



(UNDER JURISDICTION OF KOLKATA)
ANDREW YULE & COMPANY LIMITED

(A Government of India Enterprise)

ENGINEERING DIVISION

KALYANI WORKS

PLOT: 16 "A" & "B", BLOCK-"D"

KALYANI-741235,

NADIA, W.B.

Phone: 033 2582 5734, 033 2582 8279

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Notice Inviting Tender No.: ENGG/MSD/VFD & MOTOR/PM/15-16

Dated: 11/08/2015

Due date & Time of submission of offer: 09th September, 2015 up to 3.00 PM

Date & Time of opening of Techno-commercial Bid: 09th September, 2015 at 3.30 PM

Date of Pre Bid Meeting: 02/9/2015 at 11-00AM at the address mentioned above.

Cost of Tender documents: Rs.1,000/- (DD/PO in favour of Andrew Yule & Co Ltd)

EMD: Rs. 50,000/- (DD/PO in favour of Andrew Yule & Co Ltd)

Description of Tender:

Supply of One Set each of (a) 11KV/6.6 KV VFD System and (b) 550 KW, 6.6 KV TEFC Sq. Cage Induction Motor as per our specified Technical specification.

It is preferred that the bidders should submit their offer as a complete package with both VFD System & Motor including the installation & Commissioning of the entire system



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1. Sealed Bids are invited from interested reputed manufacturer for **Supply of One Set each of (a) 11KV/6.6 KV VFD System and (b) 550 KW, 6.6 KV TEFC Sq. Cage Induction Motor as per our specified Technical specification. It is preferred that the bidders should submit their offer as a complete package with both VFD System & Motor including the installation & Commissioning of the entire system**

The detailed technical specification of the VFD Systems and Motor are given in Annexure-I and II respectively.

TYPE OF TENDER	TWO PART BID
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2. A Pre Bid Meeting will be held on 02/9/2015 at 11-00AM at our office at Kalyani at the address mentioned above. The Vendors/Manufacturers of the required items, who are interested to participate in the Bid, are requested to be present at the Pre Bid Meeting.

3. The Bids must be received on or before 3.00 P.M. (IST) of 09th September

4. The Techno-commercial Bids shall be opened at 3-30 P.M. (IST) on the same day in the presence of the representatives of the bidders who choose to remain present. In case scheduled date of opening of tenders happens to be a holiday, the tenders shall be opened at 3-30 P.M. (IST) on the next full working day.

5. METHODOLOGY FOR THE SUBMISSION OF TENDERS:

5.1 There will be no physical sale of tender document. Tender document to be downloaded from our website: www.andrewyule.com

5.2 Offers must be submitted in two sealed COVERS as per details described at Para 5.3 below. Failure to follow the instructions will render the tender unacceptable. The bids should be submitted to the office of Dy. Gen. Manager (Materials), Andrew Yule & Co. Ltd., at address mentioned above'. Incomplete offers and / or offers received after the due date and time of submission of tenders is liable for rejection and shall not be opened without assigning any reasons. Offer received through FAX, TELEGRAM or E-mail will not be considered.

5.3 The bidders must submit their offer in two separate sealed COVERS (Part-I & Part –II) and these two covers should be put in an outer cover super scribing there on Tender No and Date and the Date of opening of the tender. The Bid to be submitted/sent to the office of DGM(Materials), Andrew Yule & Co. Ltd, Engineering Division, Kalyani Works, Plot No.16 A & B, Block-D. PIN-741235, Kalyani, Nadia, W.B.

PART-I will contain requisite Tender Fee, Earnest Money deposit (EMD) and General Terms and Conditions (Annexure-III), NSIC/MSME/SSI Certificate whatever is applicable, Technical specification (Annexure-I & II), Scope of supply along with list of Mandatory and Recommended Spares (if any), after sales service available from you along with Installation and Commissioning of the VFD System and Motor duly signed by the tenderer & super scribed by “Techno-commercial Bid”.

PART-II will contain the Rate/Price of the equipments only & super scribed by “Price Bid”. The parties are requested to give the price break up of their offer. Price bid will be opened only for technically suitable parties after detail compliance of Part-I.

5.4 Bidders are required to submit Tender Fee of Rs. 1,000.00 & EMD of Rs.50, 000.00 in the form of DD / Pay Order in the name of ANDREW YULE & CO LTD drawn on any Nationalized Bank of India.

5.5 Government Undertakings are exempted from paying the tender fee. In this context, a certificate from appropriate authority should be enclosed

claiming exemption for payment of tender fee. Tender Documents not accompanied with the tender fee / exemption document as specified above will be rejected. The Tender Fee is non-refundable.

6. Earnest Money Deposit (EMD) is mandatory. However, firms registered with MSME/NSIC are exempted from the payment of EMD subject to submission MSME/NSIC Registration certificate.

7. All envelopes containing the tenders shall be properly stamped and sealed. Envelopes stapled shall not be accepted. Offers, erased and over-written will be summarily rejected unless corrections are made by crossing out the part in error and the rewritten / corrected part is authenticated with the bidder's signature.

8. All the papers in the tender and terms and conditions must be signed with the seal of the bidders. Offers received without signature and seal on all pages shall be liable for rejection.

9. The rate quoted should be clear in figures & words. The successful bidder has to be submitted 10% of their quoted rate as PBG against the Warrantee of the equipment which will be released without any interest after completion of Warrantee period. You have to submit your confirmation of the same along with your offer.

10.1 The tender should be accompanied by Earnest Money as detailed in clause 4.4 above. The Earnest Money shall be deposited in the form of D.D. /

P O drawn in favour of ANDREW YULE & CO LTD drawn on any Nationalized Bank of India. In case of successful tenderer, the EMD may be converted to PBG (fully or partly), which will be returned only after completion of the warrantee period. EMD of unsuccessful tenderers will be refunded after the finalization of the tender. No interest will be paid for the amount deposited as EMD/PBG. Tenders must be accompanied with the required amount of Earnest Money Also no tender will be considered unless accompanied by the required amount of EMD/Tender fee. Delayed / late tenders are liable to be rejected.

10.2 The rate quoted shall be EXCLUSIVE of Excise duty, Sales Tax and any other levies imposed by the Government. The offer must remain valid for a minimum period of 90 (Ninety) days from the date of opening of the tender, In the event of the withdrawal of the offer before expiry of the validity period or non-execution of the order on acceptance of the offer, the tenderer's EMD would stand forfeited, and any other action which deemed fit may be taken against the tenderer.

11. The tenderer is required to mention the prevailing statutory Excise duties, taxes and other Government Levies, if any.

12.1 Tenders with erasing or overwriting are likely to be rejected unless all correction has been authenticated with tenderer's signature. The tender documents have to be submitted intact without any mutilation or alteration

and correctly filled in along with the tenderer's signature and stamp at the bottom of each and every page of the tender documents, otherwise they are liable to be rejected.

12.2 Conditional tenders or deviation from AYCL's Tender Terms and conditions shall be liable for rejection, without assigning any reason there-to.

13. All disputes arising out of this contract shall be under the jurisdiction of Law. Kolkata Court only and as per the "law of the land".

14. SPECIAL CONDITIONS:

ANY DOCUMENT/INFORMATION SUBMITTED BY THE BIDDER CAN BE MADE PUBLIC AT APPROPRIATE STAGE, AS PER THE RIGHT TO INFORMATION ACT 2005.

15. AYCL RESERVES THE RIGHT TO ACCEPT OR REJECT ANY TENDER EITHER IN WHOLE OR IN PART WITHOUT ASSIGNING ANY REASONS WHATSOEVER.

Please return all the documents, duly filled in, signed and stamped in all the pages along with the Appendices, attached herewith, and, all other information/documents so as to reach us positively at the address mentioned above on or before Due Date.

Annexure-I

Technical Specification of VFD System

A) Drive system specifications

- 1) TOPOLOGY: VSI SYSTEM, Voltage source DC link Multi cell Converter.
- 2) Semiconductor Devices: Diodes & IGBT(Mainly)
- 3) Switching: Micro processor based multilevel PWM

TRANSFORMER data sheet:

- 1)700 KVA
- 2) AIR COOLED ISOLATION TRANSFORMER
- 3) DRY TYPE
- 4) TAPPING INCLUDED
- 5) SUITABLE FOR USE WITH VARIABLE SPEED DRIVE WAVE FORM
- 6) THERMOSTAT INCLUDED
- 7) GROUND FAULT PROTECTION

CONVERTER data sheet

- 1) Rated Input Voltage: 11000volt
- 2) Rated Frequency: 50 Hz
- 3) Auxiliary voltage:415 volt AC is suitable but 230 volt also applied
- 4) System control voltage: 230 volt AC or whatever given by manufacturers.
- 5) Rated converter output voltage:6600 volt
- 6) Rectification by: Diode
- 7) Inverter device: IGBT
- 8) Input power factor across speed range:0.95
- 9) VFD efficiency:95-98 %
- 10) Voltage cut ride through duration: 5-6 cycles

- 11) Speed range: 25-100%
- 12) Speed control accuracy: 0.5 % +/-
- 13) Torque pulsations across speed: % <1
- 14) Cooling: Forced air cooling
- 15) Degree of protection: IP42
- 16) Cell type and Cell Numbers depends on Vendor's design.
- 17) Maximum ambient temperature: 50 degree centigrade
- 18) Minimum ambient temperature: 5 degree centigrade

Required standard features of VFD System

- 1) Input air cooled Isolation Transformer
- 2) Distribution class surge arrestors
- 3) Easy, Modular, trouble free design
- 4) Key inter lock should be provided with mechanical key interlocks
- 5) Door mounted E-stop & operator interface display.
- 6) Short circuit, single phasing, ground fault protection
- 7) Catch spinning load restart capability
- 8) Critical speed avoidance circuitry
- 9) Output frequency 0-60 Hz (constant torque),61-120 Hz (constant horse power)
- 10) Acceleration/deceleration time depends on load, like 0.5-3200 sec
- 11) Moto friendly PWM output
- 12) Proper Sinusoidal output
- 13) Electronic motor & VFD Over load protection
- 14) Motor inherently protected from high voltage stress for cable distance
- 15) Perfect harmony VFD
- 16) Vendors should provide input circuit Breaker on the VFD

Software & Protection System

Diagnostics functions:

- 1) User friendly local operator panel with text messages
- 2) Non volatile memory for reliable diagnosis when the power supply fails.

Detection of actual motor speed : Control algorithm calculates actual motor speed from currents & voltages measured at the converter output.

Emergency stop button: Emergency button should be fitted in the cabinet door; the contacts of P.B are connected in parallel to the terminal block so they can be integrated in as protection concept on the plant side

Thermal over load protection: Motor thermal overload protection algorithm prevents the motor from being exposed to excessive temperatures.

Closed Loop Control The converter can be controlled by means of vector control algorithm without an encoder or with it.

Annexure-II

Technical Specification/Data Sheet for MOTOR

ELECTRICAL DATA

- 1) Rated Motor power:550 KW
- 2) Rated Motor voltage:6.6 KV
- 3) Voltage Fluctuations:+/- 10 %
- 4) Frequency:50 Hz
- 5) Rated Motor Speed :750 RPM
- 6) No.Poles:08
- 7) Rated Motor Current:68 Amps
- 8) Efficiency:95 %
- 9) Power Factor:0.85

- 10) Type: SQ Cage Induction Motor
- 11) Degree of protection: IP55
- 12) Duty type: S 1
- 13) Coolant temp.:50 degree centigrade
- 14) Installation Altitude: 1000 m

MECHANICAL DATA

Bearing Design: Spherical Roller Bearing

Bearing Cooling: Rolling contact Bearing, Oil content DE/NDE Bearing

1 m Sound pressure level: 80 db

Coating: Standard.

Annexure-III

General Terms & Conditions

- 1) Earnest Money Deposit: Rs 50.000.00 to be deposited in the form of Pay Ordered along with your offer.

Offer without EMD shall not be considered. However, firms registered with MSME/NSIC are exempted from the payment of EMD subject to submission SSI/NSIC certificate. EMD of unsuccessful tenderer will be returned immediately after finalization of order without any interest.

- 2) Price Basis: FOR Kalyani, Nadia, West Bengal
- 3) Price break up: Details of price to be indicated confirming Tax implication ie. ED, VAT/CST (with Reg. No.),
- 4) Transit Insurance: Freight Charges etc.
- 5) Inspection: Inspection may be carried out at your works before delivery.
- 6) Delivery Time :Immediate
- 7) Price Reduction Clause: Price Reduction Clause will be applicable @ $1/2$ % per week subject to maximum 5% of order value for delay in delivery for whatever reasons
- 8) Guarantee/ Warrantee: Equipment must be guaranteed I warranted against faulty design, workmanship and material for a period 18 months from the date of delivery or 12 months from the date of commissioning.

- 9) Payment Terms: 90% with full taxes & duties will be released within 60 days from the date of successful installation & Commissioning and handing over the equipment. Balance 10% will be released against submission of Bank Guarantee (as per AYCL's format) of equal amount which will be valid till guarantee period.
- 10) Validity of offer: Offer must be valid for 90 days from the date of opening of offer.
- 11) List of Spares: List of mandatory and recommended spares with Rates (if any) are also to be mentioned in "Price Bid" as Optional Items
- 12) Installation and Commissioning: The Installation and Commissioning Of the equipment is to be done by your personnel at our works at Kalyani at free of cost. and smooth running/operation of the equipment has to be shown to our personnel as per their requirement.
- 13) Training: If any training is required to be imparted to our personnel for operation of the equipment, you have to deliver the same at free of cost.
- 14) Safety measure: If any safety measure is required to be taken during operation of the equipment, you have to impart the knowledge to our personnel, if required.