

CEMENT CORPORATION OF INDIA LIMITED



(A Govt. of India Enterprise)
An ISO 9001:2008 Certified Company
CIN - U74899DL1965GOI004322
Bokajan Cement Factory - 782 490
Dist. Karbi Anglong: Assam



Phone 03675 - 246106/246109, Fax No. 03675-246107

E-mail ID: ccibcfmech1@gmail.com & bokajacement@gmail.com

NIT No.: BKO/MECH/KILN/PH FAN/23-24

Dated: 09.01.2024

NOTICE INVITING E-TENDER (NIT)

(Only through e-procurement)

Online electronic bids through Electronic Tendering Systems (ETS) are invited from experienced contractor for "Design/Engg/Manufacturing & Supply of New Energy Efficient Pre-Heater Fan Assembly on New Foundation at Bokajan Cement Factory". The complete set of tender documents is available on websites www.cciltld.in, etenders.gov.in, eprocure/app (CPP Portal)

E-TENDER No.	BKO/MECH/KILN/PH FAN/23-24
MODE OF TENDER	E-procurement System Online Part-I Techno-Commercial Bid and Part-II Price Bid through etenders.gov.in/eprocure/app , (CPP Portal)
Date of NIT available to parties to download	From 09.01.2024 Till 06.02.2024 (14.30 hrs.)
Earnest money deposit	Rs 56,000 /- to be paid through online mode through NEFT/RTGS in below given account details: Name of Beneficiary: Cement Corporation Of India Ltd. Account No.: 33067285257 Bank: State Bank Of India Branch: Bokajan IFSC Code: SBIN02028 SSI units registered with NSIC, MSME and Public Sector Undertakings are exempted from furnishing EMD only.
Date of starting of e-tender for submission of online EMD, TechnoCommercial Bid and Price Bid at etenders.gov.in/eprocure/app.	From: 09.01.2024 Till: 06.02.2024 (15.00 hrs.)
Pre-Bid Meeting	On 16.01.2024 from 15:00 Hrs. Interested parties are requested to send request mail for participation in Pre-Bid meeting to ccibcfmech1@gmail.com .

	Link of video conference will be sent to interested participant accordingly before conducting Pre-Bid meeting those are unable to join pre-bid meeting at plant.
Date & time of opening of Part-A (i.e. Techno-Commercial Bid)	Date : 07.02.2024 Time: 15:05 Hrs
Date of opening of Part- B i.e. price bid shall be informed separately	To be informed separately
Validity of offer	120 days from the date of the techno- commercial bid opening.

Offer is invited as per details given below: -

NIT No.	Name of the work	Activity
BKO/MECH/KILN/PH FAN/23-24	Tender For “Design/Engg/Manufacturing & Supply of New Energy Efficient Pre-Heater Fan Assembly on New Foundation at Bokajan Cement Factory”	As per Part-IV

- 1) Only those tenders will be considered who fulfill the terms & conditions mentioned in the tender documents.
- 2) Only those tenders shall be considered who deposit the earnest money, tender cost and transaction fee by due date.
- 3) The price- bid should be only as per CCI’s price - bid format otherwise the tender is liable for rejection.

Note-

1. Tenderer must visit CCI website www.ccilttd.in for part-I & II and submit the same along with the Annexure-9, part -1 & II and their annexure are part of this tender, tenderer must sign and upload online along with techno-commercial bid of the tender. Part-I & II is available in English as well in Hindi in website for better understanding, however, in case of any contradiction in Hindi & English version, English version shall prevail.

HOD (MECH)

LIST OF ANNEXURES

	Part-I - Instruction to Tenderers
	Part-II General Terms & Conditions
Annexure-1	Covering Letter
Annexure-2	Integrity Pact
Annexure-3	Declaration that the officer of the Corporation are related to us/me
Annexure-4	Unexecuted/ Present Contracts/Jobs in hand
Annexure-5	Additional Information
Annexure-6	Details of Plant and Machinery Installed
Annexure-7	Details of Testing Facility Installed
Annexure-8	Details of orders executed including CCI during last Three Years
Annexure-9	Declaration Letter
Annexure-10	Part-III – Special Terms and Conditions
Annexue-11	Part-IV – Technical Specification
Annexure-11.I	Technical manufacturing Specifications/Requirements of New Fan Assembly
Annexure-11.II	Operating Parameters Required for Design of New Fan Assembly
Annexure-11.III	Energy Audit Report 1 of Fan Performance
Annexure-11.IV	Energy Audit Report 2 of Fan Performance
Annexure-11.V	Indicative Plot Layout of New Fan Assembly
Annexure-11.VI	PG Test Criteria
Annexure-12	Price Bid Proforma (Price schedule)

Note: - Part-I - Instruction to tenderers, Part-II General terms & conditions, all formats and submit the same along with Annexure-9 which is available in CCI web site www.ccilttd.in must be submitted by tenderer duly filled & signed.

Important instructions for E-Procurement

This is an E-Procurement event of CEMENT CORPORATION OF INDIA. The e-procurement service provider is NIC-Central Public Procurement Portal, New Delhi-110003.

You are requested to read the terms & conditions of this tender before submitting your online tender. Tenderers who do not comply with the conditions with documentary proof (wherever required) will not qualify in the Tender for opening of price bid.

1	<p>Process of E-tender :</p> <p>Registration:</p> <p>The process involves vendor's registration with tender wizard e-procurement portal. Only after registration, the vendor(s) can submit his/their bids electronically. Electronic Bidding for submission of Techno-Commercial Bid as well as Price Bid over the internet will be done. The Vendor should possess Class III signing type digital certificate. Vendors are to make their own arrangement for bidding from a P.C. connected with Internet. NIC-CPPP is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).</p> <p>SPECIAL NOTE: THE PRICE BID AND THE COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE AT etenders.gov.in/eprocure/app</p> <p>1).Vendors are required to register themselves online with etenders.gov.in/eprocure/app Register as Vendor Filling up details and creating own user id and password→ Submit.</p> <p>2).Vendors will receive a system generated mail confirming their registration in their email which has been provided during filling the registration form.</p> <p>In case of any clarification, please contact CCI/NIC-CPPP portal.</p> <p>Contact person (Cement Corporation of India):</p> <ol style="list-style-type: none">1. Mechanical Department CCI, Bokajan Cement Factory, Bokajan, Dist: KarbiAnglong Assam-782490 Contact No.: 03675-246109, + M: 9993586760 - HOD (Mech.) M: 6001097702 - Coordinator E-mail : ccibcfmech01@gmail.com2. HOD (MM) CCI, Bokajan Cement Factory, Bokajan, Dist: KarbiAnglong Assam-782490, M: 8897856954- HOD (MM) E-mail : bokajanmm01@gmail.com
---	---

	<p>(A) Help Desk (NIC-CPPP):</p> <p>(E-commerce):</p> <p>☎ 8077213001</p> <p>(B) System Requirement:</p> <p>Windows 8, 10 Professional Operating System, Internet Browser-9, 10 &11 Signing type Class 3 digital signature Java JRE 6 and above.</p> <p>THE VENDORS ARE ADVISED TO GO THROUGH THE <u>Help Manual</u> LINK AT etenders.gov.in/eprocure/app FOR GENERAL GUIDANCE ABOUT TENDER PROCESS.</p>
	<p>(A) Part I Techno-Commercial bid will be opened electronically on specified date and time as given in the NIT. Bidder(s) can witness electronic opening of bid.</p> <p>(B) Part II Price bid will be opened electronically of only those bidder(s) whose Part I Techno-Commercial Bid is found to be Techno-Commercially acceptable by CCI. Such bidder(s) will be intimated date of opening of Part II Price bid, through valid email confirmed by them.</p> <p><u>Note:</u></p> <p>The tenderers are advised to offer their best possible rates. There would generally be no negotiations hence please submit your most competitive prices while submitting the price bid. However, in case the lowest rate appears to be reasonable taking into account the prevailing market conditions, the order may be awarded to the lowest bidder and if the rate is still considered high, action as per prevailing instruction/guideline shall be taken.</p>
3	All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.
4	<p>In case of failure to access the payment towards cost of tender document & EMD for any reason, the vender, in term, will not have the access to on line e-tender and no correspondence in this respect will be entertained and CCI will not be responsible for any such lapses on this account. Bidder(s) are advised to make remittance of tender fee and EMD through Online well in advance and verify completion of transaction in respect of tender fee and EMD.</p> <p>Vendors are instructed to upload documents in document library. Multiple documents can be uploaded. Maximum size of single document for upload is 5 MB.</p> <p>Once documents are uploaded in the library, vendors can attach documents through <i>Attach Document</i> link against the particular tender. For further assistance please follow instructions of Vendor Help Manual.</p>
	All notices and correspondence to the bidder(s) shall be sent by email only during the process till finalization of tender by CCI. Hence the bidders are required to ensure

5	that their corporate email I.D. provided is valid and updated at the stage of registration of vendor with Tender wizard (i.e. Service Provider). Bidders are also requested to ensure validity of their DSC (Digital Signature Certificate).
6	The responsibility of downloading the related corrigenda, if any, will be that of the responsibilities of the parties.
7	E-tender cannot be accessed after the due date and time mentioned in NIT.
8	<p>Bidding in e-tender & Reverse auction:</p> <p>(a). Bidder(s) need to submit necessary EMD and Tender fees (If ANY) to be eligible to bid online in the e-tender. Tender fees are non-refundable. No interest will be paid on EMD. EMD of the unsuccessful bidder(s) will be refunded by CCI.</p> <p>(b). The process involves Electronic Bidding for submission of Techno Commercial Bid as well as Price Bid is explained in Help Manual.</p> <p>a. In all cases, bidder should use their own ID and Password along with Digital Signature at the time of submission of their bid.</p> <p>b. During the entire e-tender process, the bidders will remain completely anonymous to one another and also to everybody else.</p> <p>(c). The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.</p> <p>(d). All electronic bids submitted during the e-tender process shall be legally binding on the bidder. Any bid will be considered as the valid bid offered by that bidder and acceptance of the same by the Buyer will form a binding contract between Buyer and the Bidder for execution of supply. Such successful tenderer shall be called hereafter SUPPLIER.</p> <p>(e). It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system. Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.</p> <p>(f). No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms & conditions for the tender.</p> <p>(g). Unit of Measure (UOM) is indicated in the e-tender Floor. Rate to be quoted should be in Indian Rupee as per UOM indicated in the e-tender floor/tender document.</p>
09	Any order resulting from this open e-tender shall be governed by the terms and conditions mentioned therein.
10	No deviation to the technical and commercial terms & conditions are allowed.
11	After submitting online bid, the bidder cannot access the tender, once it has been submitted with digital signature.

12	CCI has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.
13	The online tender should be submitted strictly as per the terms and conditions and procedures laid down in the website etenders.gov.in/eprocure/app of NIC-CPPP.
14	The bidders must upload all the documents required as per terms of NIT. Any other document uploaded which is not required as per the terms of the NIT shall not be considered.
15	The bid will be evaluated based on the filled-in technical & commercial formats.
16	The documents uploaded by bidder(s) will be scrutinized. In case any of the information furnished by the bidder is found to be false during scrutiny, EMD of defaulting bidder(s) will be forfeited. Punitive action including suspension and banning of business can also be taken against defaulting bidders.
17	Bidders are requested to read the vendor Help Manual in the home page etenders.gov.in/eprocure/app to familiarize themselves with the system before bidding.

CEMENT CORPORATION OF INDIA LIMITED

Bokajan Cement Factory, Assam-782490

NIT NO. BKO/MECH/KILN/PH FAN/23-24

PART-III: SPECIAL TERMS AND CONDITIONS/SCOPE OF SUPPLY (WORKS)

TENDER FOR DESIGN/ENGG/MANUFACTURING & SUPPLY OF NEW ENERGY EFFICIENT PREHEATER FAN ASSLY ON NEW FOUNDATION

In addition to the general terms and conditions of the tender Part-I & II, the following special terms and Conditions will also apply to the contract for the supply of above category of material. The special terms & Conditions of given in Part –I & II shall prevail upon the conditions given therein:-

1 SCOPE OF SUPPLY AND TECHNICAL SPECIFICATIONS

- a. The party has to "Design/Engg/Manufacturing & Supply of New **Energy Efficient Fan** (complete assembly) for Kiln Preheater Cyclone with design capacity of gas flow handling from system of 1,05,000 Am³/hr& it's total efficiency should be not less than 85% according to the other operating parameters as mentioned in attached ANNEXURE-1. The New Fan assly (Centrifugal Type) should include following in the scope of supply:

- | | |
|---|------------|
| 1. Impeller with Hub (duly statically/dynamically balanced: ISO 1940-1 Gr-2.5 | : 1 Set |
| Fan Model & Make: KBA 090-180010-251 (SISW) / KBA 080-170015-191 (SISW)-Reitz or Equivalent | |
| 2. Casing with Inlet Cone | : 1 Set |
| 3. Inlet Box | : 1 No |
| 4. Flexible Coupling with Guard | : 1 No |
| 5. Bearing with Bearing Housing (for both DE & NDE) | : 1 Set |
| 6. Support Frame for Bearing/Housing | : 2 No |
| 7. Support Frame for Motor | : 1 Set |
| 8. Gland Type Shaft Seal with Packing | : 2 No |
| 9. Multi Louvre Inlet Damper (MLID) | : 1 No |
| 10. Actuator for MLID | : 1 No |
| 11. Non-Metallic Expansion joints at Fan Inlet & Outlet | : 1 Set |
| 12. Vibration Sensors (02 No for each Bearing/Housing) | : 1 Set |
| 13. RTD (02 No for Each Bearing Monitoring) | : 1 Set |
| 14. Necessary Fasteners & Gaskets/Packings | : 1 lot |
| 15. Protection Guards | : 1 Set |
| 16. Foundation Bolts for RCC Foundation for Base Frame | : 1 lot |
| 17. Finished Paintings | : complete |

The drive motor is in CCI Scope.

The Party has to design the complete Fan assly of flow capacity of **1,05,000 m³/hr** (total efficiency not less than 85%) with associated operating parameters mentioned below:

- | | |
|--|---------------------------|
| 1. Static Pressure | : 400 MMWG |
| 2. Total Pressure | : 413 MMWG |
| 3. Temperature | : 350 deg C |
| 4. Density | : 0.698 kg/m ³ |
| 5. Dust Content | : 100 gm/m ³ |
| 6. Fan Speed | : 1500 rpm |
| 7. Max Recommended Capacity of Motor** | : 185 kW @1500 rpm |
| 8. Fan Shaft Power (without/with dust) | : 135/154 kW |
| 9. Static Efficiency (without/with dust) | : 84.7/74.3% |
| 10. Total Efficiency (without/with dust) | : 87.5/76.7% |
| 11. GD2 of Fan Rotating Parts | : 3042 kg-m ² |
| 12. Total Load Torque | : 151 kg-m |
| 13. Starting Torque | : 19 kg-m |

- b. ****The motor to drive the fan is in CCI scope & based on the energy audit, the indicative motor rating is available with following motor electrical details:**

Type : 3 phase AC slip ring Induction Motor
Motor Rating : 185 kW @ 1500 rpm (Rotor Voltage: 493 -553 V ; Rotor Amps : 220-240)
Voltage : 415V± 10% ; 50 Hz ± 5%
Current : 310-325 Amps.
Efficiency : 93-94 % or above

However party may submit the requirement of comparatively low motor rating for their new energy efficient fan @ flow rate of 1,05,000 m³/hr. CCI will further procure the newly low rated motor according to the technical specifications submitted by party. The motor design should have latest state of art of technology with energy saving type. CCI will share the GA drawing of indicative motor (185 kW@ 1500 rpm) for design of base frame & assembly with new fan assly.

The party has to maintain the other standards of construction/manufacturing of fan parts as specification & design criteria detailed in the ANNEXURE-1.

- c. Party may visit site for cross verification of operating parameters to make sure the flow handling.
- d. Party has to refer the attached layout (indicative for reference) for designing the new RCC foundation with respect to the inlet & outlet duct connections to the new fan.
- e. Party after checking complete set up of Bokajan Cement Factory, has to submit overall GA drawing with incorporation of the connections to new fan assly for civil as well mechanical execution.
- f. CCI will engage third party to execute the complete civil constructions of fan foundation (excavation, PCC & RCC) based on the design/drawing submitted by party. Party may check the construction and revert if any correction required before final casting of foundation.
- g. CCI will engage third party to execute the complete Mechanical Fabrication & Erection of Fan assly& associated ducts connection based on the erection GA design/drawing submitted by party. Party after final design has to submit the modified ducts connections at inlet & outlet for site fabrication.
- h. Party has to supervise all the complete installation for their concurrence.
- i. Party has to separately submit offer of supervision during total installation & commissioning.
- j. CCI will hire party engineer for supervision for installation & commissioning.
- k. CCI will procure/arrange the other items as shown in layout drawing:
 - Drive Motor as already & separately mentioned
 - Isolation Dampers at Fan inlet coming from Cyclone exit & outlet connecting with existing GCT
 - Feeder & Cables for Motor connections etc
 - Any other associated & related items other than scope of supply of party

2 GENERAL SCOPE OF WORK

1. The new energy efficient fan should match the overall dimensions of fan basement (new civil foundation) given in the drawing and Fan Assly should match with existing inlet (down comer duct) & outlet duct (GCT).
2. The party shall submit the offer for new energy efficient Fan Assly for process operating parameters shown in ANNEXURE-3 for 105000 m³/hr flow handling.
3. The party should carry out dynamic balancing. The test run should be done in the presence of CCI Engineer or its representative at party's works as per the standard procedure.
4. The supplied fans should be guaranteed for a minimum period of 12 months from the date of installation or 18 months from the date of supply whichever is earlier.
5. The party shall send their engineer for supervision of erection, trial and commissioning of the New PH Fan Assly on New Foundation at our site. The fans have to run trouble free for a period of 15 days with load for performance evaluation. The trial run shall be uninterrupted at least for 5 hours in a day.

The overall objective of this tender is that party has to design/engg & supply an energy efficient fan for new foundation for handling of dust laden hot gases from preheater at 350°C operating & 400°C max (during stabilization of kiln) having flow capacity of 1,05,000 m3/hr at 400 MMWG static pressure.

The terms "fan" means a complete assembly of fan as mentioned in ANNEXURE-1.

The successful party has to design & develop the drawing for the complete installation with existing system i.e.

- Final Location/Orientation of Fan assly (indicative GA sketch attached)
- RCC/Civil Design of Fan Foundation with complete Drive
- Fan Inlet & Outlet Duct Connections to Existing Downcomer Duct & GCT inlet respectively
- Cable Routing for Motor (Motor is in CCI Scope)

The detailed of work & technical specification is given in part-IV of the tender documents.

3 ELIGIBILITY CRITERIA

- i. The party has to quote for Design/Engg/Manufacturing & Supply of 01 No New Energy Efficient PH Fan Assly (Scope of Fan Assly detailed in Annexure-1).
- ii. Average annual financial turn over during last three years ending 31st March of previous financial year should be Rs. 09 lakhs.
- iii. Party should have experience of successfully completed similar works last five years ending last day of month previous to the one in which applications are invited should be either of the following:
 - a. Three similar completed works costing not less than Rs. 09 lakhs or
 - b. Two similar completed works costing not less than Rs. 18 lakhs. or
 - c. One similar completed work costing not less than Rs. 27 lakhs
- iv. The party should have supplied process fans for such application in cement plants within or outside India in last 10 years and the same is operational till date for at least last one year.
- v. Party should submit the credentials like PO/WO copies of Design, Manufacturing, & Supply of similar or higher capacities process fans executed in the cement plant or similar process industries.
- vi. There will be preferences given to the parties from OEM of Reitz, Flaktwoods, Batliboi etc or authorized distributors/partners of above OEM having equivalent Fan Model of KBA 090-180010-251 (SISW) or KBA 080-170015-191 (SISW).

4 OTHER TERMS & CONDITIONS

- i. Party shall submit details of infrastructural facility, machinery, testing facility etc available with them or at their authorized workshop. In case these are to be manufactured at their authorized workshop, they shall submit the following testimonials:
 - a. The consent letter from the authorized workshop confirming to be the party's authorized workshop for manufacturing of such items.
 - b. The authorized workshop should have manufactured process fans in the past. Documentary evidence shall be submitted to that effect.
- ii. The bidder should provide two copies of operation and maintenance manual with details of parts list, standard drawings, dismantling, assembly, trouble shooting, and recommended spares required for 2 years etc.
- iii. The party has to submit dimensional inspection report, Ultrasonic test report, MTC for impeller, shaft and casing & Liquid /Dye penetration test for impellers.

5 PRE BID MEETING

- i. Pre bid meeting will be conducted with prior intimation, after site visit of the parties.
- ii. The parties can discuss in pre bid meeting about their present offer and alternative offer of new improved preheater fan with their advantages and disadvantages, performance of new version, cost effectiveness, savings in power, maintenance cost etc.

5.1 INSTRUCTIONS FOR PRE- BID MEETING

- i. The prospective parties shall go through the terms and conditions of the tender documents after down loading from the web sites, prepare the list of clarifications/suggested modification, if any. They may also visit the site as per the scheduled date prior to pre-bid meeting, with intimation to the concerned officials.
- ii. The parties may attend the pre bid meeting as per the scheduled date along with their queries/suggestions for modification, if any against the terms & conditions of the tender. Vendors can also upload/seek clarification through e-mail or letter from tendering authority before the last date fixed for raising queries.
- iii. The prospective parties shall have to visit the site & attend the pre- bid meeting at their own risk and cost. However, the lodging at CCI Guest House can be arranged on payment basis subject to availability of room.
- iv. No queries, clarification or observation shall be entertained, in case they fail to forward the same well in advance so as to reach us prior to the scheduled date or they fail to attend the Pre-bid meeting.
- v. Modifications, if any carried/considered in the tender terms shall be shared with all the vendors who have attended the pre-bid meeting and also shall be uploaded as a corrigendum against the tender, on CCI website and other website where original NIT has been uploaded.
- vi. The pre-bid meeting shall be open meeting and one time only. It will be held as scheduled in the NIT above. However, in extreme urgency cases, in case there is any change in date of meeting, the same shall be posted on CCI website giving one week time.
- vii. In case the parties fail to attend the meeting on the scheduled date, the request for rescheduling the date and reorganizing the meeting shall not be entertained.
- viii. After pre-bid meeting, any query/clarification and other commercial deviations shall not be entertained.
- ix. The parties who fail to attend the pre-bid meeting can also participate in the tender. The tender terms shall be applicable to all parties in uniform irrespective of attending the pre-bid meeting.

6 SEQUENCE OF ACTIVITIES

- i. Successful party has to accept the order and sign the agreement within a week's time.
- ii. Submission of overall GA drawing within 45 days covering complete installation with existing system for detail planning of Civil , Mechanical E&I works by CCI according to design drawings of party.
- iii. Submission of Civil Foundation (RCC) drawing with bill of materials.
- iv. Supply of Complete Fan Assly at Site for Final Installation under the supervision of the party.
- v. Hooking up with existing system & Trial Run & Performance Guarantee (PG) Test.

7 PRICES

- i. The Bank Guarantees as mentioned under different columns (EMD, Security Deposit, advance & Performance guarantee etc.) are to be submitted as per CCI formats from any Nationalized Banks only of equal amount as per validity indicated in the relevant clause with claim period of further three months.
- ii. Prices are to be quoted on firm and FOR destination basis inclusive of packing /forwarding Charges, insurance, freight & Entry Tax etc. excluding GST Showing break up as per price Bid format only. However, GST will be payable as per actual as applicable at the time of dispatch on submission of documentary evidence or as quoted by the party whichever is lower. NO escalations during the period of contract / execution of the entire contract/extended period on whatever reasons thereof will be allowed in prices.
- iii. The price should be quoted strictly in our prescribed Price Bid Performa only enclosed with the tender, both in figures and in words to avoid ambiguities. In case of any difference in figures & words, the lower amount of the two will be taken into consideration.

Award of contract will be solely at the discretion of CCI.

8 DELIVERY SCHEDULE

- i. The complete job in the scope of supply specified above should be completed within 06 months from the date of award of LOI. The date of award of the LOI shall be considered zero date for all purposes.
- ii. Decision of CCI in respect of all the technical specifications, design, drawings, diagrams, schemes and selection of vendors will be final and binding with the successful party.

9 PAYMENT TERMS

- i. **5% of contract price** within 45 days of submission of Design/Drawing of fan once being found OK & verified by CCI official.
- ii. **60% of contract price** against complete material supply according to the delivery terms & further acceptance by CCI official after complete verification of bill of materials as per Fan GA .
- iii. **25% of the contract price** against satisfactory installation & commissioning of Fan Assly at Site according to the technical specifications & supervision of party design/drawing.
- iv. On successful completion of erection, commissioning & satisfactory completion of P.G. Test, **10%** (Ten Percent) of the total contract prices (excluding taxes, duties & freight), will be released after deduction of LD O other recoveries, if any.
- v. All payment will be released through e-transaction mode within 30 days after receipt of materials duly certified after inspection by CCI. Payments will only be released after submission Security Deposit towards contract vide clause No.6.0 of Part-III Special terms & conditions.
- vi. The GST amount in the invoices will be reimbursed after the submission of Proof of Payment to Govt A/c by the contractor and filing of (GSTR 1 & 3B) Return and the invoice will be uploaded in their portal and depiction of tax amount in 2A of our GST portal.

10 MODE OF PAYMENT

- i. Payment through RTGS/NEFT/E-Transactions on receipt and material/ equipment at CCI site or approval of running bills in case of erection and commissioning charges, within 30days.
- ii. Approval of billing schedule submitted by the successful tenderer one week before the dispatch of the consignment by the tenderer.

Following documents have to be submitted by the successful tenderer along with bill, wherever applicable.

- Three copies of invoice along with document such as excise gate pass, packing list, consignment note (consignee copy) as per approved schedule by CCI and dispatch documents certified by CCI conforming to the approved schedule/ work certified by CCI in case of erection and commissioning charges.
- Copy of insurance policy, clearly indicating the part consignment by under writer, inspection report by CCI certifying acceptance of consignment and value conforming to the schedule of material already certified by CCI.
- Any other documents as required by CCI finance dept.

11 LD/ PENALTY

- i. Any delay beyond the scheduled completion period of the project will attract penalty @ 0.5% delay per fortnight of the total contract value subject to the maximum ceiling of 5% of the total contract value.
- ii. The date of supply on the basis of certificate given by CCI will be treated as the date of completion for the purpose of calculating penalty. However, Performance Guarantee Test shall be carried out as per ANNEXURE-6 within a period of 15 days from the date of successful installation.

12 SECURITY DEPOSIT

- i. The successful party shall have to furnish security Deposit equivalent to 5% (five percent) of the total value of the contract by the way of Demand Draft / Bank Guarantee (in CCI format to be provided by CCI) in lieu of clause 2.0 of PART –II of the tender towards satisfactory performance of the contract within 15days from the date of award of the work order.
- ii. This security Deposit shall be refunded within 6 months from the date of satisfactory completion of the PG Test and on basis of certificates given by CCI.

13 PAYING AUTHORITY

H.O.D. (FINANCE) – CCI Bokajan.

14 INSPECTION

- i. Pre-dispatch inspection shall be done at the party's works or at the works of party's vendors. The party shall give an advance notice of minimum seven days for enabling CCI to depute the inspector. Material will be dispatched after pre-dispatch clearance certificate given by CCI's inspector.
- ii. The equipments shall also be inspected at works of purchaser's plant site by the CCI engineer also.
- iii. Inspection shall, in no way, absolve the responsibility of the supplier for workmanship, quality and performance guarantee offered by them.

15 PERFORMANCE GUARANTEE TESTS

Deductions shall be made for the shortfall of performance as per the details given in the ANNEXURE-6 'Performance Guarantee Tests Criteria.

16 WARRANTY

- i. The party shall guarantee that all the equipments supplied by them whether manufactured at their works or fabricated at our site or by their sub-suppliers or purchased from any other source and supplied to the Corporation shall be new and free from all defects and shall be of world class workmanship and quality.
- ii. The party shall warranty to replace, rectify or repair free of cost at our factory site, the components or the parts of the machinery, including the bought outs which have become unserviceable due to any of the defects within a period of **12 (twelve) months** from the date of successful commissioning of the plant or **18 (eighteen) months** from the date of completion of the delivery whichever is earlier. If the tenderer is not complying with the above within a reasonable time, the Corporation shall have the option to rectify, repair or replace the defective parts /machinery after expiry of two weeks' notice and at the risk and cost of the tenderer.

17 TRANSPORTATION, INSURANCE AND HANDLING AT SITE

The freight and insurance charges will be borne by the successful tenderer. All loading, unloading, transportation and storage at site will be done by the successful tenderer. Suitable covered space shall be provided by CCI for critical and other sensitive components free of charges. Erection cum storage insurance shall also be included in the successful tenderer's scope.

18 TECHNICAL INFORMATION/DATA

CCI appointed external expert agencies for the audit of process fans of Bokajan Cement Factory to know the energy saving potentials. After recommendation of the final reports, CCI has floated tender to design/engg/supply of energy efficient fan of capacity 105000 m3/hr with mentioned operating conditions for saving of motor power as well improvement in dust laden hot gas handling to maintain sufficient drafts at & across Kiln inlet & PH Cyclones. The existing fan operating parameters from audit report is attached (ANNEXURE-3 & 4) for the technical references to the parties who are in field of designing process fans (energy efficient type having total efficiency not less than 85%) for cement plants operating more than 1000 tpd clinker production.

HOD (Mechanical)

CEMENT CORPORATION OF INDIA LIMITED

Bokajan Cement Factory, Assam-782490

NIT NO. BKJ/MECH/KILN/PH FAN/23-24

PART –IV :TECHNICAL SPECIFICATIONS & INFORMATION

TENDER FOR DESIGN/ENGG/MANUFACTURING & SUPPLY OF NEW ENERGY EFFICIENT PREHEATER FAN ASSLY ON NEW FOUNDATION

BRIEF DESCRIPTION OF PLANT

Cement Corporation of India (CCI) is a wholly owned Government of India Profit making Company. At present it has three operating units at Tandur (Telangana), Rajban (Himachal Pradesh) and Bokajan (Assam). Bokajan Cement Factory (BCF) has a capacity of 1.98 lakh MT of cement production per annum and is one amongst the three operating units of CCI (A Govt of India Enterprise). Bokajan Cement Factory is located at Bokajan, 2 KM from Bokajan Railway Station, 15 Km away from Dimapur Town and about 250 Km away from Guwahati (Assam). Bokajan is well connected by Bus & Train route (on Guwahati- Dibrugarh Rail Line).

1.0 PRESENT SYSTEM

Plant Capacity of Clinker Production: 02 No Kiln identical & separately installed @ 300 tpd each

There are 02 No identical Rotary Kilns with individual PH Cyclones & Fan, Clinker Cooler, Coal Grinding & Firing System. The plant had been supplied & commissioned by ACC-SHE in April 1976 on manual operation basis.

OVERALL ENERGY SAVING INITIATIVES TO IMPROVE PLANT PERFORMANCE

CCI has hired external expert agencies for the audit of process fans of Bokajan Cement Factory to know the energy saving potentials. After recommendation based on final energy reports, CCI has floated tender to design/engg & supply of energy efficient fan of capacity 105000 m³/hr with mentioned operating conditions for saving of drive motor power as well improvement in dust laden hot gas handling to maintain sufficient drafts at & across Kiln inlet & throughout PH Cyclones. As the efficiency of existing fan is very poor & it is of first generation type process fan, new fans are performing better due to latest design and efficiency is very high & the drive motor rating is also low. The existing fan's operating parameters from audit report is **attached** for the technical references to the parties who are in field of designing process fans for cement plants operating more than 1000 tpd clinker production.

The specifications of existing Preheater (PH) Fan No-1 as original:

- | | |
|--------------------------|--|
| 1. Capacity | : 1150 m ³ /min (69000 m ³ /hr) |
| 2. Operating Temp | : 350 °C |
| 3. Pressure | : 350 MMWG |
| 4. Motor Rating/rpm | : 250 hp/185 kW/1500 rpm ; 415V- Slip Ring Type-Kilrloskar Make (1976) |
| 5. Complete Plant Supply | : ACC-SHE (Shahabad Heavy Engg) |
| 6. Plant Commissioned | : April 1976 |

2.0 SCOPE OF WORK AND SUPPLY

- a. The party has to "Design/Engg/Manufacturing & Supply of New Energy Efficient Fan (complete assembly) for Kiln Preheater Cyclone with design capacity of gas flow handling from system of 1,05,000 Am³/hr& it's total efficiency should be not less than 85% according to the other operating parameters as mentioned in attached ANNEXURE-1. The New Fan assly (Centrifugal Type) should include following in the scope of supply:
1. Impeller with Hub (duly statically/dynamically balanced: ISO 1940-1 Gr-2.5 : 1 Set
Fan Model & Make: KBA 090-180010-251 (SISW) / KBA 080-17001-191 (SISW)-Reitz or Equivalent
 2. Casing with Inlet Cone : 1 Set
 3. Inlet Box : 1 No
 4. Flexible Coupling with Guard : 1 No
 5. Bearing with Bearing Housing (for both DE & NDE) : 1 Set
 6. Support Frame for Bearing/Housing : 2 No
 7. Support Frame for Motor : 1 Set
 8. Gland Type Shaft Seal with Packing : 2 No
 9. Multi Louvre Inlet Damper (MLID) : 1 No
 10. Actuator for MLID : 1 No
 11. Non-Metallic Expansion joints at Fan Inlet & Outlet : 1 Set
 12. Vibration Sensors (02 No for each Bearing/Housing) : 1 Set
 13. RTD (02 No for Each Bearing Monitoring) : 1 Set
 14. Necessary Fasteners & Gaskets/Packings : 1 lot
 15. Protection Guards : 1 Set
 16. Foundation Bolts for RCC Foundation for Base Frame : 1 lot
 17. Finished Paintings : complete

The drive motor is in CCI Scope.

The Party has to design the complete Fan assly of flow capacity of 1,05,000 m³/hr (total efficiency not less than 85%) with associated operating parameters mentioned below (based on recommendation from energy report further offer submitted by reputed fan manufacturer) :

1. Static Pressure : 400 MMWG
2. Total Pressure : 413 MMWG
3. Temperature : 350 deg C
4. Density : 0.698 kg/m³
5. Dust Content : 100 gm/m³
6. Fan Speed : 1500 rpm
7. Max Recommended Capacity of Motor** : 185 kW @1500 rpm
8. Fan Shaft Power (without/with dust) : 135/154 kW
9. Static Efficiency (without/with dust) : 84.7/74.3%
10. Total Efficiency (without/with dust) : 87.5/76.7%
11. GD2 of Fan Rotating Parts : 3042 kg-m²
12. Total Load Torque : 151 kg-m
13. Starting Torque : 19 kg-m

- b. **The motor to drive the fan is in CCI scope & based on the energy audit, the indicative motor rating is available with following motor electrical details:

Type : 3 phase AC slip ring Induction Motor
Motor Rating : 185 kW @ 1500 rpm (Rotor Voltage: 493 -553 V ; Rotor Amps : 220-240)
Voltage : 415V± 10% ; 50 Hz ± 5%
Current : 310-325 Amps.
Efficiency : 93-94 % or above

However party may submit the requirement of comparatively low motor rating for their new energy efficient fan @ flow rate of 1,05,000 m³/hr. CCI will further procure the newly low rated motor according to the

technical specifications submitted by party. The motor design should have latest state of art of technology with energy saving type. CCI will share the GA drawing of indicative motor (185 kW@ 1500 rpm) for design of base frame & assembly with new fan assly. **Party has to make sure that the design of new fan assly should not have new motor rating above 185 kW/1500 rpm.**

The party has to maintain the other standards of construction/manufacturing of fan parts as specification & design criteria detailed in the annexure-1.

- c. Party has to visit site for cross verification of operating parameters to make sure the flow handling.
- d. Party has to refer the attached layout (indicative for reference) for designing the new RCC foundation with respect to the inlet & outlet duct connections to the new fan.
- e. Party after checking complete set up of Bokajan Cement Factory, has to submit overall GA drawing with incorporation of the connections to new fan assly for civil as well mechanical execution.
- f. CCI will engage third party to execute the complete civil constructions of fan foundation (excavation, PCC & RCC) based on the design/drawing submitted by party. Party may check the construction and revert if any correction required before final casting of foundation.
- g. CCI will engage third party to execute the complete Mechanical Fabrication & Erection of Fan assly& associated ducts connection based on the erection GA design/drawing submitted by party. Party after final design has to submit the modified ducts connections at inlet & outlet for site fabrication.
- h. Party has to supervise all the complete installation for their concurrence.
- i. Party has to separately submit offer of supervision during total installation & commissioning.
- j. CCI will hire engineer of party for supervision for installation & commissioning.
- k. CCI will procure/arrange the other items as shown in layout drawing:
 - Drive Motor as already & separately mentioned
 - Isolation Dampers at Fan inlet coming from Cyclone exit & outlet connecting with existing GCT
 - Feeder & Cables for Motor connections etc
 - Any other associated & related items other than scope of supply of party

EXPECTATION FROM PARTY/VENDOR/SUPPLIER/TENDERER:

- 1. Design, drawing, engineering, material flow diagram, plant layout drawing for the system.
- 2. Party has to submit the power drawn by fan & curve to know the power consumption Vs air flow
- 3. Party may visit and study our existing fan efficiency process/GA Diagram & layout of proposed system along with process instrument details.
- 4. Party should give complete details of other items required to install, trial run & commission the fan.
- 5. Party should prioritize to submit complete GA drawing of new fan system so that CCI can arrange their items (scope) on priority to commission the fan within very minimum duration
- 6. Performance Guarantee/Warranty for achieving scope of work: Parties are requested to provide allied jobs/In addition to the scope of work which have not been covered and essential for the proposed system, noticed during the erection of the project. Efforts have been made to give clarity to the parties /vendors/ suppliers/tenderer to extent possible. However interested parties/ vendors/ supplier may depute their representative to visit our site for physical inspection for required/necessary data collection before submitting offer for which all cooperation will be extended by CCI.

3.0 GENERAL POINTS (Tenderer's Scope)

The following shall be within the scope of the tenderer:

- i. All the modifications required to be carried out in the existing system, hooking up of the proposed system with the existing mechanical, electrical equipments and control system and removal of the existing equipments which come in the way of the proposed system.
- ii. Designing of All interconnecting chutes, ducting, piping etc., Foundation of New Fan Assly
- iii. Even though the scope of equipment supply is elaborated, it is the responsibility of the party to

- ensure that manufacturing, supply, erection & commissioning is complete including auxiliaries, ducts, chutes, supports, dampers, expansion joints and any other items required for proper functioning of the proposed Systems on turnkey basis.
- iv. Three sets of Operational and Instructions manuals of all equipments, six prints of all drawings prepared for the system, fabrication and erection.
 - v. One set of all reproducible of all the drawings prepared for the proposal to be supplied by the successful party after approval and execution of the job by incorporating the changes made during erection and commissioning.
 - vi. Manufacturing drawings (4 sets of blue prints along with RTF's and soft copy) of the following spares are to be supplied by the party:-
 - a. Sizes of the bearings / bearing housings and couplings.
 - b. Dimensional general arrangement drawings with civil foundation & mechanical parts to be furnished.

4.0 SUBMISSION OF DRAWINGS/ SCHEMES/ TECHNICAL DOCUMENTS ETC.

Six (6) sets of complete descriptive catalogue, Dimensional General Arrangement Drawings with Electrical /Instrumentation Schemes, detailed parts list of each and every equipment are to be furnished by the successful tenderer to enable us to verify the items at the time of receipt and installation. In addition to these, manufacturing drawings, may also be provided

5.0 TRIAL RUNS AND COMMISSIONING

- i. After the completion of erection work of civil foundation, mechanical, electrical and instrumentation equipments and getting completion concurrence by party, the fan shall proceed with entire system for trial runs and commissioning.
- ii. The alignment of all the drives and the equipments shall be checked jointly and defects, if any, shall be rectified. If during trails any defect is found, the same is to be rectified at the earliest.
 - a. After the successful no load trails/tests as indicated above, the defects observed, if any shall be rectified before taking load trail.
 - b. Alignment of drive motor and equipments by CCI & checked by party.
 - c. Any other remark, if required.

LIST OF PARTS/ANNEXURES

SN	Part/Annex	Description of Part/Annexure
1	Part-I	Information to Party/Tenderers
2	Part-II	General Terms & Conditions
3	Annexure-10 : Part-III	Special Terms & Conditions/Scope of Supply (Works)
4	Annexure-11: Part-IV	Technical Specifications & Information
4.1	Annexure-I	Technical Manufacturing Specifications/Requirements of New Fan Assly
4.2	Annexure-II	Operating Parameters required for Design of New Fan Assly
4.3	Annexure-III	Energy Audit Report-1 of Fan Performance
4.4	Annexure-IV	Energy Audit Report2 of Fan Performance
4.5	Annexure-V	Indicative Plot Lay out of New Fan Assly
4.6	Annexure-VI	PG Test Criteria
5	Annexure-12	Price Bid Format

Technical Manufacturing Specifications/Requirement of New Fan Assly

SN	Particulars/Design Criteria	CCI Requirement			
1	Application	PH Fan (New Fan on New Foundation)			
2	Quantity	01 No (complete assly without motor)			
3	Type/Arrangement	Impeller Simply Supported Type/Overhung			
4	Impeller Type	Back-Ward Curved Bladed			
5	Fan Model**	KBA 090-180010-251 (SISW)/KBA 080-170015-191 (SISW) -Make: Reitz or Equivalent			
Manufacturing Features of Fan Assly (Party has no violation with CCI Design of Fan Parts)					
SN	Name of Parts/Items of Fan Assly		Unit	CCI Design	Remarks
1	Impeller	Diameter	mm	2239	
	Back Plate	Material		S690QL/1.82928	
		Thickness	mm	12	
		Liners if any		yes	
	Shroud	Material		S690QL/1.82928	
		Thickness	mm	8	
	Blade	Material		S690QL/1.82928	
		Thickness	mm	8	
		Liners if any		yes	
		Tip Speed	m/sec	114.9/ (min)	
		Impeller Weight	kgs	1250	
2	Shaft	Material		709 M40 (EN-19)	
		Diameter of Bearing	mm	100	
		Critical Speed	rpm	1400	
	Shaft Seal	Type		Gland Packing	
		Material		Ceramic Rope	
3	Inlet Cone	Material		IS:2062/S235 JRG2	
		Thickness	mm	5	
4	Casing	Material		IS:2062/S235 JRG2	
		Thickness	mm	6	
		Liners if any		yes	
5	Inlet Box	Material		IS:2062/S235 JRG2	
		Thickness	mm	6	
		Size	mm	610X1835	
6	Inlet Damper	Type		Multi-Louvre	
		Size	mm	610X1835	
7	Pedestal	Type		Short Height	
		Material		IS:2062/S235 JRG2	
8	Bearing	Size	mm	22220 CC/C3	
		Make		SKF	
9	Bearing Housing	Size		SOFN-220	
		Lubrication		Oil	
		Make		McRoch/Masta	
10	Coupling	Size		Pin Bush CS/SF-2.0	
		Make		Flender/Fenner	
11	Cooling Disc			yes	
12	Approx Weight of Fan (without motor)		kqs	5500	


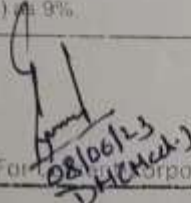
Operating Parameters Required for Design of New Fan Assly

SN	Particulars/Design Criteria	CCI Requirement			
1	Application	PH Fan (New Fan on New Foundation)			
2	Quantity	01 No (complete assly without motor)			
3	Type/Arrangement	Impeller Simply Supported Type/Overhung			
4	Impeller Type	Back-Ward Curved Bladed			
5	Fan Model**	KBA 090-180010-251 (SISW)/KBA 080-170015-191 (SISW) -Make: Reitz or Equivalent			
A: Operating Parameters (Indicative/to be confirmed by party for 85% efficiency @ flow 1,05,000 m3/hr)					
SN	Duty/Operating Parameters	Unit	CCI input	Party Input	Remarks
1	Capacity (Flow Rate)	m3/hr	105000		
2	Static Pressure	MMWC	400		
3	Total Pressure	MMWC	413		
4	Temperature	Deg C	350		
5	Density	kg/m3	0.698		
6	Fan Speed	rpm	1500*		
7	Dust Content	gm/m3	100		
8	Fan Shaft Power (without/with dust)	kW	135/154		
9	Static Efficiency (without/with dust)	%	84.7/74.3		
10	Total Efficiency (without/with dust)	%	87.5/76.7		
11	Min Recommended Motor Rating*	kW	185 kW/1500 rpm		CCI Scope
12	GD2 of Fan Rotating Parts	kg-m2	3042		
13	Full Load Torque	kg-m	151		
14	Starting Torque	kg-m	19		

Performance Analysis of PH Fan-1 (Audit Report No-1)

Performance Analysis of PH Fan of Kiln-1			
Date of Measurement: 06.03.2021			
Parameters	Unit of Measurement	Design	Measured / Operating
			PH Fan
Average Differential Pressure	mm WC		34.00
Cross Section Area of Duct	m ²		0.636
Pitot tube constant	C _p		0.85
Temperature of gas	°C		320.00
Density of gas	kg/m ³		0.60
Velocity	m/s		28.45
Gas flow	m ³ /h	69000.00	65124.96
	m ³ /s		18.09
	TPH		38.78
Motor input Power	kW	198.71	138.00
Motor rated efficiency	%	88.00	88.00
PH fan inlet static pressure	mm WC		-288.00
PH fan outlet static pressure	mm WC		53.00
Total Head Developed	mm WC	350.00	341.00
Fan Air Power (Fan Output)	kW		60.48
Fan input power (Motor Output)	kW	185.00	121.44
Fan efficiency	%		49.80
Mode of flow control (VFD/Damper/Fluid Coupling)		Damper	
Motor speed	rpm	1500	
Percent of motor loading	%		57.77
Specific Energy Consumption	kWh/Tonne of gas flow	5.08	3.56
Percentage margin on Flow	%		0.84
Percentage margin on Head	%		2.57
Percentage margin on Power	%		34.36

Performance Analysis of PH Fan-1 (Audit Report No-2)

Performance Test done on 07.06.2023										
Customer: M/s. Cement Corporation of India, Unit: Bokanjan, Assam.										
Sl. no.	Parameters	Units	Preheater Fan-1							
Reitz ref. no.		Not Manufactured by Reitz (ACCEL make)							Remarks	
Observed readings										
1	Kiln Feed	TPH	Not Available							
2	Dynamic pressure at traverse pt. (mmWg) if ID Fan	mmWg	50.0	51.0	53.0	55.0	57.0	59.0	55.0	51.0
			50.0	49.0	47.0	46.0	45.0	44.0	44.0	43.0
			40.0	41.0	41.0	42.0	43.0	44.0	46.0	47.0
			49.0							
3	Static pressure at inlet	mmWg	-395							
4	Static pressure at outlet	mmWg	-81							
5	Static pressure at traverse pt.	mmWg	-362							
6	Temp. at inlet	oC	271							
7	Temp. at outlet	oC	266							
8	Temp. at traverse point	oC	264							
9	Fan speed	RPM	1220							
10	Input power to motor - Energy meter	kW	166.41							
11	Line Loss (1%) & Drive Loss (9%)	kW	16.64							
Other inputs										
12	Motor efficiency	%	85.0							Approximate
13	Damper opening	%	100							
14	Dust loading	g/m ³	0.00							
15	Reference density (at NTP)	kg/Nm ³	1.400							
16	Pilot tube constant		0.8340							
17	Duct area	m ²	0.6363							
18	Site Elevation	m	138							
19	Site Barometric pressure	mmWg	10161							
20	Motor rating	kW	185							Drive: G.R.R.
21	Motor Speed	rpm	1480							
Calculated results										
1	Avg. Dynamic Pressure (ID fan)	mmWg	47.54							
2	Avg. Velocity at (FD) Fan inlet	m/sec								
3	Density at traverse point	kg/m ³	0.6748							
4	Density at inlet	kg/m ³	0.6639							
5	Flow at traverse point	m ³ /sec	19.729							
6	Flow at inlet	m ³ /sec	20.053							
8	Flow at inlet	m ³ /hr	72190							
9	Static pressure across the fan	mmWg	314.0							
10	Air power	kW	61.7							
11	Fan absorbed power with dust	kW	127.3							
12	Fan absorbed power w/o dust	kW	127.3							
13	Fan efficiency	%	48.5							
<p>Note:- Gas Ref. Density given by M/s CCI</p> <p>Power Reading cannot taken in present condition due to non availability of Energy Meter at site. M/s CCI Electrical team has given a calculated KW (Amps- 256, Volt- 417 & PF- 0.9)</p> <p>Site Elevation taken from "Internet" as M/s CCI does not have any record.</p> <p>Pressure drop noticed across the Inlet Damper. (Before: -360mmwg & After: -392mmwg)</p> <p>CCI Electrical Team informed to M/s RIL to consider motor efficiency as 85% & Drive Loss (GRR) as 9%.</p>										
 For Reitz India Ltd.		 For Cement Corporation of India								



1.0 PERFORMANCE GUARANTEE TEST CRITERIA

Performance Guarantee Test for the Energy Efficient Fan

- i. The performance guarantee test is to be carried out in one month at rated output of kiln is achieved. The period is to be reckoned from the date of completion of erection and commissioning.
- ii. PG test to be conducted in running plant continuously for 48 hours. The efficiency of fan will be checked every 12 hours. If there is a stoppage of less than 6 hours during PG test, the same will be extended. If it is more than 6 hours for any reason, then the PG test has to be repeated.
- iii. The PG Test will be considered satisfactory based on fulfilment of the following:
 - a. If the efficiency is lower than the desired i.e 85%, there will be **1.25% penalty for every 1% decrease in efficiency subject to maximum ceiling of 5% of total contractual amount**. If efficiency of fan is less than 80%, PG Test will be treated as failed and Fan Assly will be rejected and the party has to replace the Fan Assly with suitable modifications within three months. The party has to supply new fan before taking back the poor design Fan Assly.
 - b. The party shall conduct test to meet the parameters mentioned and ensure the fan having sufficient margin to achieve the revised parameters mentioned in ANNEXURE-2. Otherwise the energy efficient design of PH Fan Assly will be considered as failed. The penalty will be considered for deduction of 50% of total PG Value (10%) i.e 5% of total contractual amount.
- iv. For conducting the performance guarantee test as indicated above, and if the plant is not running at the rated capacity. Then for conducting the PG test and carrying out, pro rata basis may be considered, for which the joint protocol shall be drawn up for the performance of the system. The matter may be discussed during the pre-bid meeting.
- v. The party shall rectify the defects, if any, observed during the above test, and only after the rectification of such defects test, PG test to be further conducted.
- vi. The party shall guarantee the successful and satisfactory operation of the equipments and materials supplied under the contract & further erection & commissioning under supervision of party as per the specifications and documents.
- vii. The party shall further guarantee that the equipments and materials supplied by them and installed under their supervision shall be free from all defects in design, material and workmanship and shall upon written notice from the purchaser, rectify such defects as developed under the normal use of the said equipments and material within the period of guarantee / warrantee specified in the relevant clause of terms and conditions of the contract PART: III.



Cement Corporation of India Limited
Bokajan Cement Factory-782 490
Dist. Karbi Anglong :: Assam
Phone 03675-246106/246109, Fax No. 03675-246107
E-mail: ccibcfmech1@gmail.com



Tender No. NIT NO. BKJ/MECH/KILN/PH FAN/23-24

Date: 08.01.2024

PRICE BID PROFORMA

**SUBJECT:-DESIGN/ENGG/MANUFACTURING & SUPPLY OF NEW ENERGY EFFICIENT PREHEATER FAN ASSLY
ON NEW FOUNDATION**

Sl. No.	Description of item	Qty	Basic Rate (Rupees on FOR Bokajan Cement Factory Basis)
1	DESIGN/ENGG/MANUFACTURING/SUPPLY OF NEW ENERGY EFFICIENT PREHEATER FAN ASSLY (ACC TO ANNEX-1) ON NEW FOUNDATION WITH FLOW CAPACITY OF 105000 M3/HR	01 Set	
2	GST @		
3	Total Landed Cost :(1+2)		

Note:

- 1) Certified that the GST indicated as above are as per the prevailing Act of GST and provision made there under.
- 2) The Lowest Bidder(L-1) shall be evaluated on the basis of net cost to the corporation i.e. Total landed cost inclusive of basic, freight, others if any but excluding the input credits from GST.
- 3) The above rates should be inclusive of all tools & tackles and Manpower required.

Signature of Tenderer :

Date:

Name of the Signatory:

Place:

Name of the Party :

Seal of the Company :