



HEAVY ENGINEERING CORPORATION LIMITED

PROJECT DIVISION

PURCHASE DEPARTMENT

Open Tender

Tender Enquiry No. : HEC/PROJ/PUR/BLOCK B/12

Date:06/08/21

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.	This scope of work shall include design, engineering, manufacture, testing, Inspection, painting, supply, Performance Guarantee of Two (2) Nos. Motorised Flap Gates for Coal Handling Plant, Block B Project, Northern Coalfields Limited.	Nos.	2	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. Manager /Purchase/PROJECT DIVISION
Heavy Engineering Corporation Limited
HMBP ADM. BUILDING (ANNEXE)
DHURWA, RANCHI 834004
Ph.06512401266/240056
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



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. 5,000/-** 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. 200/- 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 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:



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- i. **Tendered goods are not divisible in nature, the following procedure shall be followed to evaluate L1 and award of contract:**
- 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.
 - If L1 is not from a Class-I local supplier, the lowest bidder among the Class-I local 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.
 - 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 Tendered 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

- 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)**
- 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 and Enclosure-II of NIT.	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/ MSME owned by SC/ST/WOMEN Entrepreneurs	Yes / No (In case yes, then upload certificate)	
6	Tender fee (Rs 200/-) / EMD (Rs. 5,000/-)	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. Contact Person:- **Shri Kushal Kumar: 09852923855/ 7903884318**
- (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	Motorised Flap Gate		

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.

3.0 TAXES & DUTIES

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 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.



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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 **3 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 .

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 Engineer/ 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 by Employer.

6.4 **Five (5%)** of the Basic Price excluding GST shall be released upon issue of the Final Acceptance Certificate by Employer.

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.**



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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.

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



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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
- 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 Spplier 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.



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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 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.



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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

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.



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23.0 CONSIGNEE :

GM, Block B, NCL
P.O.- Gorbi
Distt – Singrauli (M.P.) - 486892

And bill to And GST No. of HEC: will be intimated later before issue of purchase order

24.0 FIRST FILL OF CONSUMABLES, OILS AND LUBRICANTS :

As per Technical Specification enclosed as Encloser II.

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.

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



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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*)

GM, Block B, NCL

P.O.- Gorbi, Distt- Singrauli (M.P.)-486892

b) Name of the Supplier/ :

d) Description :

e) Quantity :

f) Package Number :

g) Gross and Net Weights :

h) Outer dimensions :

i) Port of loading and :unloading (for imported Equipment, wherever applicable)

j) 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.



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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		



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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 _____



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TECHNICAL SPECIFICATION

ENCLOSURE-II



TECHNICAL SPECIFICATION OF MOTORISED FLAP GATE

1.0 SCOPE OF WORK

This scope of work shall include design, engineering, manufacture, testing, Inspection, painting, supply, Performance Guarantee of **Two (2) Nos. Motorised Flap Gates** for Coal Handling Plant, Block B Project, Northern Coalfields Limited.

The scope of bidder shall consists of but not limited to the following:-

- a) Electrically Operated Flap Gates shall be complete in all respect including liners, drivers, locking device, provision for manual operation, limit switches etc. and other electrics as detailed in Annexure-1.
- b) Electrically Operated Flap Gates shall be duly painted.
- c) Any other accessories and components needed for successful operation of the Gate to meet system requirement.
- d) Supports, bolts & nuts required for the equipment.
- e) Any other accessories and components needed for successful operation of the Gate to meet system requirement.
- f) Drawings & documents.
- g) Operation & Maintenance Manuals.

2.0 EQUIPMENT SPECIFICATION

2.1 CONSTRUCTIONAL FEATURES

- i. The flap gate of the bifurcation chute (location as mentioned below) shall be of robust construction and will be actuated by an approved motor operated with reduction gear actuator.
- ii. The motor will be completely dustproof and its starting will be such so as to provide sufficient thrust for operation of the flap gate against the falling weight of coal.
- iii. The flap gate will have locking arrangements for two extreme positions.
- iv. The flap gate assembly will be mounted with bolted connection for easy replacement.
- v. It will consist of MS plate lined with liner of suitable thickness on either side.



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- vi. The flap gate will be mounted on a shaft which in turn will be mounted on anti-friction bearings. The bearing housing should be dustproof.
- vii. The equipment will be capable of being operated for at least fifteen switching per hour. at rated load and thrust and shall be suitable for 10 Nos. consecutive switchings at rated load and thrust. The equipment shall be shop tested to prove the requirement.
- viii. Provision should be made for remote control (i.e. from the control room) but it will have a local control also.
- ix. Provision for alternative manual operation shall also be made using declutchable hand wheel. The diameter of hand wheel shall be selected considering a 25 kg (max.) force to be applied by a single operator.
- x. Manual lubrication nipples shall be provided for all the bearings.
- xi. All components shall be designed and tested in accordance with latest IS Specification unless stated otherwise and agreed to. In such case where Indian Standards are not available reputed International standards shall be followed.
- xii. The Tenderer shall ensure that minimum amount of assembly is necessary for erection and commissioning of equipment at site.
- xiii. The motor rating for the actuator shall be so selected as to provide sufficient thrust (min. 2500 kg) for operation of the flap gates against the moving weight of material and/or flap gate.
- xiv. Limit switches shall be provided to indicate extreme positions. Lever arm shall be provided between actuator and flap gate shaft for obtaining required thrust. Each gate shall be provided with a shaft, a hand lever and self aligning type antifriction bearings with adequate sealing for dust proofing.
- xv. The actuators shall be capable of preventing any over travel. Suitable travel dependent limit switches controlling the travel; of the flap gates on either direction shall provided. These shall be placed internal to the drive unit and shall be completely dust-proof. The limit switches shall be capable of adjustments to vary to total length of travel of the gates.
- xvi. Suitable thrust dependent limit switches shall be provided. This shall trip off the actuator motor in case of excessive thrust due to jamming the gates during its travel in either direction.
- xvii. The material of shaft shall be EN-8 or equivalent material. The diameter of the shaft shall be



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suitable for motor stalled conditions and associated twisting.

- xviii. The gate shall be capable of changing the direction of material on remote mode of control even when the material is being discharged from the feeding conveyor pulley.
- xix. All components shall be manufactured with material of approved quality & best of workmanship. The equipment shall be shop assembled for checking operation and accuracy of parts
- xx. Reference drawing showing location of gate has been enclosed in Annexure-1. However, required during detail engineering minor changes in dimensions of gates shall be taken care during Detail Engineering.

2.2 LOCATION

Location of motorized flap gate will be as follows-

At the discharge end of proposed conveyors C3 and LB.

2.3 Material of construction for various elements shall be:-

SI No.	Description	Material
i.	Body, Blade, Flanges	Min. 10 thk as per IS:2062
ii.	Liner	Min. 10 thk. SS-409M
iii.	Shaft	EN-8/ C-45
iv.	Bearing	Self Aligned Ball/Roller Bearing, Make: SKF/FAG/NTN/Equiv..
v.	Hand Wheel, mounting plate, Flange, access cover	IS:2062
vi.	Electromechanical Liner Actuator	As per specification
vii.	Limit Switches	Inbuilt with linear actuator as per specification

2.4 DESIGN BASIS

The characteristics of the different raw materials handled are indicated below:

Material	Non coking coal
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Lump Size	-100 mm, occasionally (-)150mm
Bulk Density(T/m ³)	0.8 for volume calculation, 1.15 for load and power Calculation
Moisture Content (%)	% of inherent moisture-7-10 % % of surface moisture - Upto 15% but may go upto 20% in rainy season.
Capacity	1600/1820 tph

3.0 TENDER DRAWINGS

As per Annexure-2

4.0 PAINTING

a) Painting at Manufacturing Works:

Painting shall be carried out after issue of inspection certificate. All exposed metal parts of the equipment unless otherwise surface protected, shall be first painted with at least two coat of suitable primer, after thoroughly cleaning all such parts of all dirt, rust, scales, greases, oils and other foreign materials by wire brushing, scarping or sand blasting, and the same being inspected and approved by the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative for painting. Afterwards, the above parts shall be finished with two coats of alloyed resin machinery enamel paints. The quality of the finish paint shall be as per the standards of ISI or equivalent and to be of the colour as approved by the HEC's/NCL's/Consultant's Engineer.

Shop primer for all steel surface which will be exposed to operating temperature below 95°C shall be selected by the successful bidder, after obtaining specific approval of the engineer regarding the quality of primer proposed to be applied. Special high temperature primer shall be used on surfaces exposed to temperatures higher than 95°C and such primers shall also be subject to the approval of the HEC's/NCL's/Consultant's Engineer.

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.



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 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.

5.0 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.

6.1. The manufacturer will prepare a detailed quality Assurance Plan (QAP) in purchaser's format & submit the same 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.



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- 6.2. 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.
- 6.3. 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.
- 6.4. 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 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.



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6.5. 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.

6.6. 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 give facilities to the HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative to accomplish testing.

6.7. 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.

6.8. INSPECTION & QUALITY CONTROL BEFORE DESPATCH

6.8.1 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.

6.9. 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.

6.10. 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



6.0 MAKELIST OF BOUGHTOUTS

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

7.0 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.

8.0 PACKING, FORWARDING AND SHIPMENT

8.1 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



9.0 DRAWINGS & DOCUMENTS

9.1 Drawing Approval

- 9.1.1 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.
- 9.1.2 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.
- 9.1.3 Drawings shall be submitted for approval in AutoCAD format in CD's along with six copies of hard copies.
- 9.1.4 Copies of drawings returned to the Successful bidder will be in the form of a print /softcopy with the Employer's marking, or a print made from a CD's for computer base.
- 9.1.5 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



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by the Successful bidder to rectify the drawings in good time shall not alter the contract completion date.

9.1.6 **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.

9.1.7 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.

9.1.8 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.

9.1.9 If the drawing is "Approved" then one set shall be returned back to the successful 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

9.1.10 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.

9.1.11 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



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HEC's/NCL's/Consultant's Engineer and/or his duly authorised representative, if so required.

9.1.12 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.

9.1.13 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.

9.1.14 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.

9.2 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.



9.3 INSTRUCTION MANUALS

9.3.1 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.

9.3.2 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.

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

9.3.4 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.

9.3.5 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.

9.4 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) List of recommended 5 years O & M spares of the equipment.

9.5 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.

ANNEXURE-1

ELECTRICAL SPECIFICATION



EQUIPMENT SPECIFICATION
FOR ELECTRICS OF MOTORIZED FLAP GATE

1.0 SCOPE

The scope includes all the major supplies of Electrics for “**MOTORIZED FLAP GATE**”. All the Electrics mentioned hereunder and elsewhere in this specification shall be in the scope of the tenderer. Any items/electrics not mentioned in this specification but necessary for successful commissioning and trouble free operation of the Flap Gate shall also be deemed to be in the scope of the tenderer.

1. Electro-Mechanical Linear Actuator with Motor
2. Integral Gear cum Limit Switch
3. External Heavy Duty Roller Type Limit Switch
4. Local Control Station (LCS)
5. Power and Control Junction Box
6. Mounted Accessories and other associated Electrics necessary for completeness of system.
7. Required Quantity of initial fill of oil, grease, lubricants, etc. and any other consumables which are necessary for cleaning/ flushing including erection, testing and commissioning the machine.

2.0 GENERAL

- 2.0.1 Flap Gate shall be motorized with provision of manual operation. The actuators for Flap Gate shall be located in easily accessible position. The Gate shall be designed to operate in full load.
- 2.0.2 The purchaser shall only provide power supply feeder of 3-Phase, 4-Wire, 415V (+6%), 50Hz (+3%) up-to the incoming side of their Local Control Station / Power Junction Box. As such, any further voltage level, if required have to be derived by the tenderer by using control transformer of appropriate voltage ratio and VA rating as per the requirement of their offered system. Accordingly, this power feeding cable up-to their Local Control Station / Power Junction Box shall be provided by the purchaser.
- 2.0.3 Dust and explosion proof switches of an approved manufacture suitable for use with 230 V, 50 Hz., AC supply will be provided.
- 2.0.4 The equipment will be capable of being operated for at least fifteen switching per hour. Provision should be made for remote control (i.e. from the control room) but it will have a local control also. Apart from this, provision for manual operation of the flap gate should also be incorporated.

3.0 ELECTRICS FOR MOTORIZED FLAP GATE

- 3.1 Regarding electrical scope of supply and installation of Flap Gate electrics tenderer to consider the following:
1. All Electro-mechanical system including Motor, integral gear cum limit switch, external heavy duty roller type limit switches, local control station, sheet steel power junction box and thermoplastic control junction boxes.





2. All Electromechanical system, external limit switches, local control station, power, control junction boxes including all power and control cabling beyond power & control JB up to the flap gate unit, mounted accessories and local control station.

3.2 Motor:

Motor shall be suitable for 415 V +10%, -15%, 50 Hz \pm 6% with IP-55 degree of protection, S4 Duty, 40% CDF, 150 Starts, TEFC, DOL starting with suitable starting torque, class of insulation F but temperature limited to class B.

3.3 Limit Switches:

3.3.1 Heavy-duty roller type limit switches shall be provided for end travel sensing of travelling tripper and shuttle conveyors and end travel of other movable equipment as applicable. The same shall be provided with 2 NO + 2 NC auxiliary contact of 10 A rating at 110 V. The degree of protection for enclosure shall be IP:65.

3.3.2 Heavy-duty proximity type positioning switches with sensing distance to suit the application shall be provided for automatic positioning of the tripper and shuttle conveyors. The switches shall be 2/3 wire type with leakage current below 10 mA suitable for signal exchange with PLC system.

3.3.3 For dusty conductive atmosphere where proximity type switches is not suitable Tenderer should supply and install magnetic type snap action read switches for sensing the position of moving part.

3.3 Local Control Station:

Local Control Stations for Flap gate shall be supplied as per the following specifications:

3.3.1 Local control station shall be of SMC moulded/FRP non-toxic thermoplastic enclosure and shall be suitable for installation on walls, structures, columns etc with minimum ingress protection of IP: 55. They shall be impact resistance, immune to prolong exposure to sunlight, dusts & rain.

3.3.2 LCS shall have one (1) start push button, one (1) stop push button (In case of reversing feeder Forward and Reverse start push buttons) and set of 2.5 sq.mm WAGO/PHOINEX equivalent clip-on type control terminal blocks. All components shall be wired up to the terminal blocks. The stop push button shall be "Mushroom" head lockable type (press to lock and turn to release type) and shall have 2NO+2NC contacts.

- Notes:**
1. All the Electrics envisaged in the scheme for the control of the equipment shall be in the scope of the tenderer.
 2. All specification of Motor and Components referred Annexure-A & B.
 3. The make list of components shall be as per Annexure-C.



**TECHNICAL SPECIFICATION OF MOTORS****1. Low Voltage Squirrel Cage Induction Motors :**

Sl.No.	Parameters	Description
1.0	Standard	IPSS 1-03-001 / IS 325 / IEC 34 & IEC 72
2.0	Constructional Features	
	Frame size & rating	As per IS 325
	Motor body	Grey iron casting as per IS:210-1 978
	Motor Feet	Integrally cast with the stator
	Body Design	<ul style="list-style-type: none">- Prevent breakage or other failures due to vibrations normally encountered in heavy industries .- Motors shall be of weather proof construction.- Designed to operate in the humid air stream- Drain plugs to be provided .
	Protection for Motor & Bearing	IP - 55 (with canopy for motor if installed outdoor)
	Shaft ends & Extension	Cylindrical as per requirement Proper drilling and tapping shall be provided for mounting of tachos for speed feedback (if required) Crane motor in 225 and above frame sizes shall have tapered shaft (1:10) (New point)
	Bearings	<ul style="list-style-type: none">- For motor of rating upto 5 kW, ball bearings shall be used for both DE & NDE end.- For ratings above 5 kW the DE end shall be provided with roller bearing and NDE end shall be provided with ball bearing.- Bearings for motors shall be of C3 clearance .- Bearings shall be suitable for running of motor in either direction.
	Hazardous Area safety design	As per requirement
	Canopy	To be provided for all outdoor motors .
	Greasing point	At DE & NDE sides .
	Paint shade	Light grey shade 631 as per IS:5 or RAL 7030 (grey).
	Direction of Rotation	For crane and mill duty motors : reversible For general purpose continuous duty motor : Bidirectional (New point)
3.0	Terminal box	
	Location	Location on top preferably
	Suitability	<ul style="list-style-type: none">- 4 Core Aluminium Cable- Extension shall be done to receive the aluminium cables to avoid cramping of the cables in the terminal box .
	Rotation	4 X 90 deg.
	Earthing stud	Inside Terminal Block
4.0	Cooling	<ul style="list-style-type: none">- TEFC- Effective irrespective of direction of rotation
5.0	Quality of operation	





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	Vibration intensity	Shall be limited as per IS 12075-1986.
	Noise level	As per IS: 12065-1987
(iii)	Balancing	Motors shall be dynamically balanced with full key on the shaft- end and fan
6.0	Electrical design	
(i)	Power Supply	<ul style="list-style-type: none">• 415 V +10 & - 15%• 50 Hz +/- 6%• 3-phase, 4-wire AC• 50 kA for 1 second, solidly earthed.
(ii)	Starting	DOL
	Min Voltage for Start & Run	85 % of rated voltage at terminal
	Starting Torque	>= 160 % Rated Torque
	Breakdown or pullout torque	Minimum 275 % of the rated torque
	Starting current	<= 600% Rated current
	Duty	S1/or as specified in TS For crane duty S5 40% with 150 start/hour. For conveyor application S-3 and 6 starts / hr For continuous duty- efficiency class EFF-1.
	Starts/Hour permissible	3 equally spread or 2 in quick succession from cold or one hot start, under rated load condition.
	Max speed permissible	120% over speed for 2 minutes
	Overload capacity	Capable of withstanding 60% Overload for 15 sec.
(xi)	Efficiency	All continuous duty motor (S1-100%) shall be of high efficiency confirming to eff2 class as per IEEMA-19-2000 .
	Derating	Motor designed at 50 deg.C shall be derated suitably for mentioned ambient temperature.
	Motor connections	Motor with frame size 90 shall be connected in star and of frame sizes more than 90 shall be connected in delta . For delta connected motors 6 leads shall be brought out .
	Insulation	Class F
	Minimum Permissible temperature rise	Limited to class 'B' (120 deg absolute)
	Torque Type	Normal / High / High slip type / Stall Torque type (as required for the specific application)
	Space Heater	Out door motors above 45 kW Indoor Motor above 110 kW
	No. of Poles	4 pole (unless specific drive requirement or economics call for other poles).
	Testing	As per approved QAP during engineering stage .
(xx)	Mounting	Normally horizontally foot mounting . Other type of mounting as per specific requirement .



**1.0 TECHNICAL SPECIFICATION OF PANELS****1.0.1 Local Control Station:**

- 41 5V, 3 phase, 4 wire, 50 kA (short time rating for 1 sec.) indoor type.
- Board shall be single front, metal clad, front matched dust and vermin proof, fully compartmentalized and extensible on both sides, IP51 type enclosure.
- Degree of protection for enclosure IP 52 or better for indoor installation, and IP55 for outdoor part.
- Shall have base channel of size ISMC 75.
- Shall have isolated bus-bar chamber for main bus-bar at the top, running throughout the length of the board. Chamber shall have removable cover.
- Cable alley shall have sufficient space for aluminium power cables and bottom cable chamber shall be left free completely isolated from the vertical bus-bars.
- Bus-bars shall have same cross section through-out the length. Rating of the neutral bus-bar shall be 50% of the main bus-bar. Earth bus bar shall run in bottom chamber throughout the length of the panel.

1.0.2 LOCAL CONTROL STATIONS

1.0	Material	Sheet steel (CRCA) 2 mm
2.0	Mounting	Wall / structure mounted.
3.0	Enclosure class	IP-54 (for indoor installation) IP-55 with canopy (for outdoor installation)
4.0	Door opening	Hinged type front door opening.
5.0	Cable gland	Removable undrilled. To be provided on both top and bottom.
6.0	Internal wiring	2.5 mm, single core, stranded, black PVC insulated copper conductor.
7.0	No. of components like ON/OFF PB's , selector switches etc.	As per scheme requirement.
8.0	Contact details of components .	All the components like ON/OFF PB's, selector switches etc. shall have 2NO + 2NC contacts / poles of 10 A rating. 1 NO & 1 NC contact / poles shall be potential free for PLC inputs.
9.0	Stop push button details	Stop push button shall be :- RED in colour. Mushroom headed. Press to lock and turn to release type.
10.0	Start push button details	Start push button shall be GREEN in colour.
		Shrouded type.
11.0	Lamp details (if any)	High density LED type.



12.0	Location of selector switches	Local / Remote selector switches shall be installed in the LCS
13.0	Terminal blocks	<ul style="list-style-type: none">- Shall be able to terminate wires of 2.5 <u>sq.mm</u> size.- Not more than two wires shall be terminated in a single terminal block.- Shall be mounted on D-channels.- 30 % spare terminals shall be provided.- Colour of TBs for different voltages shall be different.- Uniform color-coding to be followed for cabling, TB, etc.
14.0	Miscellaneous	LCS shall act as field junction box also for wiring termination from Limit switches, PCS, BSS and other field devices. Facility for termination of minimum 5 nos. 1 9X2.5 core shall be provided.
15.0	Provision of ammeter.	For motors of more than 45 KW ammeters along with 4 position selector switches shall be provided.
16.0	Earthing	Earthing studs shall be provided on two opposite sides. Internally the earthing studs shall be connected with the body through green colour PVC insulated copper flexible wire.
17.0	Paint	Shade No. 631 of IS: 5 - 1992.

1.0.3 INDICATING INSTRUMENTS:

1.0	Basic details	<ul style="list-style-type: none">- Shall not damage by passage of fault current or existence of over voltage for the maximum permitted duration of fault conditions.- Ammeters for drives above 30 kW shall be CT operated.- Voltmeters protected by fuses placed as close to the busbar as possible.- Maximum reading 600% of IFL for motor feeders .
2.0	Mounting	Flush mounting, square dial with zero adjusting device for external operation .
3.0	Accuracy class	1.5
4.0	Size	<ul style="list-style-type: none">- Size of voltmeter and ammeter for incomer 144 x 144 mm for incoming feeders.- Size of ammeter for motor feeders 96 x 96 mm.

1.0.4 PUSH BUTTONS

1.0	Standard	IEC 60947
2.0	Basic details	<ul style="list-style-type: none">- All push button switches including illuminated push buttons shall be of sturdy design- Un-shrouded actuator for "START" application, Mushroom actuator for "EMERGENCY STOP" application and key "STOP" application for "LOCK-OUT" application shall be provided.- Mushroom actuator for Emergency Stop shall be latched type.





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		<ul style="list-style-type: none"> - Press to latch in operated position and turn-to- release in unactuated position. - Double break parallel contact design or other suitable design feature enhancing contact reliability required in circuits with electronic interfaces involving low voltages and small currents shall be adopted.
3.0	Size	- 22.4 mm diameter
4.0	Contact rating	<ul style="list-style-type: none"> - Minimum 2 NO + 2NC contacts with following current ratings . <ul style="list-style-type: none"> • Continuous - 10 A • AC 11 - 1.5 amps at 240V • DC 11 - 0.5 amps at 110 V DC, L / R 40 ms - All contact faces of contacts shall be of silver or silver alloy. - Facility of adding add on contact blocks to be provided
5.0	Colour	<ul style="list-style-type: none"> • Accept - Blue • Test - Yellow • Reset - Black
6.0	Protection class	<ul style="list-style-type: none"> - IP 66/ 67 - The P.B. switches shall be with higher contact reliability, electronics compatibility .

1.0.5 INDICATING LAMPS

1.0	Standard	IEC 60947
2.0	Type	- LED Cluster type
2.0	Basic details	- Sufficient number of lamp grips shall be provided for easy replacement of lamps.
3.0	Size	- 22.4 mm diameter
4.0	Voltage level	<ul style="list-style-type: none"> - Suitable for any of the following voltages as per the system requirement : <ul style="list-style-type: none"> • 415V AC / 240V AC / 110V AC / 24V DC / 220V DC - All indicating lamps shall be suitable for continuous operation at 90 to 100 percent of their rated voltage.
5.0	Colour	<ul style="list-style-type: none"> - For motor `ON`, valve/damper/gate `OPEN`, supply `ON`, breaker `CLOSE` : Red - For motor `OFF`, valve/damper/gate `CLOSE`, supply `OFF`, breaker `OPEN` : Green - Fault indication, over load, alarm : Amber condition, `SERVICE & TEST POSITION` indication. - General purpose indication, : White motor `AUTO TRIP`. <p>Other colours may be adopted depending upon particular application as approved by the Purchaser.</p>
6.0	Protection class	IP 66/ 67
7.0	Layout of indication lamps on boards /	<ul style="list-style-type: none"> • Indicating lamps shall be located just above the associated push-button / control switches.





	panels	<ul style="list-style-type: none">• Red lamps shall invariably be located to the right of green lamps.• In case a white lamp is also provided, it shall be placed between red and green lamps along the centre line of control switch/ push button pair.• Blue and Amber should normally be located above the Red and Green lamps.• When associated with push buttons, red lamps shall be directly above the green push button and green lamp shall be directly above the red push button.
8.0	Legend plates	Anodised aluminium

1.0.4.10 SELECTOR SWITCHES

1.0	Standard	IEC 60947
2.0	Basic details	<ul style="list-style-type: none">- All control selector switches shall be of sturdy design .- Shall have modular construction with number of switching contacts for each position operated by a single shaft.- Inscription for each position shall be provided.- Stay-put or spring return arrangement shall be provided as per the circuit and control/operational requirement.- The contacts shall be designed for higher contact reliability and electronics compatibility involving low voltage and small value of currents.- The operating handle shall be robust and strong.- One number of potential free switching contact for each position shall be provided as spare.- Control switches for circuit breaker ON/OFF control 3 position spring return to neutral with lost motion device and pistol grip handle.- Other control and selector switches - stay put type with wing type knobs.
3.0	Contacts	<p>2 NO + 2 NC contacts with minimum rating of</p> <ul style="list-style-type: none">- All the selector switches shall be of 10 A rating- 25A for sturdy applications .- 1 NO & 1 NC contact / poles shall be potential free for PLC inputs .



**PREFERRED MAKES LIST
(ELECTRICAL)**

SL. No.	COMPONENT	MAKE
A	MEDIUM VOLTAGE SWITCHGEAR AND CONTROL GEAR	
1	Moulded Case Circuit Breaker (MCCB)	SIEMENS / L&T / ABB / SCHNEIDER / BCH
2	LOCAL CONTROL STATION	SIEMENS/BCH/L&T/CGL/C&S/SEN & SINGH / IND POWER / MK Engineers / TECHNOCRATS / POWER & PROTECTION / COSMIC POWER SYSTEM/ POWER MEDIA/ VIJAY SWITCHGEAR CONTROLS/SCHNEIDER/ SONTOSH ENGG WORKS, VIZAG / PEC ELECTRICALS/R.K. ELECTRIC AUTOMATION / POWER CONTRO
3	MPCB	SIEMENS/ L&T/ABB/SCHNEIDER
B	MOTORS	
1	LT AC Sqcage induction Motor (General purpose)	SIEMENS / CGL / ABB / MARATHON /BB /KIRLOSKAR / LHP (UPTO 75 KW)
C	CONTROL EQUIPMENT	
1	HRC Fuses	SIEMENS / STANDARD (INDO ASIAN) / ABB // ESWARAN
2	AC Power Contactor	SIEMENS / L&T / BCH / ABB / SCHNEIDER
3	Bimetallic Relay	SIEMENS / L&T / BCH / SCHNEIDER / ABB/ C&S
4	Electronic Overload Relay	BCH, SIEMENS/L&T/ ABB/ SCHNEIDER-SAMHWA
5	Single Phase Preventer	L&T/ MINILEC / SIEMENS
6	Semiconductor Fuse	ALSTOM / SIEMENS / FERRAZ / COOPER BUSSMAN /ABB
D	CONTROL DEVICES	
1	Control Switch	SIEMENS / KAYCEE / AREVA / L&T / VAISHNO / C&S
2	Push Button	SIEMENS / BCH / L&T / VAISHNO / C&S / SCHNEIDER / TECHNIC / ESSEN/ SALZER/ GEPOWER
3	Limit Switch	AG SYSTEMS/JAY BALAJI / TECHNOCRATS / ELECTROMAG / JSI/ TECHNIC (SIEMENS / BCH may be considered only for light duty)
4	Change Over Switch/Selector Switch	C&S / STANDARD / HHE /KAYCEE / SIEMENS/ BCH/L&T/ INDOASIAN/ ABB/ GEPOWER
5	Timer/Time Delay Relay	BCH / L&T / SIEMENS / ABB / CGL / GEPOWER
6	Auxiliary Relay/ Control Contactor	SIEMENS / L&T / BCH / C&S / ABB / GE POWER / SCHNEIDER / ROCKWELL / JYOTI
7	Master Controller	SIEMENS / STROMKRAFT / ELECTROMAG AG Magnetics / Perfect Electrics/KAKKU/ SCHNEIDER/ SPEED--OCONTROL
8	Control Transformer	Sudheer Transformer / SIEMENS / AEP / INDUSREE / KAPPA / ANU ELECTRICALS
9	Indicating Lamp (Cluster LED type)	SIEMENS / VAISHNO / TECHNIK / BINAY/ JAUER/ BCH/ESSEN/ L&T

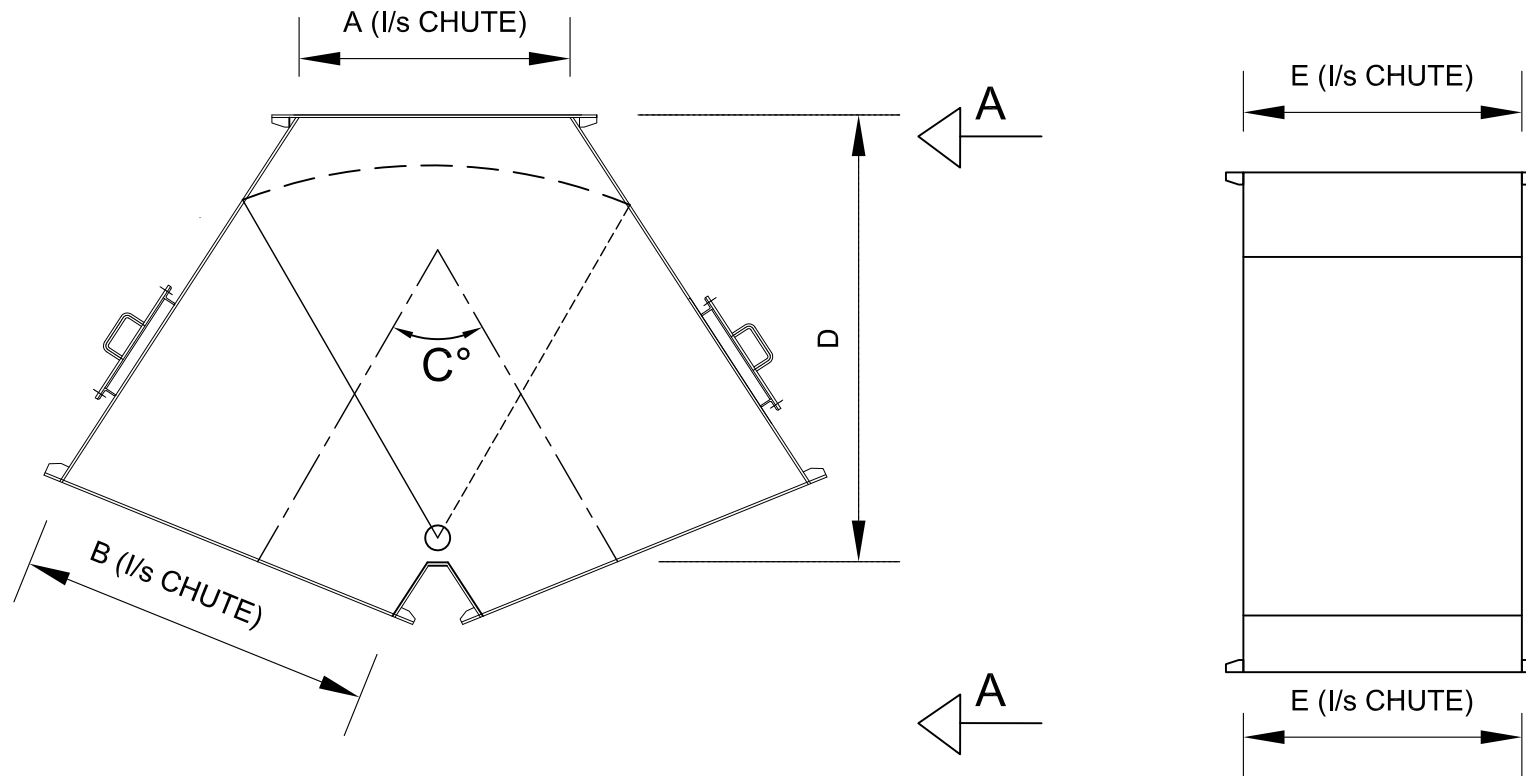
Note:

1. Makes of all the required items have been provided in the above preferred makes list. However, if make of any item is found to be missing from the above list the same shall be provided by Purchaser at later stage.
2. Any change/addition/deletion in the above makes list shall be done with the approval of Purchaser



ANNEXURE-2

TENDER DRAWINGS



VIEW A-A

FLAP GATE	A	B	C	D	E
FG-1	1000	1000	70°	1100	1000
FG-2	1000	1000	70°	1100	1000

SKETCH FOR FLAP GATE