supplier, wherever applicable, shall after proper painting, pack and crate all equipment in such a manner as to protect them from deterioration and damage during rail and road transportation to the site and storage at the site till the time of erection. The Supplier shall be held responsible for all damages due to improper packing. The supplier shall be liable to deliver the material at the destination as per specification. Any damage during transit shall be sole responsibility of the supplier. In case of damage, the material shall be liable to be rejected and supplier shall replace the same and lift the rejected material within time at their risk and cost.
- b) The Supplier shall notify the Purchaser of the date of each shipment from his works, and the expected date of arrival at the site for the information.
- c) The Supplier shall also give all shipping information concerning the weight, size and content of each packing including any other information the Purchaser may require.
- d) The Supplier shall prepare detailed packing list of all packages and containers, bundles and loose material forming each and every consignment despatched to site. The Supplier shall further be responsible for making all necessary arrangements for loading, unloading and other handling right from his works upto the safe delivery at site store.
- e) The Supplier shall paste the Packing List on the container/boxes as well as inside the container/boxes.
- f) The Supplier shall ensure that after receipt of materials at site, his representative will be available at site for verification of materials as and when required by site I/c, HEC Ltd.

13.0 DEMURRAGE, WHARF-AGE, ETC.

All demurrage, wharf-age and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the Supplier.

14.0 FORCE MAJEURE

A) Force majeure is herein defined as any cause which is beyond the control of the Supplier or Purchaser as the case may be which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affect the performance of the purchase order, such as:

- (a) natural phenomena, including but not limited to floods, draughts earthquakes and epidemics:
- (b) acts of any government, including but not limited to war, declared or undeclared, priorities, quarantines, embargoes, Provided either party shall



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within Twenty one (21) days from the date of occurrence of such a cause notify the other in writing of such causes.

- B)** The bidding document will clearly state that
- (a) The Supplier will advise, in the event of his having resort to this clause by a registered letter duly certified by the local chamber of commerce or statutory authorities, the beginning and end of the cause of delay, within fifteen days of the occurrence and cessation of such force majeure condition. In the event of delay lasting over two months, arising out of force majeure, the purchase order may be terminated at the discretion of the purchaser.
 - (b) For delays arising out of Force Majeure, the Supplier will not claim extension in completion date for a period exceeding the period of delay attributed to causes of Force Majeure and neither EMPLOYER nor PURCHASER shall be liable to pay extra costs (like increase in rates, remobilization advance, idle charges for labour, machinery etc.).
 - (c) If any of the Force Majeure conditions exists in the place of operation of the Supplier even at the time of submission of the bid he will categorically specify them in the bid and state whether they have been taken into consideration in their quotations.
- C)** The Supplier or the Purchaser shall not be liable for delays in performing his obligations resulting from any force majeure cause as referred to and/or defined above. The date of completion will, subject to hereinafter provided, be extended by a reasonable time even though such cause may occur after Supplier's performance of his obligations has been delayed for other causes.

15.0 LONG TERM AVAILABILITY OF SPARES

- 15.1 The Supplier shall guarantee the long term availability of spares to the Employer for the full life of the equipments covered under the purchase order. The Supplier shall guarantee that before going out of production of spare parts of the equipment covered under the purchase order, he shall give the Employer at least twelve (12) months advance notice so that the later may order his bulk requirement of spares, if he so desires. The same provision will also be applicable to sub-Supplier. Further, in case of discontinuance of manufacture of any spares by the Supplier or his sub-Suppliers, the Supplier will provide the Employer two years in advance, with full manufacturing drawings, material specifications and technical information required by the Employer for the purpose of manufacture of such items.
- 15.2 Further, in case of discontinuance of supply of spares by the Supplier or his sub-Suppliers, the Supplier will provide the Employer with full information for replacement of such spares with other equivalent makes, if so required by the Employer.

16.0 MARKING OF EQUIPMENT :

The materials must be marked/stenciled of Equipment No.

17.0 NOTIFICATION OF DESPATCH :

Each and every despatch should be notified immediately after despatch giving the relevant particulars like Truck No., Challan No. with date, C/Note No., Name of the transporter with their full address, date of despatch etc. to the following through telex/telegram/fax :

a)	Project Manager(I/c) HEC Ltd., Block B, NCL
b)	I/C(Purchase), Project Division HMBP Adm. Bldg. Annexe, HEC Ltd.,Ranchi- 834004



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18.0 **PAYING AUTHORITY**

Payment as mentioned above will be made by (I/C, Finance), Project Division, HEC Ltd., Ranchi 834 004.

19.0 **PROGRESS REPORT:**

Progress of delivery/inspection must be given to the officer who has signed the purchase order, on the 15th and 30th of each month during urgency of delivery period. Where delivery period is crossed by the supplier, he has to take approval of buyer in writing before despatch.

20.0 **SUBLETTING AND ASSIGNMENT :**

The supplier shall not, have without the previous consent in writing of the purchasers, sublet, transfer or assign the purchase order or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. Provided nevertheless that any such consent shall not relieve the supplier from any obligation, duty or responsibility under the purchase order.

21.0 **CHANGE IN A FIRM :**

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 purchase order and accept all liabilities incurred by the firm under the purchase order prior to the date of such undertaking.

22.0 **CONSEQUENCE OF BREACH :**

Should the supplier or a partner in the supplier firm commit breach of either of the clauses (20) and (21) of this commercial terms and conditions, it shall be lawful for the purchaser to cancel the purchase order and purchase or authorize the purchase of the stores at the risk and cost of the supplier firm and that even the provisions of Clause (9) shall, as far as applicable, apply.

The decision of Heavy Engineering Corporation Limited as to any matter or thing concerning or arising out of this 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 clause contained shall be final and binding on the supplier.

23.0 **CONSIGNEE :**

Site In-charge
Heavy Engineering Corporation Ltd.
Block-B OCP, Gorbi, Dist-Singrauli, Madhya Pradesh-486892
Kind Attn. :- **Mr. Bikram Singh DGM/Site(I/c), Mob No- +919938421303**

And bill to Site In-charge, Heavy Engineering Corporation Ltd., Block-B OCP, Gorbi, Dist-Singrauli, Madhya Pradesh-486892 **And GST No. 23AAACH4534P1ZH of HEC**

24.0 **FIRST FILL OF CONSUMABLES, OILS AND LUBRICANTS :**

Shall be provided by supplier at no extra cost as per Technical Specification.

25.0 **TRAINING OF PERSONNEL :**

Supplier shall provide free of cost training of personnel from PURCHASER/NCL for month at his works. However, boarding, lodging and fare etc shall be borne by the purchaser/employer.

26.0 **Q.A. PLAN :**

Approved QAP and inspection procedure by HEC's/CMPDIL's/NCL's Engineer/ Officer shall apply.



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27.0 **WEIGHT OF EQUIPMENT**

Weight of equipment must be intimated to the purchaser before effecting delivery.

28.0 **COMMISSIONING SPARES:**

Will be supplied free of cost by supplier as required.

29.0 **FORMAT AND NAME PLATE**

All the drawings should be prepared in the format and nameplates with drawing No. out of allotted drawing Nos. to be given to the supplier at the time of placement of order.

30.0 **DRAWING, DOCUMENTS & MANUALS**

Will be furnished as per Technical Specification(Refer Enclosure-II).

31.0 **UNIT RATES**

Unit rates of various supply item which may be required during execution of this package will remain firm till execution of the order.

32.0 **BOUGHT-OUT ITEMS:**

Un-priced purchase order of supplier's bought-out items will be submitted to us within a week after issue of your order.

33.0 **PAINTING**

Painting will be done as per Technical Speciation (Refer Enclosure-II).

34.0 **REJECTION**

If the stores supplied are not to specifications/samples or in accordance with order and are rejected, the same will be removed by supplier at supplier's own risk and cost within 21 days of the date of intimation of rejection by Inspection Deptt/Stores Deptt/Purchase Deptt. If no instruction are received from supplier with regard to mode of despatch, purchaser/employer shall be free and reserve the right to return the rejected materials at supplier's risk and cost and to recover entire freight and other incidentals incurred by PURCHASER. Such rejected stores will be kept in our go down/site for 21 days from the date of intimation to supplier and thereafter those remain at supplier's risk and cost. The purchaser shall also be entitled to recover ground rent/demurrage charges on the rejected stores after expiry of free time mentioned above.

35.0 **SPECIAL INSTRUCTION (DESPATCH MARK/IDENTIFICATION MARK)**

The following markings are to be done on each package

All packages shall be clearly and properly marked in English language with indelible paint stenciling. All previous irrelevant markings shall be carefully obliterated. The Supplier shall ensure that the following are clearly stenciled with good quality non-fading paint on the packages in characters of 150 mm high or so depending upon size of the packages.

a) Name and address of the Consignee : Engineer (*designation & address to be given in the detailed letter of Acceptance*)

Site In-charge

Heavy Engineering Corporation Ltd.

Block-B OCP, Gorbi, Dist-Singrauli, Madhya Pradesh-486892

Kind Attn. :- **Mr. Bikram Singh DGM/Site(I/c), Mob No- +919938421303b)**

Name of the Supplier/ :

c) Description :

d) Quantity :

e) Package Number :



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- f) Gross and Net Weights :
- g) Outer dimensions :
- h) Port of loading and :unloading (for imported Equipment, wherever applicable)
- i) Place of loading and unloading

36.0 LEGALITY AND DISPUTE SETTLEMENT :

- a) This order/purchase order shall be governed by and interpreted according to the relevant laws of India with jurisdiction of courts at Ranchi.
- b) Any dispute that may arise between the parties out of or in-connection with this order/purchase order or for the breach thereof, shall be settled amicably and in good faith by negotiations between the designated executives of the parties, at the first instance.
- c) In the event, the parties fail to resolve the disputes or differences arising out of or in connection with the order/purchase order or execution thereof through amicable settlement, the same shall be referred to settlement through “adjudication” of the same by the Sole Arbitrator appointed by PURCHASER. Such arbitration shall proceed as per the provisions of Arbitration and Conciliation Act, 1996 and /or amended from time to time.
- d) The arbitration shall be governed by and in accordance with the Arbitration and Conciliation Act, 1996 for adjudication of the disputes and differences including claims and counter-claims of the parties. The award rendered shall be final and binding upon both the parties.
- e) The venue of arbitration shall be normally at Ranchi only, unless and until agreed otherwise by the parties.
- f) The courts at Ranchi in the State of Jharkhand shall have the exclusive jurisdiction in respect of all the disputes arising out of this contract.

37.0 OTHER TERMS AND CONDITIONS

Other terms and conditions which are not mentioned above shall be as per General Terms and Conditions of Contract of the Corporation which can be downloaded from our website <https://etenders.gov.in/eprocure/app>,

Enclosures:

1. Form of Tender (Annexure-A)
2. No Dispute Certificate (Annexure –B)
3. Check List for acceptance/ confirmation of commercial terms & conditions (Annexure-C)
4. Proforma for Security / Performance Bank Guarantee (Annexure-E)



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Annexure-A

FORMS OF TENDER

Sub : TENDER for the Work _____

To,

Dear Sir,

We offer to execute the Works described above in accordance with the Conditions of Contract accompanying the Tender Document issued to us.

This tender and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any tender you received.

We hereby confirm that this tender complies with the tender validity and tender security required by the tender documents.

Yours faithfully

Authorised Signature :

Name and Title of the Signatory :

Name of Tenderer :

Address :

Date :

(To be filled by the tenderer)



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Annexure-B

NO DISPUTE CERTIFICATE

Sub : TENDER for the Work _____

To,

The Incharge/Purchase
Projects Division/HEC
HMBP Adm. Building(Annexe)
Dhurwa, Ranchi -834 004, Jharkhand

Dear Sir,

We hereby declare that there is no dispute with Heavy Engineering Corporation Ltd., Ranchi on date.

Yours faithfully

Authorised Signature :

Name and Title of the Signatory :

Name of Tenderer :

Address :

Date :

(To be filled by the tenderer)



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ANNEXURE – C

Sh 1 of 2

CHECK LIST FOR ACCEPTANCE / CONFIRMATION OF COMMERCIAL TERMS & CONDITIONS

Please confirm your acceptance of following Clauses of Commercial Terms & Conditions :-

CLAUSE No.	PARTICULARS	ACCEPTANCE / CONFIRMATION OF TENDERER (YES / NO)	REMARKS
1.0	SCOPE OF SUPPLY / WORK & SERVICES		
2.0	PRICE BASIS		
3.0	TAXES & DUTIES		
4.0	INSPECTION		
5.0	DELIVERY		
6.0	TERMS OF PAYMENT		
7.0	GUARANTEE		
8.0	BANK GUARANTEES		
9.0	LIQUIDATED DAMAGES DUE TO DELAY IN COMPLETION		
10.0	TRANSIT INSURANCE		
11.0	MODE OF DESPATCH		
12.0	PACKING, FORWARDING AND SHIPMENT		
13.0	DEMURRAGE, WHARF-AGE, ETC.		
14.0	FORCE MAJEURE		
15.0	LONG TERM AVAILABILITY OF SPARES		
16.0	MARKING OF EQUIPMENT		
17.0	NOTIFICATION OF DESPATCH		
18.0	PAYING AUTHORITY		
19.0	PROGRESS REPORT		
20.0	SUBLETTING AND ASSIGNMENT		
21.0	CHANGE IN A FIRM		
22.0	CONSEQUENCE OF BREACH		
23.0	CONSIGNEE		
24.0	FIRST FILL OF CONSUMABLES, OIL & LUBRICANTS		
25.0	TRAINING OF PERSONNEL		
26.0	Q.A. PLAN		
27.0	WEIGHT OF EQUIPMENT		
28.0	COMMISSIONING SPARES		
29.0	FORMAT AND NAME PLATE		
30.0	DRAWING, DOCUMENTS & MANUALS		
31.0	UNIT RATES		
32.0	BOUGHT-OUT ITEMS		
33.0	PAINTING		
34.0	REJECTION		
35.0	SPECIAL INSTRUCTION (DESPATCH MARK / IDENTIFICATION MARK)		
36.0	LEGALITY AND DISPUTE SETTLEMENT		
37.0	OTHER TERMS AND CONDITIONS		



HEAVY ENGINEERING CORPORATION LIMITED

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ANNEXURE - E

SECURITY / PERFORMANCE BANK GUARANTEE
(To be executed on Non-Judicial Stamp Paper of appropriate value)
(TO BE ISSUED BY ANY NATIONALISED/ SCHEDULED BANK
AUTHORISED BY RBI TO ISSUE A BANK GUARANTEE)

..... (Name of the Bank)

Address.....

Guarantee No.

A/c Messrs (Name of Supplier)

Date of Expiry

Limit to liability (currency & amount) .

Contract No.

For (Name of Facilities)

Subject:..... Performance Bank Guarantee.

Date 201.

To
Heavy Engineering Corporation Limited
P.O. Dhurwa, Dist. Ranchi, Pin - 834 004, (Jharkhand)

Dear Sir,

We refer to the Contract Agreement / Purchase Order (hereinafter called the "Contract") Reference No..... Dated between you and M/s. (Name of the Supplier) (hereinafter called the "Supplier") for the design, civil, manufacture, supply of plant & equipment, refractories and structures, storage, insurance & handling, erection, testing, commissioning and performance guarantee tests of .. . (Name of the Facilities) (strikeout whichever is not applicable).

In consideration of the Heavy Engineering Corporation Limited, having its Registered office at Plant Plaza Road, P.O. Dhurwa, Ranchi - 834004 (hereinafter called to as the "Purchaser" which expression shall unless repugnant to the context or meaning thereof, include all successors, administrators and assigns) having awarded to [Name & Address of the supplier] (hereinafter called to as "Supplier" which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns) the work [Name of the Work] by issue of Letter of Award No. [Letter of Intent No.] and the same having been unequivocally accepted by the Supplier resulting into a Purchase Order No. dated valued at [value of P. O.] (hereinafter called 'the Contract') and the



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Purchaser having agreed to accept Performance Bank Guarantee of ___ [indicate figure]% of the Contract Sum _____ [amount in figures and words) from a Nationalized/Scheduled Bank for due performance of the work executed by the Supplier as per the terms & conditions contained in the said Contract.

We, _____ [name of the Bank], of _____ [address of the Bank] (hereinafter called to as “Bank” which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Purchaser immediately on demand and or, all money payable by the Supplier to the extent of _____ [amount of guarantee in figures and words], at any time from _____ to _____ without any demur, reservation, recourse, contest or protest and/or without any reference to the Supplier. Any such demand made by the Purchaser on the Bank shall be conclusive and binding notwithstanding any difference between the Purchaser and the Supplier or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable as per the terms & conditions contained in the said Contract.

The Purchaser shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from time to time, to extend the validity of time of Performance of the Contract by the Supplier. The Purchaser shall have the fullest liberty without affecting this Guarantee, to postpone, from time to time, the exercise of any powers vested in them or of any right which they might have against the Supplier, and to exercise the same at any time in any manner, and either to enforce or to forebear or to enforce any covenants contained or implied in the Contract, between the Purchaser and the Supplier or any other course or remedy or security available to the Purchaser. The Bank shall not be released of its obligations under these presents by any exercise by the Purchaser of its liberty with reference to matter aforesaid or any of them or by reason of any other act of forbearance or other acts of omission or commission on the part of the Purchaser or any other indulgence shown by the Purchaser or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Bank. The Bank also agrees that the Purchaser at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor in first instance, without proceeding against the Supplier and notwithstanding any security or other Guarantee that the Purchaser may have in relation to the Supplier’s liabilities.

This Bank Guarantee shall be operable at State Bank of India, Commercial Branch, MECON Campus, Doranda, Ranchi.

Dated this _____ day of _____ at _____

For and on behalf of the Bank.

Signature _____

Name _____

Designation _____

Common Seal of Bank _____



**HEAVY ENGINEERING CORPORATION LIMITED
PROJECT DIVISION**

COAL HANDLING PLANT (4.5MTPA) AT BLOCK B OCP

TECHNICAL SPECIFICATION OF CROSS BELT MAGNETIC SEPARATOR

Enclosure II

1.0 SCOPE OF WORK

This scope of work shall include design, engineering, manufacture, testing, Inspection, painting, supply, supervision of testing & commissioning, Performance Guarantee of **One (1) No. Cross Belt Magnetic Separator** for Coal Handling Plant, Block B Project, Northern Coalfields Limited.

- The scope of the Bidder shall be deemed to include all such items which although are not specifically mentioned in the specification, but are needed to make the equipment complete in all respect for its safe, reliable, efficient and trouble free operation.
- The scope of bidder shall consist of but not limited to the following:-
 - i. Cross Belt Magnetic Separator shall be complete in all respect including electromagnets, drive units, tramp iron chutes, electrics and other standard accessories.
 - ii. Supporting structure for mounting of CBMS on floor shall be in the scope of purchaser.
 - iii. The Supplier shall also include supervision services at site during testing and commissioning of the equipment supplied by them.
 - iv. All fixing bolts and nuts shall be included in the scope of supply of Bidder.
 - v. Required quantity if any of initial fill of oil, grease, lubricants, hydraulic fluid etc. -
 - vi. Drawings & documents.
 - vii. Operation & Maintenance Manuals.

2.0 BASIC PARAMETERS

Material handled by conveyor-COAL

Width of conveyor belt: 1600 mm Steel Cord Belting.

Conveyor carrying capacity: 1600 TPH (Nominal) 1920 TPH (Peak)

Belt speed : 2.85 m/s

Inclination of conveyor-11 degrees.

Conveyor troughing angle-35 deg.

Maximum size of coal over the conveyor: 400mm

Operating height: 500 mm

% of inherent moisture-7-10 %

% of surface moisture - Upto 15% but may go upto 20% in rainy season.

Lifting capacity of material: 50 kg of iron/ferrous

Ambient temp: 50° C.

3.0 DUTY CONDITION

The equipment shall be installed across the 1600mm wide conveyor C1. The equipment shall have sufficient capacity to lift pieces of

(a) Iron / Ferrous material of weight up to 50kg with L/D not exceeding 5

(b) MS cube of 20mm size

(c) MS plate of 250x250x10 mm size

(d) shovel teeth and spikes of carbon steel

(e) MS nuts and bolts, even while the same may be hidden under the coal bed on the conveyor.

This shall be located before the tramp metal detector. Cross Belt Magnetic Separator shall be provided for continuous and automatic extraction and discharge of tramp magnetic pieces from coal being conveyed through conveyor as specified. The sets shall be complete in all respects



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with drives, magnets, hoppers, chutes, tramp-iron boxes and all electrical ancillaries like control panels etc.

4.0 EQUIPMENT SPECIFICATION

- 4.1 In general the equipment shall have all necessary technical features for its efficient and successful operation. It shall be complete with all accessories and facilities including, magnet coil, rectifier set, control panel along with supporting chain and power supply system. The equipment shall be self-cleaning type. A suitable arrangement shall be made to discharge the trapped iron pieces.
- 4.2 Magnetic core material shall be pure annealed iron or equivalent high permeability magnetic material. The coil shall be of aluminium wire class-H insulation, to limit the absolute temperature of the winding to 140°C.
- 4.3 A minimum force index of 100,000 (product of flux density in gauss and rate of change of gauss) and a flux density of 1000 gauss shall be available at the lowest location (in hot running condition) in coal thickness all through the width of coal bed from where steel pieces are to be picked. Gauss visa distance curves of the magnet shall be submitted for approval.
- 4.4 The cross section of magnet shall be suitably designed to provide sufficient area for magnetising the coil effectively covering full cross section of the discharged material. The in-line magnetic separator shall be located such that it picks up tramp iron from coal trajectory after it has been discharge from the head pulley.
- 4.5 The tramp magnetic piece picked up by the magnetic separator shall be discharged suitably to ensure that it falls into the tramp iron chute, which shall be provided up to ground level for discharge into a tyre-mounted trolley to facilitate disposal at designated place.
- 4.6 Bidder shall furnish justification supporting the selection of magnetic separator.
- 4.7 The chute work in the magnetic zone of the magnet shall be of nonmagnetic stainless steel.
- 4.8 ON/ OFF control push button with indicating lamps shall be provided at the local station.
- 4.9 Suitable arrangement shall be provided in the magnet for keeping the coil of the magnet dry from atmospheric condensation when the magnetic separator is not in use.

5.0 COMPLIANCE WITH STANDARD

The equipment design and construction shall comply with relevant IS or in its absence with equivalent international standard and up to date engineering practice.

6.0 PAINTING

a) Painting at Manufacturing Works:

Painting shall be carried out after issue of inspection certificate. Painting shall be carried out as per manufacturers standard inline with relevant IS

b) PRESERVATIVE SHOP COATING:

All exposed metallic surfaces subject to corrosion shall be protected by shop application of suitable coatings. All surfaces which will not be easily accessible after the shop assembly, shall beforehand be treated and protected for the life of the equipment. All surfaces shall be



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thoroughly cleaned of all mill scale, oxide and other coatings and prepared in the shop. The surfaces that are to be finish painted after installation or require corrosion protection until installation, shall be shop painted with at least two coats of primer. Transformers and other electrical equipment, if included shall be shop finished with one or more coats of primer and two coats of high grade resistance enamel. The finished colours shall be as per manufacturer's standards, to be selected and specified by the engineering at a later date.

All other steel surfaces which are not to be painted shall be coated with suitable dust preventive compound subject to the approval of the engineer.

c) PROTECTION:

All coated surfaces shall be protected against abrasions, impact, discoloration and any other damages. All exposed threaded portions shall be suitably protected with either a metallic or a non-metallic protecting device. All ends of all valves and piping and conduit equipment connections shall be properly sealed with suitable devices to protect them from damage. The parts which are likely to get rusted, due to exposure to weather, should also be properly treated and protected in a suitable manner.

7.0 INSPECTION , TESTING AND INSPECTION CERTIFICATE

Inspection & Testing to be carried out at Bidders shop/premises as per Approved Quality assurance Plan (QAP)

Inspecting Authority: HEC/CMPDIL/NCL/Authorised Agency.

7.1 The manufacturer will prepare a detailed quality Assurance Plan (QAP) in purchaser's format & submit the same in Quintuplicate (5) for HEC /CMPDIL/NCL approval. The QAP shall cover all necessary checks related to receiving inspection of raw materials/boughtout items, in process & final inspections including painting, marking, packing etc.

7.2 The HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative and/or outside inspection agency acting on behalf of the Purchaser shall have at all reasonable times access to the Successful bidder's premises or works and shall have the power at all reasonable times to inspect and examine the materials and workmanship of the works during its manufacture and if part of the works is being manufactured or assembled at other premises or works, the Successful bidder shall obtain for the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative permission to inspect as if the works were manufactured or assembled on the Successful bidder's own premises or works.

7.3 Successful bidder shall give the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative fifteen (15) days written notice of any material being ready for testing. Such tests shall be to the Successful bidder's account except for the expenses of the Inspector. The HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative, unless witnessing of the tests is virtually waived, will attend such tests within fifteen (15) days of the date on which the equipment is notified as being ready for test / inspection, failing which the Successful bidder may proceed with the test which shall be deemed to have been made in the Inspector's presence and he shall forthwith forward to the Inspector duly certified copies of tests in triplicate.

7.4 The HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative shall within fifteen (15) days from the date of inspection as defined herein give notice in writing to the Successful bidder, of any objection to any drawings and all or any equipment and



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workmanship which in his opinion is not in accordance with the Technical Specification. The Successful bidder shall give due consideration to such objections and shall either make the modifications that may be necessary to meet the said objections or shall confirm in writing to the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative giving reasons therein, that no modifications are necessary to comply with the contract.

- 7.5 When the factory tests have been completed at the Successful bidder's or sub-vendors works, the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative shall issue a certificate to this effect within fifteen (15) days after completion of tests but if the tests are not witnessed by the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative, the certificate shall be issued within fifteen (15) days of the receipt of the Successful bidder's test certificate by the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative. Failure of the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative to issue such a certificate shall not prevent the successful bidder from proceeding with the works. The completion of these tests or the issue of the certificate shall not bind the Purchaser to accept the equipment should it, on further tests after erection, be found not to comply with the contract.
- 7.6 In all cases where the contract provides for tests whether at the premises or works of the Successful bidder or of any sub-vendors, the Successful bidder, except where otherwise specified, shall provide free of charge such items as labour, materials, electricity, fuel, water, stores, apparatus and instruments as may be reasonably demanded by the HEC's/NCL's/Consultant's Engineer and/or his authorised representative to carry out effectively such tests of the equipment in accordance with the contract and shall given facilities to the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative to accomplish testing.
- 7.7 The inspection by HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative and issue of Inspection Certificate thereon shall in no way limit the liabilities and responsibilities of the Successful bidder in respect of the agreed quality assurance programme forming a part of the contract.

7.8 INSPECTION & QUALITY CONTROL BEFORE DESPATCH

7.8.1 SPECIAL MATERIAL

The manufacturer should furnish during inspection without extra charges test certificates covering mechanical properties and chemical composition for special raw materials used including that of liners. The certificates should be from the approved testing laboratories such as Small Industries Services, CMERI, Durgapur, NPL, New Delhi etc. If considered necessary, samples for material may be selected as per relevant latest Indian Standards and code by the Employer's representative from amongst the raw materials and manufactured components of equipment and got tested in the approved laboratory. In case samples so selected fail to meet the standard specifications the whole lot of manufactured components will be rejected and disqualified for use again for any of the Employer's supplies.



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7.9 AVAILABILITY OF STANDARD SPECIFICATION METERS, GAUGES ETC. FOR TESTING & INSPECTION.

The manufacturer will maintain all relevant standards and codes of practice for manufacture, inspection and testing of components of the equipment ordered. He will also maintain a set of meters, gauges etc. as may be required for testing and inspection of components.

7.10 CHECKS DURING INSPECTION

The details of the checks to be carried for various components are to be submitted by the successful bidder for HEC/CMPDI/NCL's approval. However, some indicative checks on different items are given below which should necessarily form part of the quality assurance programme to be agreed with the CMPDI/NCL.

- All plates above 20mm thickness shall be ultrasonically tested for laminations.
- Shaft forgings and castings shall be checked for hardness, microstructure and ultrasonic testing in addition to check for chemical and mechanical properties.
- Following minimum NDT requirements to be ensured for welds:
 - i) Butt welds : 10% Ultrasonic/Radiographic and 100% Magnetic particle
 - ii) Fillet welds : 10% Magnetic particle

8.0 MAKELIST OF BOUGHTOUTS

Makes of different components shall be of reputed makes with proven performance record and the same shall be as per approval of HEC/NCL/CMPDIL.

9.0 GUARANTEE

- a) The successful bidder shall warrant that the equipment will be new and in accordance with the technical specification and be free from defects in material, design, manufacture and workmanship.
- b) The successful bidder's liability shall be limited to the replacement of any defective parts in the equipment of his own manufacture or those of his sub-contractor (s)/ sub-vendor (s) or replacement of the complete equipment, under normal use and arising solely from faulty design, manufacture, materials, and/or workmanship provided always that such defective parts/ equipment are repairable at the site/ replacing the equipment as a whole without hampering the operation of the plant. Such replaced defective parts/ old equipment shall be returned to the successful bidder unless otherwise arranged.

**9.0 PACKING, FORWARDING AND SHIPMENT
PACKING**

All the equipment shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and storage at site till the time of erection.. The Successful Bidder shall be responsible for any loss or damage during transportation, handling and storage due to improper packing.

The Successful Bidder shall prepare detailed packing list of all packages and containers, bundles and loose material forming each and every consignment dispatched to site. The Successful Bidder shall further be responsible for making all necessary arrangements for loading, unloading and other handling right from his works up to the site



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10.0 DRAWINGS & DOCUMENTS

10.1 Drawing Approval

- 10.1.1** All drawings submitted by the Successful bidder including those submitted at the time of bid shall be sufficiently detailed to indicate the type, size, arrangement, weight of each component, break-up for packing and shipment, the external-connections, fixing arrangements required, the dimensions required for installation and inter-connections with other equipment and materials, clearances and spaces required between various portions of equipment and any other information specifically mentioned in the specifications.
- 10.1.2** Each drawing submitted by the successful bidder shall have Title Block approved by the Purchaser (shall be provided to successful bidder) indicating the name of the Employer, Purchaser, name of the project, title, Drawing No. etc. If standard catalogue pages are submitted the applicable items shall be indicated therein. All titles, noting, markings and writings on the drawing shall be in English. All the dimensions should be in metric units.
- 10.1.3** Drawings shall be submitted for approval in AutoCAD format in CD's along with six copies of hard copies.
- 10.1.4** Copies of drawings returned to the Successful bidder will be in the form of a print /softcopy with the Employer's marking
- 10.1.5** The drawings submitted by the Successful bidder shall be reviewed by the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative and shall be modified by the Successful bidder if any modifications and / or corrections are required by the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative. The Successful bidder shall incorporate such modifications and/or corrections and submit the final drawings for approval. Any delay arising out of failure by the Successful bidder to rectify the drawings in good time shall not alter the contract completion date.
- 10.1.6** ***Approval by the Nodal Officer or his nominee:*** The successful bidder shall submit specifications and drawings to HEC's/NCL's/Consultant's Engineer in charge or his nominee who is to approve them if they comply with the specifications and drawings. The Successful bidder shall be responsible for the Design & Performance of items/equipment.
- 10.1.7** The HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative's approval shall not alter the Successful bidder's responsibilities for the Design & Performance of items/equipment.
- 10.1.8** All the drawings shall be prepared in accordance with the provisions of latest standards. All drawings shall comply with current Indian Standard specifications and shall be sufficiently detailed with dimensions and shall be clear and legible.
- 10.1.9** If the drawing is "Approved" then one set shall be returned back to the successful bidder duly stamped "Approved".
If the drawing is "Not Approved" or "Approved as Noted" then one stamped print or softcopy with Appropriate Comments shall be returned back to the Successful bidder for incorporation of comments and resubmission of revised drawings for Approval



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- 10.1.10** After completion of the works the Successful bidder shall replace old drawings by As built drawing after incorporating all corrections from the site under the direction of the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative.
- 10.1.11** Further work by the Successful bidder shall be in strict accordance with these drawings and no deviation shall be permitted without the written approval of the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative, if so required.
- 10.1.12** All manufacturing and fabrication work in connection with the equipment prior to the approval of the drawings shall be at the Successful bidder's risk. The Successful bidder may make any changes in the design which are necessary to make the equipment conform, to the provisions and intent of the contract and such changes will again be subject to approval by the HEC's/NCL's/Consultant's Engineer In charge and/or his duly authorised representative. Approval of Successful bidder's drawings or work by the HEC's/NCL's/ Consultant's Engineer In charge and/or his duly authorised representative shall not relieve the Successful bidder of any of his responsibilities and liabilities under the contract.
- 10.1.13** Drawings shall include all installation and detailed piping drawings wherever applicable. All piping 100 mm and larger shall be routed in detail and smaller pipe shall be shown schematically or by isometric drawings. All drawings shall be fully corrected to agree with actual as built construction.
- 10.1.14** All Electrical drawing shall include electrical schematic diagram, Equipment & cable layout, Inter connection diagram, cable schedule, Detail bill of material, GA Drawing with BOM and circuit diagram of control panel/VFD panel, cable, VFD & motor selection calculation.

10.2 OPERATING AND MAINTENANCE MANUALS

"As built" drawings and/ or operating and Maintenance manuals required shall be supplied by the Successful bidder by the dates stated in the contract data. If the Successful bidder does not supply the drawings and / or manuals by the dates stated in the contract data, or they do not receive the Nodal Officer or his Nominee's approval, the Nodal Officer or his Nominee shall withhold the amount stated in the contract data from payments due to the Successful bidder.

10.3 INSTRUCTION MANUALS

- 10.3.1** The Successful bidder shall submit to the HEC's/NCL's/Consultant's Engineer In charge and/or his duly authorised representative, preliminary instruction manuals for all the equipment, covered under the contract within the time agreed upon between the Purchaser & the Successful bidder. The final instruction manuals complete in all respects shall be submitted by the Successful bidder thirty (30) days before the first shipment of the equipment. The instruction manuals shall contain full details and drawings of all the equipment furnished, the erection procedures, testing procedures, operation and maintenance procedures of the equipment. These instruction manuals shall be submitted in the form of two (2) reproducible original and five (5) copies.
- 10.3.2** If after the commissioning and initial operation of the plant, the instruction manuals require any modifications/ additions/changes, the same shall be incorporated and the updated final instruction manuals in the form of two (2) reproducible original and five(5) copies shall be submitted by the Successful bidder to the Purchaser.



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10.3.3 The Successful bidder shall furnish to the Employer, ten (10) sets of spare parts catalogue.

10.3.4 In addition, the Successful bidder shall supply three (3) sets of all the documents, specifications and as built drawings in CDs. The documents supplied shall be in easily readable, search & printable format.

10.3.5 The Successful bidder has to carry out the work in such a manner that it does not effect the operation of the Plant/Shop. If other Successful bidders are also engaged in the same work site for other jobs, the Successful bidder will work with them in a co-ordination manner.

10.4 LIST OF DRAWINGS /DATA TO BE SUBMITTED ALONG WITH TENDER

- a) General arrangement drawing along with load data
- b) Details of bought-out items & component list.
- c) Filled in questionnaire
- d) List of recommended 5 years O & M spares of the equipment.

10.5 DRAWINGS & DOCUMENTS TO BE SUBMITTED BY SUCCESSFUL BIDDER

The following Information/documents shall be furnished by the manufacturer/successful bidder :-

- a) General arrangement drawings of the equipment
- b) Furnishing of detail design calculations in support of different design and equipment parameters.
- c) Power & Control circuit diagram with terminal details, connected electrical load,30 min maximum demand GA drawing of Panel, with Bill of material.
- d) Quality Assurance plan and inspection /Test procedures.
- e) Inspection /Test certificates and Guarantee Certificate for the main equipment, Component and raw material as applicable – During inspection
- f) Furnishing of erection, operational, maintenance and spare parts manual supported by the illustrative pamphlet and literature of manufacturers.
- g) Overall dimension and weight of bigger and heaviest component.
- h) Make and model of equipment/parts/components.
- i) Catalogues/leaflets for all equipment including bought out items. Details of bought out items with makes shall be given separately.

11.0 QUESTIONNAIRE

Following data/information shall be furnished by Tenderer along with Offer:-

General

- i. Name and address of the Tenderer
- ii. Previous experience of the Tenderer :
- iii. List of similar equipment supplied :
- iv. Whether the Tenderer has any technical collaboration with any other company/organisation for his equipment.
- v. If answer to question iv is yes, furnish : the following details.
 - a) Name and address of the collaborator
 - b) Nature of the collaboration in detail
 - c) Previous experience of the collaborator
- vi. List of drgs./ literatures enclosed with the offer.

Sl.No.	Description	To be filled by Bidder
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1.	Model & Make	
2.	Type	
3.	Location	
4.	Qty. (No.)	
5.	Conveyor parameters a. Material handled b. Belt Width (mm) c. Capacity (tph) d. Material handled and lump size (mm)	
6.	Magnet Size	
7.	Operation	
8.	Operating height (mm)	
9.	Separation capacity	
10.	Power consumption (KW) including belt drive and magnet	
11.	Magnetic intensity & Force index	
12.	Magnet core material	
13.	Magnet cooling	
14.	Coil winding	
15.	Type & qty. of oil used for cooling	
16.	Details of separator Belt (Type/BW/Speed)	
17.	Details of separator pulley	
18.	Details of separator rollers	
19.	Drive details	
20.	Duty cycle	
21.	Supply mains to control panel	
22.	Control panel	
23.	Total weight of magnetic Separator (kgs)	
24.	List of recommended 5 years O & M spares of the equipment.	

ANNEXURE-1

ELECTRICAL SPECIFICATION



***EQUIPMENT SPECIFICATION
FOR
ELECTRICS OF CROSS BELT MAGNETIC SEPARATOR***

1.0 SCOPE

- 1.1 The scope includes all the major supplies of Electrics for One No. of Cross Belt Magnetic Separator to be installed on Conveyor C1.
- 1.2 The Cross Belt Magnetic Separator shall be completed with the followings however any items/electrics not mentioned hereunder or elsewhere in this specification but necessary for successful commissioning and trouble free operation of the system shall be deemed to be included in the scope of the tenderer:
- 3 Phase, 415V Foot Mounted Induction LT Motor/Geared Motor.
 - Pressure Relief Valve.
 - Safety Switches such as BSS & ZSS (ZSS shall be of 110V AC with sensor).
 - Control Panel for CBMS.
 - Power cable and Control Cable from Control panel (Tenderer's Scope) to respective CBMS Electrics.
 - Control cable for interconnection of control panel, magnet and other accessories (if any).
 - Power and Control Junction Boxes. Junction box for DC Power Inlet and Temperature transmitter.
 - Any special cable if required.
 - The Equipment shall be interfaced with our plant PLC System located at Substation-B. As such provision for signal exchange between the Tenderer's equipment and the Purchaser's PLC System shall be in the Tenderer's scope. The type and size of Control Cable for communication with PLC will be furnished by Tenderer.

Note:-The type and size of power cable, control cable or any other special cable if required shall be indicated by the tenderer in their offer and drawing.

2.0 GENERAL

- 2.1 The purchaser will provide the followings:-
- Three Phase, 4 Wire, 415V +/-10%, 50Hz (+/-3%) incoming power supply upto the incoming side of the Control Panel (CP) of Magnetic Separator from LTMCC at Substation-B (SS-2).
 - Power Cable for incoming power supply to Control Panel of Magnetic Separator from purchaser's LTMCC at Substation-B (SS-2).
- 2.2 All the Electrical equipments like LT Motor, Control Panel, Pressure Relief Valve, Safety Switches etc.or any other electrics not mentioned in this specification but necessary for completeness of the system shall be in the tenderer's scope.
- 2.4 The system shall be controlled locally as well as from remote PLC. Hence Control Panel shall have local/remote selector switch, required push buttons & indicating lamps with potential free contact to interface with PLC system for auto operation.
- 2.5 Magnetic Separator shall be compatible for belt conveyor of rated/design capacity of 1600/1920 TPH.
- 2.6 Magnetic Separator shall have sufficient capacity to lift pieces of
- Iron/Ferrous material of weight upto 50Kg with L/D not exceeding 5.
 - MS cube of 20 mm size.



- (c) MS plate of 250x250x10mm size.
- (d) Shovel teeth and spike of carbon steel.
- (e) MS nuts and bolts.

2.7 There shall be a provision for locking & earthing arrangement in Control Panel of magnetic separator.

3.0 SERVICE CONDITIONS

- Ambient air temperature : 4°C to 50°C.
- Altitude : Maximum upto 1000 M above MSL.
- Relative Humidity : 100%.
- Pollution degree : Degree 4 as per IS : 13947 (Part I)
(i.e. the pollution generates persistent conductivity caused by conductive dust)

4.0 OPERATING CONDITIONS

- Nominal system Voltage : 415 V ($\pm 10\%$)
- Supply Frequency : 50 Hz ($\pm 3\%$)
- Highest Fault Level : 31 MVA
- System earthing : Solid Earthed

5.0 SPECIFICATION OF MAJOR ELECTRICS

5.1 SPECIFICATION FOR INDUCTION MOTORS CONTINUOUS RATING AND DUTY TYPE VOLTAGES 415 V

5.1.1 SCOPE

5.1.2 This specification covers the requirements for three phase foot/flange mounted continuous rating and duty type induction motors. The motor rating for conveyors shall be minimum as indicated in the conveyor schedule.

The motors shall comply with the latest version of IS 325 & IEC 34-1 except where modified or extended by this specification and with the relevant parts of standards mentioned hereunder.

5.1.3 OTHER RELEVANT STANDARDS

The other relevant standards applicable are as under:

- IS: 900 Code of practice for installation and maintenance of induction motors
- IS: 8223 Dimensions and output ratings for foot mounted electrical machines with frame number 355 to 1080
- IS: 1231 Dimension of three phase foot mounted induction motors
- IS: 2223 Dimension of flange mounted induction motors
- IS: 210 Frames for rotating electrical machines
- IS: 1271 Classification of insulating materials for electrical machinery and apparatus in relation to their thermal stability in service
- IS: 2253 Designation for type of construction and mounting arrangement for electrical machines
- IS: 3043 Code of practice for earthing
- IS: 4029 Guide for testing three phase induction motors
- IS: 4691 Degree of protection provided by enclosures for electrical machinery
- IS: 4722 Rotating electrical machinery
- IS: 6362 Designation of methods of cooling for rotating electrical machinery



IS: 7816 Guide for testing insulation resistance of rotating machinery
IS: 12065 Permissible limits of noise level for rotating electrical machines
IS: 12075 Mechanical vibrations of rotating electrical machines

IS:2147 Degree of protection provided by industrial enclosures
IS: 4729 Measurement and evaluation of vibration of rotating electrical machines
IS: 4889 Method of determination of efficiency of rotating electrical machines
IS: 8789 Values of performance characteristic for three phase induction motors
IS: 12824 Type of duty and classes of rating for rotating electrical machines
IS: 12802 Temperature rise measurement of rotating electrical machines
IS: 3003 Carbon Brushes for electrical machines
IS: 5 Colours for ready mixed paints and enamels

5.1.4 DESIGN

5.1.4.1 ELECTRICAL

1. The motors shall be of continuous duty (S1) and rating type in accordance with relevant code.
2. The motor shall be designed to deliver rated output with the terminal voltage differing from its rated value by not more than + 10%, frequency differing from its rated value by not more than + 3% and any combination of these limited to 10%.
3. The motors shall be capable of withstanding the forces associated with the maximum in rush current, the locked rotor torque and the pull out torque at the highest system voltage and at the upper limit of supply frequency during starting.
4. The motors shall be capable of starting and accelerating to the rated speed along-with the fully loaded driven equipment without exceeding the acceptable winding temperature even when the supply voltage is 80% of rated voltage.
5. The motors shall be suitable for two cold starts in succession under the normal loading condition.
6. The motors shall withstand for 15 seconds without stalling or abrupt change in speed under gradual increase of torque up to 1.6 times its rated value, the voltage and frequency being maintained at their rated value.
7. The accelerating torque at any speed with the lowest starting voltages shall be at least 10% of rated full load torque.

5.1.4.2 MECHANICAL

1. The method of cooling for LT motors shall depend upon the system requirement.
2. The enclosures for motor shall have IP: 52 protections for indoor application and IP: 55 protections for outdoor applications in accordance with IS: 4961.
3. The motor vibration shall confirm to the requirements in accordance with relevant code.
4. The motor noise level shall confirm to the requirements in accordance with relevant code.

5.1.4.3 CONSTRUCTIONAL DETAILS

5.1.4.3.1 General

1. The motor and its components such as stator, rotor end shield, terminal boxes and the bearings shall be designed to be readily inter-changeable as integral units for the same design and rating.
2. All non-metallic components used shall be resistant to flame propagation.
3. All heavy parts of the motors shall be provided with necessary lifting arrangements

5.1.4.3.2 Stator frames and shields

1. The stator frames and end shields shall be rugged and made of cast iron conforming



to relevant code.

2. The frame holding the stator core and windings must be strong and rigid to withstand short circuit force and unbalanced magnetic pull and minimize vibrations.

5.1.4.3.3 Cooling arrangements

LT Squirrel cage motors shall be Totally Enclosed, Fan Cooled, (TEFC) by a light weight cast Aluminium fan of bi-directional design and very low inertia. The fan shall be keyed to the shaft.

5.1.4.3.4 Enclosures

The enclosure shall be totally enclosed fan cooled with suitable means for breathing and drainage. The drain hole diameter shall not exceed 6 mm.

5.1.4.3.5 Stator

1. The stator core shall be built up of low loss high permeability steel laminations.
2. The winding shall be two layer type consisting of synthetic enameled copper conductors in Semi closed slots.
3. Insulation shall be class-B for 415V motors and class-F for HT motors.
4. All winding overhangs and leads shall be adequately supported braced and blocked.

5.1.4.3.6 Rotor

1. The rotor core shall be of similar construction to that of the stator.
2. The cage bars for cage motors shall be of copper.
3. The complete rotor shall be dynamically balanced with the fan on the shaft for TEFC motors ensuring vibration free smooth running.

5.1.4.3.7 Shaft

The shaft shall be manufactured from high grade steel, preferably C-40. The sustained deflection of the shaft shall well below 10% of the air gap.

5.1.4.3.8 Bearings

1. The bearings shall be ball / roller type for 415 V motors.
2. The bearings shall be self lubricated.
3. The bearings shall be in accordance with the relevant codes.
4. 415 V motors shall be grease lubricated.

5.1.4.3.9 Terminal Box

1. Terminal boxes integral with the stator frame shall be provided with terminals for stator leads.
2. Terminals shall be suitable for receiving single layer armoured Aluminium conductor PVC/XLPE insulated cables.
3. Terminal boxes shall be suitable for top entry of cables.

5.1.4.3.10 Earthing Terminals

Two independent earthing terminals shall be provided in accordance with I.E Rules on diagonally opposite corners of the motor for bolted connection.

5.1.4.3.11 Mounting

The motors for Roll Crusher, Gyrary Crusher, Secondary Sizer, pumps, compressors, fans, and blowers shall have the mounting 83 and the motors for conveyors shall have the mounting 85 in accordance with DIN 42950 or as specified elsewhere in this tender.



5.1.4.3.12 Auxiliary Devices

The motor shall be suitable for the auxiliary devices mentioned below:

Type of load	Auxiliary devices on the shaft
Conveyors, feeders and Screens	Gears/Fluid coupling
Space Heaters	Space Heaters suitable for 230 V, 50 Hz, single phase supply system shall be provided for motors, wherever applicable.

5.1.4.4 Performance

The values of minimum full load speed, maximum full load current, minimum pull out torque and minimum locked motor torque as percentage of full load torque at rated voltage and frequency for duty type S1 shall be in accordance with relevant code.

5.1.4.5 Rating Plate

A rating plate stating the following information shall be supplied with each motor:

- a) Reference standard
- b) Name of manufacturer
- c) Manufacturer's number and frame reference
- d) Type of duty
- e) Class of insulation
- f) Frequency in Hz
- g) Number of phases
- h) Rated output in kW
- i) Rated voltage and winding connections
- j) Current, approximate in amperes at rated output
- k) Speeds in revolutions per minute, at rated output
- l) Rotor (Secondary) voltage and winding connections
- m) Rotor (Secondary) current in amperes at rated output
- n) Ambient temperature
- o) Enclosure Type

5.1 SPECIFICATION FOR CONTROL PANEL (CP)

5.1.1 The Control Panel (CP) shall be metal enclosed, suitable for outdoor/indoor mounting on wall or steel structures. The enclosure shall be die- cast aluminium or cold rolled sheet steel of atleast 2 mm thickness. The enclosure shall be provided with a hinged guard at the front, covering full length, to avoid inadvertent operation of pull chord switches/push buttons. CP shall be painted to shade no. 692 of IS: 5 in accordance with relevant code. The CP shall be dust and vermin proof and shall have a degree of protection of IP- 62as per relevant code.

The CP shall be suitable for both top and bottom cable entry (either of which may be used depending on cabling convenience) and shall be provided with removable undrilled gland plates or knockouts of 3 mm thickness. Adequate space shall be available inside the CP enclosure for terminating external cables directly on its terminals. Overall size of CP shall be subject to Purchaser's approval.

The BUSBAR of the control panel shall be made of high conductivity aluminum. Earthing Busbar of GI strip having size 25X3 mm shall be provided at the bottom all along the panel length. Design ambient temperature should be 50°C. LOUVERS will be provided on



transformer side only. INSCRIPTION will be provided for each component of the panel. The power terminal of the CP shall be STUD and BOLT Type. Control Terminals will be provided inside of the panel. The control panel shall be painted with Power Coated Light Grey colour.

The Control Panel shall have the following minimum components:-

- Moulded Case Circuit Breaker (MCCB).
- Motor Protection Circuit Breaker (MPCB).
- DP Miniature Circuit Breaker (MCB).
- Power Contactor.
- Overload Relay with SSP.
- Auxiliary Contactor with 110V AC Coil for control ckt.
- Normal selector switch.
- Rotary selector switch.
- LED type Indicating Lamps (For both Power and Control).
- HRC Fuse
- Silicon Diodes
- Control Transformer
- Indicating Instrument (Ammeter & Voltmeter)
- Push Button
- Mushroom head type Emergency Push Button with 1 NO & 1 NC contact.
- Temperature controller.
- Transmitter & Probe for temperature controller.

5.2 SPECIFICATION FOR MOULDED CASE CIRCUIT BREAKERS (MCCB)

The Moulded Case Circuit Breakers shall comply with the latest revision of IS: 13947(Part I) and IEC: Publication 947 except where modified or extended by the provision of this specification and with the relevant parts of standards mentioned hereunder.

5.2.1 OTHER RELEVANT STANDARDS

The other relevant Indian standards are as under :

- IS : 3072 : Code of practice for installation and maintenance of switchgear.
IS : 4237 : General requirements for switchgear and control gears for voltages not exceeding 1000V AC.
IS : 10118 : Code of practice for selection, installation and maintenance of Switchgear and Control gear.
IS : 11353 : Guide for uniform system of marking and identification of conductors and apparatus terminals.

5.3.2 DESIGN CRITERIA

The Moulded Case Circuit Breakers shall operate on a 230V (L-L) (+ 10%), 3 phase, 50 Hz (-3% to +3%) power supply. Fault withstand capacity shall not be less than 25 kA.

All similar components shall be interchangeable and shall be of same type and rating for easy maintenance and low spare inventory.

The rated carrying capacity shall be sufficient at the rated voltage and frequency and the circuit breaker shall carry this current continuously while complying with this specification.

5.3.3 CONSTRUCTIONAL FEATURES

- a) The Circuit breakers shall be three pole, moulded case air break type.
- b) The circuit breaker shall have tripping mechanism for over load and short circuit



irrespective of the type of operating mechanism. In addition, provision shall be made for manual tripping of the breaker. The breakers shall be fixed type.

- c) Circuit Breaker shall be provided with anti-pumping and trip free feature.
- d) Tripping shall be possible by means of front mounted "OFF" switch. Making of the breaker shall be possible by means of "ON" switch.
- e) Suitable indications shall be provided on circuit breaker to show "ON", "OFF", conditions.
- f) The following protection (release type) shall be provided :
 - I. Ambient temperature compensated thermal overload trip with adjustable settings.
 - II. Magnetic Short circuit trip.

5.3.4 PERFORMANCE

- a) The temperature rise of parts of the equipment like terminals, accessible parts, main circuit, windings of coils and electromagnets etc. measured during the test carried out in accordance with IS: 13947 (Part I) shall not exceed temperature rise limits specified in the said standard.
- b) The dielectric property of the equipment, clearances and minimum creepage distance shall conform to IS: 13947 (Part I).
- c) The equipment shall be capable of making and breaking load and overload currents without failure under the conditions stated in the relevant product standard for the required utilization category.
- d) The equipment shall be capable of withstanding thermal and electromagnetic stress from short circuit currents during current making, current carrying in the closed position and during current interruptions.

5.3.5 TECHNICAL SPECIFICATION FOR MOULDED CASE CIRCUIT BREAKERS (MCCB)

- 1. Number of Poles : 3
- 2. Service Voltage : 230V (L-L) (+ 10%)
- 3. Rated current (A) : As Required
- 4. Making capacity : 25 kA (peak)
- 5. Frequency : 50 Hz (+3%)
- 6. Operating Mechanism : Manual Trip free
- 7. Tripping arrangement : Thermal overload and Short circuit electromagnetic release.
- 8. Protections to be provided : i) Short circuit
ii) Overload
- 9. Cable Terminal : Suitable for PVC SWA with Aluminium conductor. Totally shrouded to avoid risk of electric shock to operating personnel.
- 10. Execution : Fixed

5.4 SPECIFICATION FOR MINIATURE CIRCUIT BREAKERS (MCB)

The Miniature circuit breakers shall comply with the latest revision of IS: 8828- 1993 except where modified or extended by the provision of this specification and with the relevant parts of standards mentioned hereunder.

5.4.1 OTHER RELEVANT STANDARDS

The other relevant Indian standards are as under:

IS : 3072 : Code of practice for Installation and Maintenance of switchgear.



- IS : 4237 : General requirements for switchgear and controlgears for voltages not exceeding 1000V AC.
- IS : 10118 : Code of practice for selection, installation and maintenance of Switchgear and Controlgear.
- IS : 11353 : Guide for uniform system of marking and identification of conductors and apparatus terminals.

5.4.2 **DESIGN CRITERIA**

The breakers shall operate on a 230V (L-L) (+ 10%), 2/3 phase, 50 Hz (-3% to 3%) power supply. Fault withstand capacity shall not be less than 9 kA for one second.

The rated carrying capacity shall be as specified in Annexure IB at the rated voltage and frequency and the breaker shall carry this current continuously while complying with this specification.

5.4.3 **CONSTRUCTIONAL FEATURES**

- a) The circuit breaker shall have current limiting devices with an inverse time delayed thermal trip device and an un-delayed magnetic trip device to take care of steady overload and short circuit faults respectively. The breakers should be suitable for switching/ protection of lighting circuits.
- b) The technical data for Circuit breakers are given hereunder:

5.4.4 **TECHNICAL SPECIFICATION FOR MINIATURE CIRCUIT BREAKER (MCB)**

1. Number of poles : 2 / 3
2. Rated Current : As Required
3. Breaking capacity : 9 kA
4. System voltage : 230V (L-L) (+10%)
5. Frequency : 50 Hz (+3%)
6. Enclosure of the breakers : Moulded self extinguishing thermoset plastic.
7. Dolly (Switching lever) : Can be locked in either OFF or ON position.
8. Fixing : Snap fitting
9. Cable Terminal : Suitable for PVCSWA with Aluminium conductor. Totally shrouded to avoid risk of electric shock to operating personnel.
10. Operating mechanism : Manual Trip Free
11. Tripping Arrangement : Magnetic Short Circuit Release.
Thermal Overload Release.

5.5 **SPECIFICATION FOR CONTACTOR**

- (i) Motor starter contactors shall be of air break, electro-magnetic type rated for uninterrupted duty as per IS:2959.
- (ii) Contactors shall be double-break, non-gravity type and their main contacts shall be silver faced.
- (iii) Direct-on-line contactors shall be of utilization category AC3. Reversing starters shall comprise of Forward and Reverse contactors mechanically and electrically interlocked with each other. These contactors shall be of utilization category AC4.
- (iv) The number of normally open (NO) and normally closed (NC) auxiliary contacts of a contactor shall be as per requirement shown in the respective module drawings. It shall, however, be not less than 2 NO+2NC.



- (v) Operating coil of contactors shall be of 110V AC unless otherwise specified elsewhere. The contactor shall operate satisfactorily between 85% to 110 % of the rated voltage. The contactor shall not drop out at 70% of the rated voltage but shall definitely drop out at 20% of the rated voltage.

5.6 SPECIFICATION FOR HRC FUSE

- (i) All fuses shall be of HRC cartridge fuse link type. Fuses for AC circuits shall be rated for 80 KA r. m. s. (prospective) breaking capacity at 415 V AC.
- (ii) Fuse shall have visible operation indicators. Insulating barriers shall be provided between individual power fuses.
- (iii) Fuse shall be mounted on insulated fuse carrier which is mounted on fuse bases. Wherever it is not possible to mount fuses on carriers, fuses shall be directly mounted on plug - in type of bases. In such cases one set of insulated fuse pulling handles shall be supplied with each switchboard.
- (iv) Fuse ratings shall be selected by the Bidder for various feeders.
- (v) The Neutral links shall be mounted on fuse carriers which shall be mounted on fuse bases.

5.7 SPECIFICATION FOR INDICATING INSTRUMENTS

- (i) All indicating and integrating meters shall be flush mounted on panel front. The instruments shall be of at least 96 mm. square size with 90 degree linear scales, and shall have an accuracy class of 2.0 or better. The covers and cases of instruments and meters shall provide a dust and vermin proof construction.
- (ii) All instruments shall be compensated for temperature errors and factory calibrated to directly read the primary quantities. Means shall be provided for zero adjustment without removing or dismantling the instruments.
- (iii) All instruments shall have white dials with black numerals & lettering. Black knife edge pointer shall be provided for meters.
- (iv) Ammeters provided for motor feeders shall have a compressed scale at the upper current region to cover the starting current upto 6.0 times the CT primary current.

5.8 SPECIFICATION FOR PUSH BUTTON

- (i) Push buttons shall be of spring return, push-to-actuate type. Their contacts shall be rated to make, continuously carry and break 10 A at 110 V AC.
- (ii) All push buttons shall have one normally open and one normally closed contact unless specified otherwise. The contact faces shall be of silver alloy.
- (iii) All push buttons shall be provided with integral escutcheon plates marked with its function.
- (iv) The color of the button shall be as follows:
 - Green** for magnet "ON", breaker CLOSE, commands.
 - Red** for magnet "STOP", breaker OPEN, commands.
- (v) The emergency push buttons shall have mushroom head with 1 NO & 1 NC contact. Colour of the button shall be "**RED**".



5.9 SPECIFICATION FOR INDICATING LAMPS

- (i) Indicating lamps shall be of the panel mounting, LED/filament type and low watt consumption. The lamps shall have escutcheon plates marked with its function wherever necessary.
- (ii) Lamps shall have translucent lamp-covers of the following colors, as warranted by the application:
 - Green** for magnet ON, breaker CLOSE
 - Red** for magnet OFF, breaker OPEN
 - Yellow** for magnet AUTO TRIP/Motor TRIP
 - Blue** for all healthy conditions (e.g. CONTROL SUPPLY ON, and also for "SPRING CHARGED")
 - Amber** for all Alarm Conditions (e.g. overload). Also for "SERVICE" and "TEST" position indications.
- (iii) Bulbs and lamp covers shall be easily replaceable from the front of the cubicle.
- (iv) All indicating lamps shall be suitable for continuous operation at 90% to 110% of their rated voltage.

5.10 SPECIFICATION FOR CABLES

5.10.1 660/1100 V GRADE PVC ARMOURED CABLE

The cable shall comply with the latest version of IS:1554 (Part 1) except where modified or extended by this specification and with the relevant parts of standards mentioned in clause hereunder:

5.10.1.1 CODES

The other relevant standards applicable are as under:

IS : 10418	: Specification of drums for electric cables
IS : 8130	: Conductors for insulated electric cables and flexible cords
IS : 3975	: Specification for mild steel wires, strips and tapes
IS : 5831	: PVC insulation for armoring cables and sheath of electric cables
IS : 10462	: Fictitious calculation method for determination of dimensions of protective covering of cables. Part I elastomeric and thermoplastic insulated cables
IS : 2	: Rules for rounding off values
IS : 10810	: Method of test for cables (Part 0 to Part 63)
IS : 1885	: Electro technical vocabulary part 32, cables, conductors and accessories
IS : 4905	: Methods for random sampling.

5.10.1.2 CONSTRUCTION MATERIAL



The conductor shall be Aluminium wires conforming to relevant codes and the insulation used shall be Poly Vinyl Chloride (PVC) compound conforming to the requirements of Type A and Type C compound conforming to relevant codes.

The outer sheath, fillers and inner sheath shall have FRLS property.

Armouring shall be Galvanized round steel wire. Galvanized steel wires shall comply with the requirements of relevant Code. A binder tape on the armour shall be provided.

5.10.1.3 **CONSTRUCTIONAL FEATURES**

The conductor shall be of stranded construction complying with class 2 of relevant codes. A protective barrier shall be provided between the conductor and the insulation and this shall be compatible with the insulating material and the operating temperature of 70⁰C.

The conductor with protective barrier shall be provided with PVC insulation applied by extrusion.

The average thickness of insulation shall be as per relevant IS. Armouring shall be provided over the inner sheath.

The armour of the cables shall consist of galvanized round steel wires. The nominal diameter of round armour wire shall be as per relevant IS.

5.10.1.4 **TECHNICAL INFORMATION**

- Applicable Code - IS 1554 (Part-1)
- Cable Code - AYFY
- Voltage Grade - 660/1100 V
- Conductor Size - As required
- No. of Cores - 2 / 3 / 3.5 / 4

5.11 **660/1100 V GRADE CONTROL CABLE**

The cable shall comply with the latest version of IS:1554 (Part 1) except where modified or extended by this specification and with the relevant parts of standards mentioned hereunder:

5.11.1 **CODES**

The other relevant standards applicable are as under:

- IS : 10418 : Specification of drums for electric cables
- IS : 8130 : Conductors for insulated electric cables and flexible cords
- IS : 3975 : Specification for mild steel wires, strips and tapes
- IS : 5831 : PVC insulation for armouring cables and sheath of electric cables
- IS : 10462 : Fictitious calculation method for determination of dimensions of protective covering of cables. Part I elastomeric and thermoplastic insulated cables
- IS : 2 : Rules for rounding off values
- IS : 10810 : Method of test for cables (Part 0 to Part 63)
- IS : 1885 : Electrotechnical vocabulary part 32, cables, conductors and accessories
- IS : 4905 : Methods for random sampling.

5.11.2 **CONSTRUCTION MATERIAL**



The conductor shall be Copper wires conforming to relevant codes and the insulation used shall be Poly Vinyl Chloride (PVC) compound conforming to the requirements of Type A and Type C compound conforming to relevant codes.

The outer sheath, fillers and inner sheath shall have FRLS property.

Armouring shall be Galvanized round steel wire. Galvanized steel wires shall comply with the requirements of relevant Code. A binder tape on the armour shall be provided.

CONSTRUCTIONAL FEATURES

The conductor shall be of stranded construction complying with class 2 of relevant codes. A protective barrier shall be provided between the conductor and the insulation and this shall be compatible with the insulating material and the operating temperature of 70°C.

The conductor with protective barrier shall be provided with PVC insulation applied by extrusion.

The average thickness of insulation shall be as per relevant IS.

Armouring shall be provided over the inner sheath.

The armour of the cables shall consist of galvanized round steel wires. The nominal diameter of round armour wire shall be as per relevant IS.

5.11.3 TECHNICAL INFORMATION

- Applicable Code - IS 1554 (Part-1)
- Cable Code - YWY/YFY
- Voltage Grade - 660/1100 V
- Conductor Size - 1.5 mm²(for internal wiring)
2.5 mm² (for external connections)
- No. of Cores - As required

5.12 SPECIAL CABLES (If Required)

Special cables shall be provided including but not limited to the following:

These cables shall be heavy duty Fire Retarding Low Smoke and self-extinguishing, colour coded, shielded, armoured copper conductor 650/1100 volts grade coaxial screwed compensating mineral insulated etc.

5.13 PERFORMANCE

The cables shall carry the rated current for the type of installation and ambient temperature in accordance with the relevant Code. The cable shall also be able to withstand the fault level in accordance with the relevant Code.

5.6 DRAWINGS AND DOCUMENTS

In the event of ordering the tenderer shall furnish the following drawings and documents for approval prior to dispatch of the equipment:

- a) GA drawings with complete Bill of Quantity (BOQ) of Control Panel, Pressure Relief Valve, Safety Switches, LT Motor, Power & Control Cable.
- b) Data sheet, catalogues & leaflets of all other offered Electrics/ Components/ Panels if any.
- c) Control Philosophy and Control Write-up with full functional description of the Magnetic Separator in the drawing.



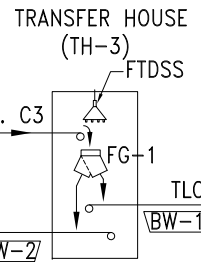
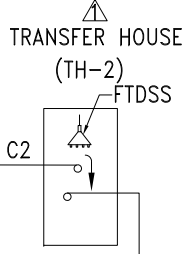
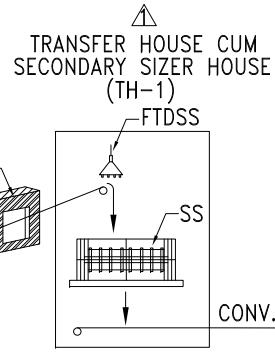
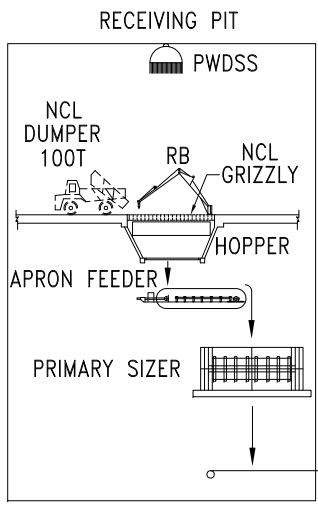
- d) Single Line Diagram (SLD), three line connection drawing, schematic drawing, wiring diagram for the control of equipment.
- e) Interconnection block diagramme.
- f) Termination Details / Cable Termination Plan.
- g) Cable Schedule with scope of cable.
- h) Electrical QAP.
- i) Constructional features.
- j) Any other drawing or document, if required.

NOTES:

1. Any items/electrics not mentioned in this specification but necessary for successful commissioning and trouble free operation of the system shall be deemed to be included in the scope of the tenderer.
2. All the Electrics envisaged in the scheme for the control of the equipment shall be in the scope of the tenderer.
3. The tenderer is required to furnish detailed list of all the electrics that will be in their scope of supply.

ANNEXURE-2

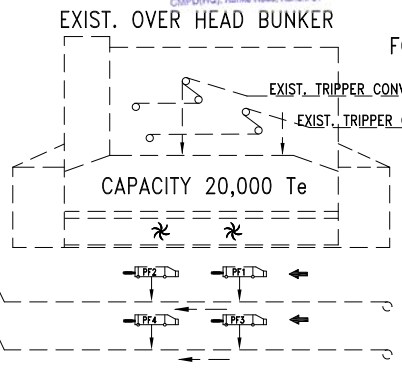
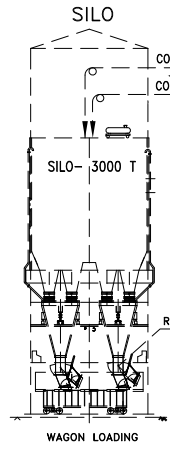
TENDER DRAWINGS



SMCP-SEMI MOBILE CRUSHING PLANT

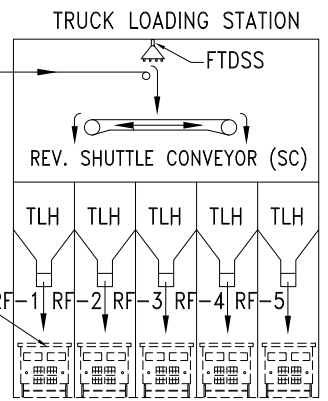
The drawing is 'found in order' subject to compliance of note(s) given below:
 Note(s):
 1) Duty conditions and other constructional features of magnetic separator should conform all the requirement as mentioned in contract agreement page no. 245 & 246.
 2) Any changes in related drawings/documents shall be incorporated in this drawing also.
 3) All the provisions shall meet the Contract Agreement requirement.
 Approval of the contractor's drawings or work by engineer shall not relieve the contractor of any of his responsibilities and liability under the contract (Agreement no. NCL/CMC/CHP/BLOCK-B/AGREEMENT/09 dated 05/01/2021)."

Sagar Das, AM (Excv)
 Sudarshan Prasad, CM (E&M)



EQUIPMENTS					
SL. NO.	EQPT. NO.	DESCRIPTION	QUANTITY	CAPACITY (Rated/Design)	LOCATION
1	SMCP	SEMI MOBILE CRUSHING PLANT	1 Set	1600/1920 TPH	RECEIVING PIT
		i) RECEIVING HOPPER	1 No.	170 T	
		ii) SIZER	1 No.	1600/1920 TPH	
		iii) APRON FEEDER	1 No.	1600/1920 TPH	
2	MD	METAL DETECTOR	1 No.	1600 MM	CONV. C1
3	CBMS	CROSS BELT MAGNETIC SEPARATOR	1 No.	1600 MM	CONV. C1
4	BW	BELT WEIGHER	2 Nos.	1600 MM	CONV. TLC & CONV. LB
5	PWDSS	PLAIN WATER DUST SUPPRESSION	1 LOT	-	RECEIVING PIT HOPPER
6	FTDSS	FOG TYPE DUST SUPPRESSION	1 LOT	-	SMCP, TH-1, TH-2, TH-3, TLS, TH-2 (EXIST)
7	RF	RECIPROCATING FEEDER	5 Nos.	250/300 TPH	TRUCK LOADING HOPPER
8	SS	SECONDARY SIZER	1 No.	1600/1920 TPH	TH-1
9	FG	FLAP GATE	2 Nos.	1600/1920 TPH	CONV. C3, CONV. LB
10	RB	ROCK BREAKER	1 No.	+1500 MM	RECEIVING PIT
11	TLH	TRUCK LOADING HOPPER	5 Nos.	100 T EACH	TRUCK LOADING HOPPER STATION
12	FFS (NOT SHOWN)	FIRE FIGHTING SYSTEM			
		i) HP FIRE HYDRANT SYSTEM	1 LOT	-	THROUGHOUT THE PLANT
		ii) MWS SYSTEM	1 LOT	-	THROUGHOUT THE CONVEYOR
		iii) SPRINKLER SYSTEM	1 LOT	-	RECEIVING PIT
		iv) PORTABLE FIRE EXTINGUISHER	1 LOT	-	THROUGHOUT THE PLANT
		v) FIRE DETECTION	1 LOT	-	THROUGHOUT THE PLANT

CONVEYOR SYSTEM					
SL. NO.	EQUIP. NO.	DESCRIPTION	QTY.	CAPACITY	LOCATION
1.	C1	BELT CONVEYOR, B/W-1600mm BELT SPEED-2.85 M/S	1 NO.	1600 TPH (RATED) 1920 TPH (DESIGN)	RP TO TH-1
2.	C2	BELT CONVEYOR, B/W-1600mm BELT SPEED-2.85 M/S	1 NO.	1600 TPH (RATED) 1920 TPH (DESIGN)	TH-1 TO TH-2
3.	C3	BELT CONVEYOR, B/W-1600mm BELT SPEED-2.85 M/S	1 NO.	1600 TPH (RATED) 1920 TPH (DESIGN)	TH-2 TO TH-3
4.	TLC	BELT CONVEYOR, B/W-1600mm BELT SPEED-2.85 M/S	1 NO.	1600 TPH (RATED) 1920 TPH (DESIGN)	TH-3 TO TLC
5.	LB	BELT CONVEYOR, B/W-1600mm BELT SPEED-2.85 M/S	1 NO.	1600 TPH (RATED) 1920 TPH (DESIGN)	TH-3 TO 4C & 5C
6.	SC	REV. SHUTTLE CONVEYOR, B/W-1800mm, SPEED-2.85 M/S	1 NO.	1600 TPH (RATED) 1920 TPH (DESIGN)	TRUCK LOADING STATION



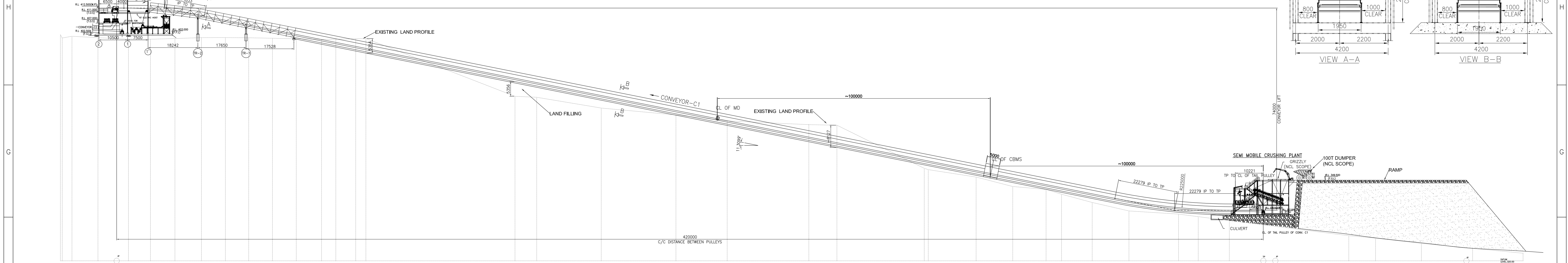
LEGEND:-
 - - - - - EXISTING FACILITY
 _____ NEW FACILITY/PROPOSED
 - - - - - NCL/OTHERS SCOPE

CATEGORY OF DRG.	APPROVAL	INFORMATION	REFERENCE	RECORD	CONSTRUCTION
CLIENT					
NORTHERN COALFIELDS LIMITED, SINGRAULI					
CONSULTANT:	CENTRAL MINE PLANNING AND DESIGN INSTITUTE Ltd.				
CONTRACTOR:	HEAVY ENGINEERING CORPORATION LTD. RANCHI				
PROJECT:-					
COAL HANDLING PLANT FOR BLOCK- B (4.5MTPA)					

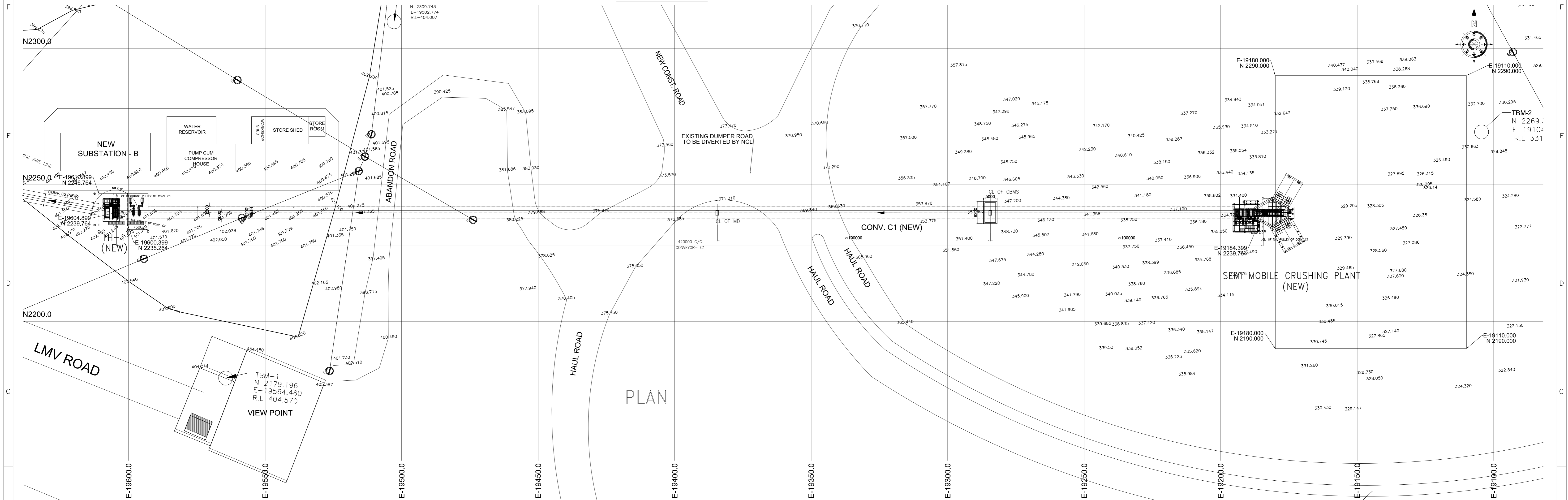
SL. NO.	DRAWING NO.	REFERENCE DRAWINGS	TITLE	SL. NO.	DESCRIPTION	NO.	DATE	REVISION	DESCRIPTION	BY	APPD.
2.	HQ E&M 301803	FLOW DIAGRAM OF COAL HANDLING PLANT		2.	18.05.21				DRAWING REVISED AS PER M/A C&M/P's COMMENT DATED 17.05.21		
1.	HQ E&M 101608	KEY PLAN OF COAL HANDLING PLANT		1.	04.05.21				DRAWING REVISED AS PER JOINT SITE MEETING WITH NCL/CMPL		

CHECKED BY	SIGN	DATE
CIVIL & STRUCTURAL		
MECHANICAL		
ELECTRICAL & INSTRU.		

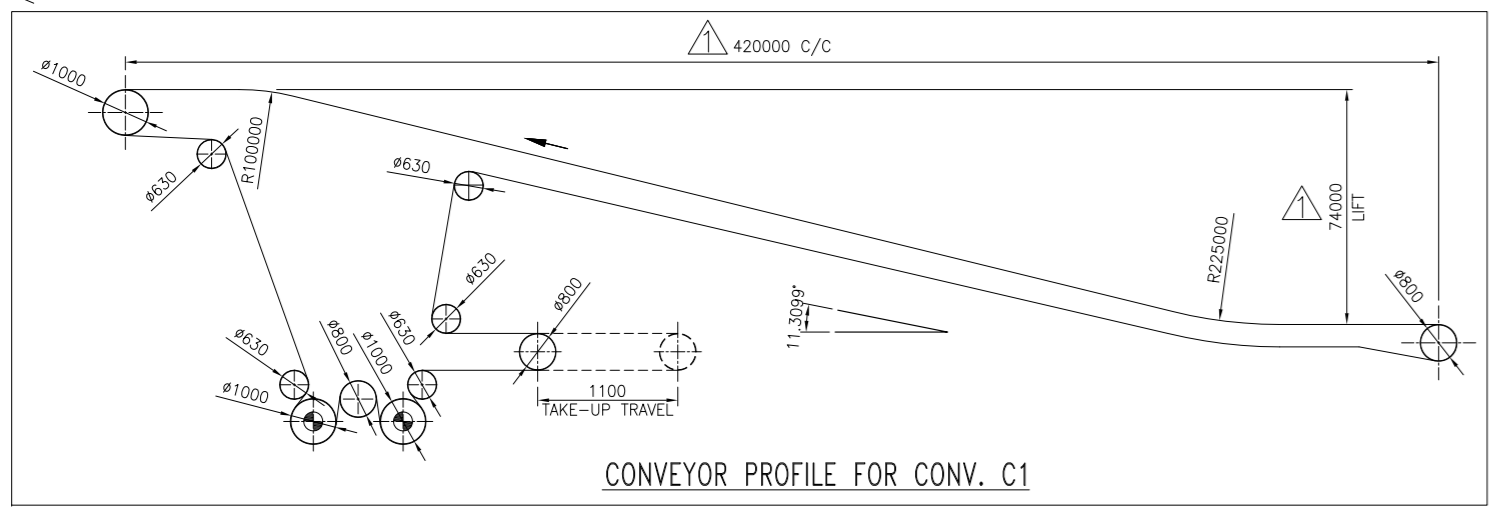
DESIGN.	A.K.P	TITLE :-
DRAWN.	A.K.P	FLOW DIAGRAM
CHKD.	A.K	SCALE :- NTS
APD.	G.P	PROJECT DRAWING NO.
DATE	13.02.21	HEC-NCL-BLOCK-B-CHP-G-BE-005



ELEVATION



PLAN



CONVEYOR PROFILE FOR CONV. C1

Agar Das

[Signature]

महाप्रबंधक (वि. एवं यां.)
General Manager (E&M)
सी.एम.पी.डी.आई. (गुं), कॉक रोड, रांची-31
CMPDI(HQ), Kanke Road, Ranchi-31

CONVEYOR CHARACTERISTICS					
CONVEYOR NAME	LENGTH	LIFT	BELT WIDTH	CAPACITY (RATED/DESIGN)	BELT SPEED
C1	420.00m	74.0M	1600 mm	1600/1920TPH	2.85 m/s

CATEGORY OF DRG.	APPROVAL	INFORMATION	REFERENCE	RECORD	CONSTRUCTION
CLIENT :	NORTHERN COALFIELDS LIMITED, SINGRAULI				
CONSULTANT:	CENTRAL MINE PLANNING AND DESIGN INSTITUTE Ltd.				
CONTRACTOR:	HEAVY ENGINEERING CORPORATION LTD. RANCHI				

PROJECT:-
COAL HANDLING PLANT FOR BLOCK- B (4.5MTPA)

SL.NO.	DRAWING NO	TITLE	SL.NO.	DESCRIPTION	NO	DATE	DESCRIPTION	BY	APPD.
4.	HEC-NCL-BLOCK-B-CHP-G-BE-003	GENERAL LAYOUT PLAN	5.	FOR ROAD LAYOUT SEPARATE DRAWING WILL BE SUBMITTED.					
3.	HEC-NCL-BLOCK-B-CHP-G-BE-005	FLOW DIAGRAM	4.	MINOR CHANGES IN DIMENSIONS/LEVELS SHALL OCCUR DURING DETAILING.					
2.	HQ E&M 301803	FLOW DIAGRAM OF COAL HANDLING PLANT	3.	LAND CUTTING & FILLING SHALL BE DONE TO ATTAIN REQUIRED LAND PROFILE.					
1.	HQ E&M 101808	KEY PLAN OF COAL HANDLING PLANT	2.	CIVIL & STRUCTURAL ARE INDICATIVE ONLY.	2.	20.05.21	DRAWING REVISED AS PER M/s CMPDI's COMMENTS DATED 19.05.2021		
			1.	ALL DIMENSIONS ARE IN mm AND LEVELS IN METER.	1.	06.05.21	DRAWING REVISED AS PER MEETING/SITE VISIT, ALONG WITH NCL/CMPDI		

CHECKED BY	SIGN	DATE	DESIGN.	A.K.P	TITLE :-
CIVIL & STRUCTURAL			DRAWN.	A.K.P	SYSTEM ELEVATION OF CONVEYOR - C1
MECHANICAL			CHKD.	A.K	SCALE :- NTS
ELECTRICAL & INSTRU.			APD.	G.P	PROJECT DRAWING NO.
			DATE	22.02.21	HEC-NCL-BLOCK-B-CHP-M-BE-020