

DC RECTIFIER

Sr.No.	Equipment Rating	20V/2000A
1	Rated AC input voltage	415VAC $\pm 5\%$, 50Hz $\pm 1\%$, 3 Phase
2	Ambient conditions	Operating Temperature 50°C max. Humidity < 95%, no condensation
3	DC output voltage rating	0-20V
4	DC output current rating	0-2000A
5	Rated output	40 kW
6	Mode of operation	Constant Voltage or Constant Current
7	DC operation Voltage control range	0 to 100%
8	Current stability	$\pm 1\%$ of rated value, for load variation from 0 to 100%
9	Ripple	Lesser than 5%
10	Efficiency	Better than 95%
11	Power factor	Better than 0.75 lag
12	Metering	Digital
13	Duty Cycle	100% continuous
14	Rectifier Technology	Steepless Linear regulator type (vertical rolling contact type) or Single way Hexa phase rectifier with inter phase transformer
15	Type of Control	Through Stepless Regulator/ IGBT control
16	Control	CVC or CCC can be given for control of DC voltage or DC current
17	Construction	Self-standing Transformer Rectifier unit along with in built control section
18	Installation	Indoor
19	Input Termination(AC cable entry)	From bottom
20	Output Termination	From Rear Top / Side top Copper bus bars shall be provided for positive & negative
21	Protections	1.Input MCCB 2.Output over voltage 3.Output over current 4.Input phase fail and phase reversal 5.Heat sink over temperature

		<p>6.SCR Fuse failure</p> <p>7.Rectifier stack fan fail</p> <p>8.AC input surge suppressor circuit</p> <p>9. RC for thyristers.</p>
22	Cooling	<p>Forced air cooled or ONAN (Oil Natural Air Natural) for Power section and Control section</p> <p>For oil cooling: OIL standard is of IS 335 and standard adopted IS9815</p>
23	Mode of cooling	Local
24	Local control	From front of panel through display unit.
25	Indications	<p>1. Input supply ON</p> <p>2. Rectifier ON/OFF</p> <p>3.Fault facia</p>
26	Switches	<p>1. Auto/Manual.(Inside)</p> <p>2.CC/CP (Inside)</p>
27	Push button & controls	<p>1.Rectifier ON</p> <p>2.Rectifier OFF</p> <p>3. Fault Accept</p> <p>4. Fault Reset</p> <p>5. Start / Stop</p> <p>6. Output Voltage / Current Setting</p> <p>7. Operation Time Setting</p> <p>8. Ramp-Up Time Setting</p>
28	Metering details	<p>1.Digital DC Output voltmeter</p> <p>2.Digital DC Output ammeter</p> <p>3.Fault Annunciation Window</p> <p>4. Hooter(96x96mm)</p> <p>5. AC input ND20 multifunction meter.</p> <p>6.Digital AC input Voltmeter</p> <p>7. Digital AC input Ammeter</p> <p>8.Digital AH meter</p> <p>9.Multifunction energy meter for energy consumption (kWh)</p>
29	Accessories	<p>Name, Rate and Terminal Plate (1 No.s)</p> <p>Lifting Lugs (2/4Nos)</p> <p>Plain Bidirectional CI rollers (04 Nos)</p> <p>Plain Oil level Indicators (01 No.)</p>

		Earthing terminals (02 Nos) Dial type temperature gauge (01 Nos) Cooling radiators (04/06 Nos) Control panel (01 No) Automatic module (01 Nos)
30	Relay	Paramount make
31	Warranty	2 years

Terms & Conditions

1. **Scope of Supply:** Supply, installation, Commissioning, Testing and Demonstration of Goods as per specifications.
2. **Qualification Requirement:** Please refer to the technical specifications of the bid document.
3. **Delivery Period:** Delivery should be completed in full within a period of three (3) months from the date of purchase order. Liquidated Damage clause will be imposed in the event of non-completion of delivery within the stipulated time.
4. **Liquidated Damage clause:** The penalty shall be 0.5% per week or part of a week towards late delivery and installation, commissioning, training etc. including all contractual obligations beyond contractual deadline. The maximum amount of penalty shall be 10%.
5. **Delivery Site:** Delivery F.O.R. CSIR-NML, Jamshedpur-831007 (Jharkhand).
6. There can be only one bid from the following:
 - a. The original manufacturer directly or through one authorized dealer on his behalf; and
 - b. Authorized dealer on behalf of only one manufacturer.
7. **Installation, commissioning and Training:** To be installed and commissioned at site by the supplier within fifteen (15) days from the delivery of goods. The inspection of the material shall be done within 30 days after installation of the goods. Training to be provided by supplier at CSIR-NML for 15 days for 2 nos. of persons.
8. **Warranty:** Two (02) years from the date of successful installation and commissioning.
9. ~~AMC: Vendor must quote consecutive three (3) years non-comprehensive AMC rate (minimum 01 preventive + 1 breakdown) for equipment after warranty. AMC charges shall be taken into consideration for deciding L1/evaluation of bids. However AMC charges should be quoted separately.~~
10. **OEM Certificate (*applicable for manufacturer only*):** In case the Bidder is the OEM, a declaration to this effect must be attached along with the offer. This certificate with valid date must contain Name, Designation, Email Address and Mobile Phone Number of the authorized signatory along with the address of the office.
11. **MAF Certificate (*applicable for dealer only*) :** In case the Bidder is offering products on behalf of the OEM, a proper Manufacturer's Authorization Certificate (MAF) with valid date must be attached with the quotation and it should contain Name, Designation, Email Address and Mobile Phone Number of the authorized signatory along with the address of the office.
12. **Taxes, Duties etc.:** The buyer should indicate full GST rates.
13. **Make In India:** Preference will be given to offer/s for Class-I MII product. The Bidder must furnish a declaration/Certificate to this effect along with the bid mentioning about the percentage of Local Input of the offered product and the detailed address of the place (manufacturing unit) where the input is being added. The Declaration/Certificate should have full name and designation of the signatory along with his/her email ID, direct phone number, office address.

As per Govt. of India procurement policies the eligibility of the suppliers for this bidding is restricted to Class I and Class II local suppliers as per Department for Promotion of Industry and Internal Trade, Govt. of India, vide OM No. P-45021/2/2017-PP (BE-II) dated 04 June 2020 and OM No. P-45021/2/2017-PP (BE-II) dated 16 September 2020.

14. **MSE:** Preference will be given to MSEs. The bidder must submit valid documents for claiming them as eligible MSEs for the particular bid/item.
15. **Other certificate/s :**
16. **Certificate reg. Land Border Sharing is compulsory.** Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any

false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

17. **EMD:** The bidder has to submit an EMD along with the bid for amount mentioned in EMD details. EMD should be provided on the name of Director, CSIR-NML, Jamshedpur.
18. **Payment Terms:** ~~Hundred percent (100%) of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of Goods and successful installation & commissioning upon submission of claim supported by the acceptance certificate issued by the Purchaser along with the Performance security.~~

OR

70% against delivery of goods, inspection and acceptance by the user and 30% after successful installation and commissioning and submission of Performance Security if any.

19. **Performance Security:** The vendor has to submit a Performance Security equivalent to 3 (three) per cent of the purchase order value before release of payment. The performance security should remain valid for a period of warranty plus sixty (60) days from the date of successful installation and commission of the supplied equipment.
20. **Bid Securing declaration:** Submission of Bid Securing Declaration is compulsory.
21. **The place of jurisdiction is Jamshedpur, Jharkhand, India.**
22. **Catalogue/Leaflet/Brochure:** Bidder must submit Catalogue / Leaflet / Brochure to justify the specification/feature of their offered equipment.
23. The bidder should ONLY attach the requisite documents, asked for. The Bidder should not attach "**IRRELEVANT DOCUMENTS**" or "**DOCUMENTS WHICH HAVE NOT BEEN ASKED FOR**".
24. In the event of non-compliance of any of the aforesaid guidelines, the offer of the bidder may be treated as non-responsive.

Bidder Information Form

- (a) *The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm]*

Date: *[insert date (as day, month and year) of Bid Submission]*

Tender No.: *[insert number from Invitation for bids]*

01.	Bidder's Legal Name <i>[insert Bidder's legal name]</i>
02.	In case of JV, legal name of each party: <i>[insert legal name of each party in JV]</i>
03.	Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i>
04.	Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i>
05.	Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i>
06.	Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
07.	Attached are copies of original documents of: <i>[check the box(es) of the attached original documents]</i> Articles of Incorporation or Registration of firm named in 1 , above.

Signature of Bidder _____

Name _____

Business Address _____

MANUFACTURERS' AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer and be enclosed with the technical bid.]

Date: *[insert date (as day, month and year) of Bid Submission]*

Tender No.: *[insert number from Invitation for Bids]*

To: *[insert complete name and address of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 2.21 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

[To be submitted by the bidding/participating firm in their letter Head]

With reference to NML tender Enquiry bearing No. dated
it is certified that:

We have read clause regarding restriction on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; We certify that the bidder is not from such a country or, if from a such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the competent Authority. A valid certificate issued by the Competent Authority has been attached with the bid. I hereby certify that this bidder fulfill all requirements in this regard and is eligible to be considered. (As per requirements under P-45021/112/2020-PP(BE-II)(E-43780) dated 24.08.2020 of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade and any amendments thereon.)

For and on behalf of M/s.....

[Seal of the firm]

Place:-

.....

Date:-

.....

Bid-Securing Declaration Form

To (insert complete name and address of the purchaser) I/We. The undersigned, declare that:

Date: Bid No. _____

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- (a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- (b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
 - (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of : (insert complete name of Bidder) Dated on _____day of ___(insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

PERFORMANCE SECURITY FORM

MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY

To,

.....

WHEREAS (name and address of the supplier) (hereinafter called "the supplier")

has undertaken, in pursuance of contract No. dated to supply

(description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of (amount of the guarantee in words and figures), and

we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the day of, 20.....

(Signature of the authorized officer of the Bank)

.....

Name and designation of the officer

.....

Seal, Name & Address of the Issuing Branch of the Bank

Note: Whenever, the bidder chooses to submit the Performance Security in the form of Bank Guarantee, then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.