OPEN TENDER CHECKLIST

STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT
Enquiry No.7700588E Dated 29-OCT-2020 Due on: 19-NOV-2020 (NIT_55440)

Sl. No.	Document Name	Vendor Confirmation (Filled and Signed copy to be submitted along with Techno Commercial Offer)
01	**Annexure A** COVERING LETTER	Submitted ☐ Not Submitted ☐
02	**Annexure B** GENERAL TERMS & CONDITIONS (FOR GUIDANCE TO THE SUPPLIERS)	Submitted ☐ Not Submitted ☐
03	**Annexure C** COMMERCIAL TERMS AND CONDITIONS	Submitted ☐ Not Submitted ☐
04	**Annexure D** UN PRICED /PRICE OFFER FORMAT - INDIGENOUS	Submitted ☐ Not Submitted ☐
05	**Annexure E** SPECIFICATION DEVIATION DISPOSITION REPORT	Submitted ☐ Not Submitted ☐
06	**Annexure F** CEBG	Submitted ☐ Not Submitted ☐
07	**Annexure G** Online SRF	Submitted ☐ Not Submitted ☐
08	**Annexure H** TERMS AND CONDITIONS FOR OFFER	Submitted ☐ Not Submitted ☐
09	**Annexure I** PAYMENT MECHANISM	Submitted ☐ Not Submitted ☐
10	**MAKE IN INDIA** LOCAL CONTENT DECLARATION FORM	Submitted ☐ Not Submitted ☐
11	**TECHNICAL SPECIFICATION FOR STATIC MIXER -** ROS 6294 REV 00 DATE 08.052020	Submitted ☐ Not Submitted ☐
12	**GENERAL SPECIFICATION FOR STATIC MIXER –** ROS 9008 REV 00 DATE 20.10.2019	Submitted ☐ Not Submitted ☐
13	**PRE-QUALIFICATION REQUIREMENT FOR STATIC MIXER -** SM-UDANGUDI REV 00 DATE 17.10.2020,	Submitted ☐ Not Submitted ☐
14	**QAP / QP / MQP Customer Sample Format**	Submitted ☐ Not Submitted ☐
15	**ANNEXURE – Q FOR QAP / QP / MQP**	Submitted ☐ Not Submitted ☐
16	**INSPECTION CHECK LIST INSP CHK 001 REV 00**	Submitted ☐ Not Submitted ☐

Bharat Heavy Electricals Limited
Boiler Auxiliaries Plant
RANIPET – 632 406, Tamil Nadu, India
PURCHASE – WATER SYSTEM

ANNEXURE - A
STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT

Enquiry No.: 7700588E Dated 29-OCT-2020 (NIT_ 55440) **Due on: 19-NOV-2020**

To All *Manufacturers & Suppliers only.*

Dear Sir,
Please submit your lowest quotation on FIRM PRICE, in duplicate subject to our terms & conditions in the various annexures attached and herein for the below listed materials so as to reach us on or before the due date by 2.00 p.m.

Requirement with Delivery date-FOR SUPPLY: DESTINATION - TANGEDCO - UDANGUDI SITE.

Enquiry Sl. No.	Description & material Code	Unit	Qty.	Delivery Date
001	*RWT009430001* *STATIC MIXER & ACCESSORIES* *OF SIZE DN 600 (MOC: DUPLEX SS)* *AS PER TECHNICAL SPECIFICATION NO.* *ROS 9008 REV 00 DATE 20.10.2020 &* *ROS 6294 REV 00 DATE 08.05.2020.*	**ST**	**1.00**	supply completion on or before 15.02.2021 or 4 Months from the date of CAT-I Approval / Manufacturing clearance subject to issuance of MDCC from Customer / BHEL (Three weeks will be given from the date of issue of MDCC for Transit period), whichever is Later.
002	*RWT009430002* *STATIC MIXER & ACCESSORIES* *OF SIZE DN 350 (MOC: GRP)* *AS PER TECHNICAL SPECIFICATION NO.* *ROS 9008 REV 00 DATE 20.10.2020 &* *ROS 6294 REV 00 DATE 08.05.2020.*	**ST**	**1.00**	

BIDDERS SHALL CAREFULLY READ THE FOLLOWING ANNEXURES / NOTES AND SHALL QUOTE THEIR BEST COMPETITIVE PRICE.

PLEASE REFER TO - COMMERCIAL DOCUMENTS

1. ***ANNEXURE-B FOR GENERAL TERMS & CONDITIONS (FOR GUIDANCE TO THE SUPPLIERS)***
2. ***ANNEXURE-C FOR COMMERCIAL TERMS AND CONDITIONS***
3. ***ANNEXURE-D PRICE BID FORMAT FOR THE SUPPLY***
4. ***ANNEXURE-E SDDR FORMAT***
5. ***ANNEXURE-F CEBG FORMAT***
6. ***ANNEXURE-G ONLINE SUPPLIER REGISTRATION FORM***
7. ***ANNEXURE H TERMS AND CONDITIONS FOR OFFER***
8. ***ANNEXURE I PAYMENT MECHANISM***
9. ***MII LOCAL CONTENT DECLARATION FORM***

TECHNICAL ENCLOSURES AS PER FOLLOWINGS:

1) ROS 6294 REV 00 DATE 08.05.2020 - TECHNICAL SPECIFICATION FOR STATIC MIXER,

2) *ROS 9008 REV 00 DATE 20.10.2019 - GENERAL SPECIFICATION FOR STATIC MIXER*
3) *SM-UDANGUDI REV 00 DATE 17.10.2020 - PRE-QUALIFICATION REQUIREMENT FOR FOR STATIC MIXER*
4) *ANNEXURE A FOR PAINTING*
5) *QAP / QP / MQP CUSTOMER SAMPLE FORMAT*
6) *ANNEXURE – Q FOR QAP / QP / MQP & INSPECTION,*
7) *INSP CHK 001 REV 00 INSPECTION CHECK LIST FOR GETTING MDCC FROM CUSTOMER/CONSULTANT/BHEL*

Important Instruction to Bidders:

1. **All the items will be procured from a single vendor only & all the Items will be compared on SET Basis & Order will be placed on a Single vendor who is the lowest (L1) on set basis. Hence please quote for all the complete items including services. Incomplete offers will be rejected.**

2. **Vendors shall go through the "Qualification Requirement" & furnish Qualification Data sheet duly filled in along with Techno-Commercial offer. Offers received without this requirement will be summarily rejected & such offers will not be processed further.**

3. **Price bid opening will be considered subject to techno commercial confirmation and acceptance by BHEL, Ranipet.**

4. **TECHNO- COMMERCIAL BID & PRICE BID opening will be done through e-mode only.**

- TENDER SHALL BE SUBMITTED IN TWO PARTS AS REFERRED IN ANNEXURE-B.

- ANY REVISED OFFER(S) SENT BY VENDORS ON THEIR OWN, AFTER THE TENDER OPENING, WILL BE TREATED AS "UNSOLICITED OFFER". SUCH OFFERS WILL NOT BE CONSIDERED AND NECESSARY ACTION AS DEEMED FIT WILL BE TAKEN BY BHEL ON THOSE VENDORS. HENCE COMPETITIVE OFFER TO BE GIVEN IN THE ORIGINAL QUOTE ITSELF.

IMPORTANT NOTE:
TENDERS ARE INVITED THROUGH ELECTRONIC MODE FROM ELIGIBLE SUPPLIERS IN CASE OF OPEN TENDERS AND FROM SUPPLIERS TO WHOM THE ENQUIRY IS ADDRESSED IN CASE OF LIMITED / SINGLE TENDER.

THE OFFERS SHALL BE POSTED INTO THE SYSTEM BEFORE THE DATE AND TIME SPECIFIED IN THE TENDER.

THE OFFER SHALL BE SENT ON ~~SINGLE PART~~ / TWO PART / ~~THREE PART~~ BASIS AS SPECIFIED IN THE MAIN TENDER DOCUMENT.

BIDS SHALL BE SUBMITTED THROUGH E-PROCUREMENT PORTAL, http://bhel.abcprocure.com OF M/S E-PROCUREMENT TECHNOLOGIES LTD - www.abcprocure.com WHO ARE OUR SOLUTION PROVIDER..

01) OFFERERS ARE REQUESTED TO CAREFULLY READ THE FOLLOWING CONDITIONS AND GIVE THIER SPECIFIC CONFIRMATION OF ACCEPTANCE IN TOTO.
2A) TIME IS THE ESSENCE OF CONTRACT.
2B) IN THE EVENT OF DELAY ON THE CONTRACT DELIVERY, LIQUIDATED DAMAGES (LD) WILL BE LEVIED.
2C) LD WILL BE LEVIED AT THE RATE OF 0.5 % PER WEEK OR PART THEREOF ON THE CONTRACT VALUE.
2D) THE LD CEILING WILL BE 10 %.
2E) LD WILL BE A MANDATORY CONDITION IN THE PURCHASE ORDER.
3) IF NO CONFIRMATION OR COMMENTS ARE INCLUDED IN THE INITIAL OFFER BY THE TENDERER, IN THE EVENT OF PLACEMENT OF ORDER, THE ORDER WILL BE RELEASED WITH THE STANDARD LD CONDITION GIVEN ABOVE.
4) THE CONDITION WILL BE INCLUDED IN THE ORDER WITHOUT ANY FURTHER REFERENCE TO THE OFFERER AND NO CHANGES WILL BE PERMISSIBLE, POST ORDER RELEASE.

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Version 22, 22.07.2020

ANNEXURE –B
GENERAL TERMS & CONDITIONS
(FOR GUIDANCE TO THE SUPPLIERS)

A] Submission of Offer

a)Invitation for bid

Tenders are invited through electronic mode from eligible suppliers in case of open tenders and from suppliers to whom the enquiry is addressed in case of Limited / Single Tender.

The offers shall be posted into the system before the date and time specified in the tender.

The offer shall be sent on single part / two part / three part basis as specified in the main tender document.

Bids shall be submitted through e-Procurement portal, https://bhel.abcprocure.com of M/s e-Procurement Technologies, Ahmedabad who is our solution provider.

b)Hardware and Software requirements for participating in e-tender

Requirement for participating in e-Procurement is as under:
i)A Computer with internet connectivity (Internet Explorer 9.0 (32_bit Browser only) & above)
ii)Digital Signature Certificate (Class 3- SHA2-2048 BIT- with both Signing and Encryption component separately). iii)JAVA (Version 1.8 Update 45).

iv) Steps for Hardware and software configuration is detailed at https://bhel.abcprocure.com/EPROC/ under title "Minimum system requirements and Settings Document for BHEL User and Bidders". *c)Instructions for Registered Suppliers*

For all types of tenders (Single / Limited / Open) an automated email alert regarding issue of the Tender will be sent by the e-procurement portal to all Suppliers registered with BHEL, Ranipet for the item/s for which the tender is issued.

In case of open tenders, Registered suppliers with registered DSC will have to login with their user id/password & DSC and search for the Open Tender. To participate in event and to submit bid, a bidder needs to agree the terms and conditions.

Registered suppliers without DSC will have get their profiles approved by mapping DSC after login.

To know the procedure for obtaining Digital Signature Certificate (DSC), suppliers who are not having the DSC are advised to visit our website www.bhel.com →Tender Notifications →Sample Checklist. *d) Instructions for new suppliers wishing to bid against open tenders*

New, unregistered suppliers wanting to bid against open tender/s will have to first register themselves in https://bhel.abcprocure.com as new supplier by clicking the "Register" button.

After entering the Income Tax Permanent Account Number (PAN) details and pressing "Enter", they have to select the respective BHEL Unit for which they want to participate in the Open Tender and also fill up other relevant Company information as a one-time activity. On successful registration, your profile will be approved by the authorized officer and you can login to portal and can participate in the procurement event.

To participate in a tender, you need to login to the portal. You must be an approved registered user. If you are not a registered user, you can register yourself by clicking upon the "Register" link. You need to have a valid vendor code and password to login to the portal. Enter your Vendor code, password and click on Login button after Login, you need to select your digital signing and encryption certificates certificate.The DSC will be approved by M/s e-Procurement Technologies/ Authorised officer of BHEL.

As required by the tender, the necessary documents have to be filled-in online, in the provided template. Additional documents required are to be scanned and uploaded as .pdf file. Suppliers are advised to take note that the maximum space that is provided for uploading the documents that are to be attached is 300 MB. However the size of an individual document cannot exceed 10 MB. For any clarification on submission of offer on line, attention of the Supplier/s is invited to our document "Bidder Manual for BHEL Bidders" hosted in the home-page of the e-procurement portal. During normal business hours, helpline maintained by the service provider M/s e-Procurement Technologies is available for clarifying any doubts of supplier/s. The helpline numbers are +91-79-40270599/508/560/590/513 and email id is: Bhel.Support@abcProcure.com . Bidder can also refer to "Bidder Manual for BHEL Bidders" hosted in the home-page of the e-procurement portal https://bhel.abcprocure.com.

Typical documents that would be required as part of tender submission would be a)

Complete technical Offer with details, catalogues, as applicable.

b) ***Un-priced bid*** (i.e. Bid without the Price) as per given format, if any.

c) ***Filled-in BHEL's Standard Terms & Conditions*** as per Annexure enclosed with the Tender Document,

d) ***Deviation summary*** submitted in two parts – giving the summary of technical deviations separately and the commercial deviations separately, if any and

e) ***Supporting documents*** to substantiate equivalent material specifications / sections, where quoted for.

f) Where asked for, ***Client list*** with their full address including detail of contact person with phone no., fax no. & e-mail ID (if any) to whom the same / similar items are supplied in the past two years. The date of supply may also be indicated, against each client.

g) Suppliers can also upload their credentials by way of submission of Performance certificate/s issued by their customer/s detailing the quantity supplied and specification along with the un-priced PO copies and proof of supply along with the offer.

Technical acceptance of offer by BHEL shall be based on the evaluation of offer and the submitted documents.

h) ***Bidders who are not already registered with BHEL Ranipet*** are requested to submit the Supplier Registration Form (SRF) online (http://supplier.bhel.in/) for evaluating and registering as an approved vendor. The Supplier Development Cell (SDC) of BHEL, Ranipet would process the SRF for evaluation / registering the Supplier. Don't send hardcopies of SRF to BHEL-Ranipet, **only** online submission is accepted. This registration process is a separate / parallel activity and do not mix-up with submission offers.

Note

(i) The materials offered, shall conform to the specification and scope attached in the tender.

(ii) In case the offered materials are not conforming to the Enquiry material Specification, such offers would not be considered for evaluation and would be rejected.

Where equivalent specifications are offered, considering such offers will be at the sole discretion of BHEL. Wherever alternative standards / specifications are offered by Bidder, the Bidder shall provide sufficient documentary evidence to ensure equivalence to the designated standards / specifications, failing which the offer would be considered as not technically acceptable and hence shall stand rejected.

(iii) All taxes and duties payable as extra to the quoted price should be specifically stated in offers (as appearing in the online template).

Offer/s from within India shall be submitted along with the applicable HS Number and the applicable Goods & services Tax (GST) for each quoted item, failing which the purchaser will not be liable for payment of such taxes and duties. Our GST No: **33AAACB4146P2ZL.**

(iv) The un-priced bid shall be used to indicate relevant commercial terms such as scope of freight and insurance, applicability of duties and taxes etc. All Commercial terms are to be indicated clearly in the offer.

(vi) No changes shall be entertained once the bid is opened unless otherwise specifically agreed to in writing by BHEL.

(vii) Money values other than for those items appearing in the un-priced bid template shall not be indicated anywhere in the un-priced bid.

(viii) Time required for inspection (at Supplier's works), should be clearly given in terms of numbers of working days.

(x) **Offers sent by FAX / E-mail**: would not be entertained.

(xi) Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.

(xii) Registration process for items required by BHEL is always open at https://supplier.bhel.in. Prospective suppliers (including MSEs & owned by SCs/STs) may visit this site and apply for registration in the respective Unit.

Price Bid in conformance with the specification and terms as given in the Un-Priced bid document.

Caution on submission of pricebids thru EPS:

The suppliers are severely cautioned to note that the price bid document accepts the price in figures only. It does not allow the supplier to write the value by words. Therefore all care shall be exercised by the supplier while filling in the figures. Once the price bid is opened no option is available for the supplier to retract the offer under any grounds. If a supplier, for any reason whatsoever approaches BHEL with a request for change in the price, it would be treated as going back on the offer submitted. In such cases, action would be initiated by BHEL for suspending further business dealings with such suppliers as per policy of BHEL which prevails at that point of time.

Foreign / Overseas suppliers are hereby informed that offers with differential currencies are not permitted for a given tender document.

Note

(i) The price break-up should be in line with technical specification / scope of the tender. (Cost of material, packing charges, forwarding charges, freight and insurance charges shall be shown appropriately, as applicable).

(ii) Unless otherwise specified as a part of the tender condition, No Price Variation Clause will be entertained and No advance payment will be made by BHEL.

(iii) In case, there is a discrepancy in the term quoted in techno-commercial bid and price bid, the term as per the techno-commercial bid (Part I) shall hold good and the commercial term quoted in the Price Bid (Part II) shall not be considered.

(iv) In their own interest, all Tenderers are advised to double check their prices, applicable duties and taxes.

(v) The quotation should be valid at least for a period of 90 days from the tender opening date.

(vi) Indian bidders should submit the prices in Indian Rupees only.

(vii) Foreign bidders may submit their bid in foreign currency. The currency for quoting shall be selected from the drop-down menu provided.

(x) Indian Suppliers shall quote on FOR Destination basis only. Destination is BHEL, Ranipet Stores or BHEL Project Site as specified in the tender requirement. Foreign Suppliers shall quote on CFR Chennai Seaport Delivery and Insurance will be in BHEL's scope. No other delivery terms shall be acceptable. Shipment shall be arranged by the Seller on *Liner in / Liner out basis*. As per Government of India guidelines, BHEL Ranipet being a Government of India Undertaking the Bill of Lading shall be made with the Shipper as "Government of India". This shall be specifically confirmed by the Bidder.

(xi) Where the cargo is containerized, Container washing charges, stuffing charges and / or any other such charges would be to the account of the supplier, where the containers are to be stuffed at the works of the supplier.

B] Opening of Offers

a) **Tenders can be submitted up to 1400 Hours on tender opening due date. Part I will be opened on the same day at 1430 Hours. Results of the tender opening will be available for viewing for upto 7 days from the date of opening.**

b) **Requests by Bidders for extension of due date will not be entertained by BHEL.**

c) Price Bid opening will be done through e-mode / Reverse Auction method (English method) which will be decided after techno-commercial bid evaluation is completed. All tenderers would have to specifically give their acceptance for this in their bid/s.

Note

(i) Bids including all enclosures and supporting documents like catalogues, pamphlets, etc., shall be provided in ENGLISH language only.

(ii) In exceptional circumstances, at its option, BHEL may consider extending the due date/s for the tender openings for reasons such as (but not limited to) paucity of offers etc. However, sufficient notice would be given by BHEL for such extension.

(iii) Deviations shall be summarized and provided in a "Deviation Statement", listing the points and the deviation against each point.

(iv) BHEL reserves the right to increase or decrease the tendered quantity and to order on more than one vendor at the lowest acceptable price to BHEL. In ordering on more than one source, the ratio of quantity split will be as specified in the tender terms.

If not explicitly specified, BHEL reserves the right to split the quantity of the enquiry as follows: 70% quantity being ordered on the original lowest bidder (L1) and balance 30% on the next higher bidder/s excluding H1, who accepts the L1 price. However, the final decision to split the order rests with BHEL only.

In the event that the other than L1 suppliers do not accept the L1 price, then the balance will be reverted to the original L1 and the original L1 shall be bound to accept the balance of the enquiry quantity kept reserved for order splitting. This decision would be given by BHEL within 60 days of the price bid opening.

Notwithstanding the quantum of split that may be indicated in the main body of the enquiry, bidders are advised to note that the splitting of the orders will be decided by BHEL after the evaluation of the techno-commercial and price bids.

(v) Offers for part quantities on item level basis are not acceptable to BHEL. While tenderers can quote for some or all the tendered items, no supplier shall quote for partial quantity of any given enquiry item. Such partial offer would not be considered in the enquiry for that item. Suppliers are to note that the evaluation unless otherwise specified will be on item level and not for the tendered items as a whole.

C] Evaluation of Offers

a) The price bids including the impact price (if any) of the technically acceptable offers alone shall be opened.

b) Offers with pre-conditions (like conditional discounts) for price are liable to be not considered / rejected. For evaluation such conditions would be removed and only the base offer would be considered for evaluation and comparison.

d) In the event of any change in scope / quantity arising out of the discussions, offerers would be given a chance to submit their revised offer / Impact bids. The option for the revised offer / impact offer will be triggered by BHEL. The Supplier then will have the facility to feed-in the revised price / impact price as per the provision given by BHEL. The impact price can be positive or negative (or nil). The impact price option shall contain only the price addition / deletion for such change in the scope / quantities, over and above the original scope and price quoted. The original price quoted would remain unchanged. The total price would then be computed by the arithmetic addition of the original price and the impact price. Where BHEL gives the option of submitting the revised offer, the impact would be computed as the arithmetic difference of the revised price and the original price.

e) For evaluating the overseas offers, CFR Chennai Sea Port price quoted will be taken into account. The cost to BHEL will be arrived at by loading the applicable customs duty project wise, insurance charges, inland transportation charges to BHEL stores and LC charges etc., f) Deleted.

g) BHEL reserves the right to reject without assigning any reasons / load any offer with factors other than already specified for such offers having deviations to BHEL Specifications, Standard Terms & Conditions at its discretion. The decision of BHEL in this regard shall be final.

h) BHEL reserves the right to reject an offer due to unsatisfactory performance during tender finalisation / execution of a contract at any of BHEL projects / units in the past or if unsatisfactory performance report is received from the party/s referenced by the supplier at any time during tender finalisation.

i) BHEL reserves the right to operate Purchase / Price preference to Government of India Undertakings, which shall be given as per the guidelines of Government of India given from time to time and / or relax the Terms and Conditions of the tender.

j) For the purpose of comparing prices, tender prices shall be converted to Indian rupees and the conversion shall be made by using the TT Selling rate of State Bank of India (SBI) prevailing on the date of opening of Techno-Commercial / Unpriced bids. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken. This exchange rate will be followed till placement of order. Tenderers may please note that even if an impact price is taken as in (d) for purpose of price evaluation and arriving at the rank; the exchange rate will be taken as explained above.

k) Unless otherwise specified, evaluation will be on individual line item basis only and ordering will be on respective L1 vendors.

l) BHEL reserves the right to conduct negotiations on the "Price" and "Other Commercial Terms and Conditions" with the lowest ranked offerer at any time after the bid opening but before the release of the Purchase Order and If so required by BHEL, Supplier may have to share their costing sheet with BHEL.

m) Bidders are required to confirm in writing in their techno-commercial document that other than themselves (the bidder) none of its group companies, concerns or affiliates etc., are participating in the tender either directly or indirectly or through any other agency under the same proprietor / common partner(s)/ common Directors. If during the evaluation of the bids it is found that the bidder has submitted the offer in violation of this condition then all the offers received from the group companies would stand rejected. If such relationship is found at a later date where the Purchase Order has been issued, then BHEL would cancel the Purchase Order and initiate suitable action/s under the contract/s including but not limited to invoking the Risk Purchase clause of the order and other applicable legal provisions / guidelines of BHEL including guidelines on suspension of business dealings. (Please see clause L sub-clause c).

n) For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018, 29.05.2019 & 04.06.2020 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/ PO/ WO against this NIT.

In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable."

Preference to **Make in India** including counter offering will be as per the Public Procurement (Preference to Make in India), Order 2017 available in the following links https://dipp.gov.in/public-procurements

http://dipp.nic.in/sites/default/files/publicProcurement_MakeinIndia_15June2017.pdf

http://dipp.nic.in/sites/default/files/Revised-PPP-MII-Order-2017_28052018.pdf

https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019_0.pdf

https://dipp.gov.in/sites/default/files/PPP%20MII%20Order%20dated%204th%20June%202020.pdf

D] Execution of the Order

a) BHEL will have the option to pre-inspect the materials at Supplier's works by BHEL's own inspector or by third party agency appointed by BHEL or BHEL's end customer/s. The mere act of the pre-dispatch inspection (PDI) does not absolve the Supplier from giving the specifications as agreed upon in the Purchase Order. In the case of inspection being carried out by a third party inspector (TPI) as per the extant practice, the TPI would forward the Inspection Report (IR) along with Test Certificates and other related documents to the Quality Assurance (QA) Department of BHEL. The QA department after scrutinising the report/s submitted by the TPI would issue the Material Dispatch Clearance Certificate (MDCC). Suppliers are hereby informed that materials should be dispatched only after getting the MDCC, failing which the materials may be rejected on receipt at BHEL Stores.

b) In the case of overseas suppliers Inspection call for carrying out the inspection shall be given 30 days before the scheduled contract delivery date. The Inspection date/s given by the Supplier shall be on firm basis. For local Suppliers the Notice period of Inspection shall be 10 working days.

c) Deviations, if any pointed out by the visiting Inspection team of BHEL shall be corrected and the items as per specification shall be dispatched on or before the contract delivery date after getting the MDCC. d) The final inspection for acceptance will, however be carried out at BHEL's works at Ranipet.

e) The contract delivery date is the date of receipt at BHEL Stores for suppliers in India, applicable in the case of FOR Destination Contracts.

For ex-works contracts or FOR dispatching station indigenous contracts, the date of the Lorry way bill issued by the authorised transport carriers of BHEL / Railway Receipt / Courier Way bill / Airway bill or any such dispatch documents of carriage approved by BHEL would be considered as the Contract Delivery Date. In the case of CFR contracts with overseas suppliers, the B/L date shall be taken as the Contract Delivery Date

f) Travel & other local stay cost for the Inspectors sent by BHEL will be to BHEL account, but other Inspection Charges, if any shall be to the account of the Seller only.

g) The supplier shall arrange for packing suitably in all respects for normal transport by sea / rail / road and Materials shall be suitably protected against effect of tropical salt laden atmosphere in the event of shipment being delayed at ports / store yards and as per BHEL TDC.

h) Foreign suppliers shall dispatch on CFR agreed Sea-Port basis, according to the contract conditions. Indian suppliers shall dispatch on free delivery (door-delivery) at BHEL stores basis only. Unloading the materials at BHEL Stores would be to the account of BHEL only.

i) In the event of any short supply, it shall be the responsibility of the supplier to deliver such short supplied/ missing items on Free-of-Cost basis at BHEL stores, including customs clearances at Indian Ports in the case of foreign suppliers.

k) Terms of payment:

k.1) For Indigenous Suppliers: Unless otherwise agreed to by BHEL, the standard payment terms of BHEL shall be: For non-MSE suppliers 100% payment made directly through EFT within 90 days from the date of receipt and acceptance of materials at BHEL Stores, Ranipet or 90 days from the date of acknowledgement of receipt of materials at destination specified. If any supplier asks for payment terms other than the above specified, then suitable loading on cost will be considered. **Loading of any deviation in the payment terms**
w.r.t tender terms will be "Base rate of State Bank of India (SBI) (as applicable on the date of bid opening: Techno-commercial bid opening in case of two part bids) + 6%, will be considered for loading for the periods of relaxation sought by bidders.

k.2) For MSE vendors (under Micro & Small category alone) 100% payment will be made within 45 days from the date of receipt and acceptance of materials at BHEL Stores, Ranipet or 45 days from the date of acknowledgement of receipt of materials at destination specified. Vendors to get themselves registered in Udyam registration Portal. The existing Micro & Small vendors are to submit copy of CA certificate along with Udyog Adhar Registration Certificate.

l) NOTE:

Where the destination specified is other than BHEL Stores Ranipet, for claiming payment, Supplier has to submit proof of receipt of the materials at the destination by furnishing a copy of the acknowledged despatch document (LR/RR/Courier receipt etc.) .

If the Bidder is bidding for the first time and wants to be considered as an MSE then, the Bidder shall submit document evidencing that they are an MSE along with a certificate from a Chartered Accountant certifying the status of their Unit / Works clearly specifying the address of the works which is to be considered as MSE and send the same to BHEL, Ranipet either before the tender opening date or upload it as a part of the tender document in the e-procurement portal. Where the document is submitted electronically a hard copy shall invariably be sent within a reasonable period (not exceeding 30 days) from the bid opening date for the purpose of BHEL's records. If the hard copy is not received within this specified time, then the supplier would be treated as a non-MSE. BHEL will not be responsible for any postal / courier / delivery delays.

For approved vendors the status as on the date of the bid opening as available with BHEL Ranipet's records shall be used for reckoning the status of the Bidder as an MSE or otherwise.

Offer/s received without these documents will be treated as non-MSE and order finalization will be done based on this premise. Documents submitted after Bid-opening will not be considered in this tender. This provision for MSE will apply subject to the condition that the participating MSE meets the tender requirements.

For approved suppliers, in case of any change in the MSE status, it shall be the responsibility of the Bidder to notify the change as a part of the Bid document. If at a later date it comes to the knowledge of BHEL, Ranipet that the change in the status has not been intimated by the Bidder and the order is obtained under the premise of an MSE then BHEL would cancel the pending order against this tender and take necessary steps for suspension of the business dealing with the Bidder as per the procurement policy of BHEL. Similarly if a supplier claims MSE status after the Part I bid opening, then the same would not be considered in the tender.

In case after the bid opening it is seen that no MSE has become L1, then depending on the nature of the item, if it is not possible to split the tendered items / quantities on account of reasons like customer contract requirements of supplying one make for a given project or technical reasons like the tendered item being a system etc. then BHEL would not counter offer the L1 prices even though there may be MSE bidders within the +15% band of L1.

Other concessions for MSEs / Reserved sectors (Also for women owned MSEs and MSEs owned by SC/STs)

In addition to the concessions specified above, MSE suppliers will be eligible for such other concessions as per the MSME Act 2006 and any other benefits / concessions that may be announced by the Government of India from time to time.. However, such concessions as applicable at the time of tender opening alone will be applicable. Any concessions advised after tender opening will not be considered for the current tender.

Items that are reserved for MSE and for any other items for which reservations for Indian manufacturers are notified by the Govt. Of India, such concessions as prevailing on the date of tender opening shall apply as a part of this tender conditions. ii) Foreign Suppliers "100% thru' irrevocable & unconfirmed LC at sight within 3 weeks from the PO date through any one of our Bankers listed elsewhere in the tender conditions for 100% value (less Agency
Commission, if any) valid up to the PO delivery period and 15 days thereafter for negotiation. All bank charges in India to BHEL's account and all other charges outside India to Supplier's account. **BHEL would load the price of foreign suppliers in order to bring them on common platform as per Indigenous Suppliers on the account of differential payment terms to Indigenous Suppliers. Loading of payment terms will be "Base rate of State Bank of India (SBI) (as applicable on the date of bid opening: Techno-commercial bid opening in case of two part bids) + 6%, will be considered for loading for the periods of relaxation compared to indigenous suppliers i.e. 90 days.**

m) Any incidence of tax like Income tax, Goods & Services Tax (GST) and Withholding any other similar tax / duties /levies imposed by the Government of India, or the State Government, where the BHEL Unit is located, deductible at Source, during the tenure of the Order shall be deducted by BHEL and necessary certification of the deduction (Tax deduction at Source) would be given. This is subject to the supplier fulfilling the necessary documentation as specified by the Government of India. (e.g. Tax Residency Certificate, PAN Number etc.)

n) The Guarantee period shall start from the "Date of receipt and acceptance of the materials at BHEL Stores."

E] Liquidated Damages Clause:

BHEL will levy penalty as Liquidated Damages (LD), for delay in delivery. The damages shall be at the rate of ½% per week or part thereof subject to a maximum of 10% PLUS applicable Goods & Services Tax

(GST). The contract delivery date for purpose of L.D is the date of receipt at BHEL Stores for suppliers in India for F.O.R. Destination Contract and the date of dispatch clearance given by BHEL for overseas suppliers. For ex-works or F.O.R dispatching station contracts, the date of the dispatch document will be reckoned as the date of delivery for computing the LD. Supplier shall deduct the applicable LD from the first payment when raising the claim for the same. The applicable LD if any would be communicated by BHEL along with the dispatch clearance. It is taken by BHEL that Foreign Suppliers have confirmed their acceptance to BHEL for opening the LC for value which is the value of the order reduced by the applicable LD. The LD would apply on the undelivered portion only. In case of reasons attributable to BHEL for the delay in delivery (for e.g. delay in arranging the pre-inspection) then the delivery time would be reset to the extent of the time delay attributable to BHEL, with waiver of the LD. Delivery being the essence of BHEL's contract requirements, unless otherwise specified the LD would apply on the undelivered portion of the contracted items. **In the event that a Supplier does not accept the LD condition above, the offer would be loaded to the extent of the shortfall with respect to upper limit specified above.**

F) Miscellaneous

i) Role of Principals and Agents:

BHEL will deal directly with indigenous manufacturers only.

BHEL strongly discourages the engagement of Agents in India by foreign principals, to deal with BHEL, in BHEL's tenders.

BHEL will not enter into any correspondence with an Indian Agent.

The Indian Agent will not be extended the privilege given to the principals, such as that of attending the tender openings, attending technical discussions, commercial discussions or price negotiations and such like.

In case, in spite of the above, a foreign principal insists on engaging an Indian Agent, It is made clear by BHEL that:

It is the sole responsibility of the foreign principal to ensure the Agent does not represent any other foreign principal in a given tender.

An undertaking to this effect shall be given by the foreign principal that his / her Agent does not represent any other foreign principal in the tender. This document shall form a part of the techno-commercial offer.

A Principal shall authorise only one Agent to quote against each BHEL's tender. In the event a Principal authorises more than one agent to quote against a BHEL's tender, then all such offers will be rejected by BHEL in that tender. Principals are also advised to include BHEL's tender Number / Reference in their authorisation issued to the Agent.

If at any stage of the tender, BHEL finds that an Indian Agent has represented more than one foreign principal, all such offers of and all the foreign principals would be disqualified summarily in the tender inquiry.

BHEL will only give an intimation of notice of the disqualification. No correspondence would be entertained by BHEL, on their decision. Such decision of BHEL shall be irrevocable, firm and final and shall be binding on the tenderer.

BHEL, due to business reasons would ban, would have banned Indian agents from dealing with BHEL.

Any foreign principal who engages such a banned agent, or an employee of the banned agency, or any other person connected with the banned agency, at any time during the tender proceedings, would be disqualified from the tender proceedings. The decision of BHEL in this regard shall be final and be binding on the OEM.

Hence in their own interests, prospective tenderers may check with BHEL, the status of their proposed agent vis-à-vis BHEL.

In view of the requirement of BHEL, it is strongly suggested that in their own interest, foreign principals may desist from engaging any Indian agent and deal with BHEL directly and it is stressed that any Main producer proposing to deal with BHEL by engaging and through an Indian Agent does so at their own risk.

BHEL shall in no way be responsible for any consequences that may arise to the foreign principal on account of the antecedents / actions of their Indian Agent.

In the event of the foreign principal engaging an Indian Agent:

a) The Supplier shall furnish an authenticated copy of the Agency Agreement with his agent detailing the precise relationship between them and their mutual interest in the business along with techno commercial bid.

b) The Supplier shall furnish original authorization letter for the Indian Agent. The letter shall contain name, contact person, complete postal address including phone, fax and e-mail ID. It shall also spell out the type of services to be rendered by Indian Agent.

c) Indian Agent & Agency commission: An Indian Agent can represent only one Foreign Manufacturer against a particular Tender. The CFR price quoted by the foreign bidder shall include the agency commission. However, the agency commission component payable to their Indian Agents shall be shown separately in the Offer, either as a lump-sum or as a percentage of the quoted price. This will be paid by BHEL in Indian Rupees, on satisfactory receipt & acceptance of the materials. For calculation of Rupee equivalent of Agency Commission, exchange rate as prevailing on the date of Purchase Order will be taken and

d) For all discussions, technical clarification and negotiations etc. only the principal would be authorized for interaction with BHEL. The Agent shall not be a party to the discussions / negotiations and would not be normally allowed to participate.

ii) Terms & Conditions of Letter of Credit (L/C) for overseas suppliers (indicated for acceptance).

a) Unconfirmed irrevocable Letter of Credit at Sight only will be opened by BHEL. Confirmation of L/C is not preferred by BHEL. Also L.C will be opened in Lots in line with the staggered delivery.

b) All Bank charges out side India are to the Supplier's account and within India to BHEL's account.

c) In case of L/C extension caused by delays attributable to the Supplier, the L/C extension / commitment charges are to be borne by the Supplier.

iii) Other terms & conditions for letter of credit: - Documents for negotiation

a) Signed Commercial invoice in quadruplicate, for a value not exceeding the draft amount, quoting the import Licence No and certifying goods evidencing shipment of the merchandise are as per Applicant's Purchase Order. The amount of invoice after deducting Indian Agent's commission, if any, should not exceed the Credit amount. (The Indian agent's commission, if any, is payable in India in Indian rupees only.)

b) Certificate of Country of Origin, from the country of manufacture, issued by the Chamber of Commerce.

c) One set of Original and two sets of Non-negotiable copies of 'signed', 'unmarked', 'clean on board' Ocean Bill of Lading, showing Shipper as "Government of India" Account M/s. Bharat Heavy Electrical Ltd, Unit: BHEL, Ranipet as consignee (The opening bank should not be notified as consignee), marked freight payable / prepaid at destination.

d) Packing list in 4 copies in English, indicating Size wise Number of bundles / pieces shipped and weight.

e) Certified copy of the fax / e-mail sent by the beneficiary to the applicant giving the following particulars of shipment, as the insurance is to be arranged by the Applicant in India: (a) Purchase Order Number & date; (b) Bill of Lading Number & date (c) Name of vessel; (d) Port of Loading; (e) Number of bundles / pieces and weight; (f) Invoice Number, date and value (g) Purchase Order item number's despatched. The cable / fax is to be sent within 2 working days of shipment.

f) Beneficiary's certificate showing the relevant airmail / courier reference no. and date that the following clauses have been complied with:

1] Beneficiary to forward by Registered Airmail / Courier one complete set of original documents and one set of non-negotiable documents within 3 working days of obtaining shipping documents to Regional Manager (ROD), Bharat Heavy Electricals Ltd, 6th Floor, EVR Periyar Bldg. No 690 (Old 474), Anna Salai, Nandanam, Chennai-600035. India. (Phone: +91-24330931, 24330253; e-mail: pbpwar@bhel.in)

2] Beneficiary to courier at his cost 3 copies of complete set of non-negotiable documents to the Officer who released the Purchase Order.

3] Declaration by the Supplier certifying that the contents in each case are not less than those entered in the invoices / packing list and that the invoicing for the supplies effected is strictly in accordance with agreed rates as stipulated in the Purchase Order.

4] Declaration to the effect that all other documents as per purchase order has been couriered to the Purchase order releasing authority

5) The carrying steamer should be seaworthy, less than 25 years of age and approved by Lloyds / Classification Societies / General Insurance Corporation of India from time to time and

6) Copy of Dispatch Clearance / Instruction issued by BHEL.

iv) Documents to be sent directly to the Purchaser prior to shipment

a) Manufacturer's Original Internal Inspection / Test certificate in triplicate.

b) Manufacturer's Original Guarantee certificate as per Purchase Order. The material shall be guaranteed for a period of 12 months from the date of acceptance of the materials at BHEL stores or 18 months from the

date of dispatch whichever is earlier. The acceptance would be evidenced by the Stores Receipt Voucher (SRV) which will be raised by BHEL.

c) Inspection / Test Certificate issued by BHEL / Inspection agency specified in the Purchase Order. In the event that Inspection prior to dispatch is not carried out by the Engineers of BHEL, the Inspection certificate of the third party so authorized by BHEL and

d) Any other documentation as specified in the Purchase Order.

v) Conditions for transportation:

a) All shipping documents shall show the Purchase Order Number & Date, Import Licence Number & Date, and Letter of Credit Number & Date. b) Transhipment is to be avoided.

c) Loading on deck is not permitted. The transport document must not contain a provision that goods may be carried on deck.

d) A transport document which is produced or appearing to have been produced by reprographic, automated or computerized systems or as carbon copy will be accepted as an original document provided that it is marked as original and is ink-signed.

e) The transport document must contain all the conditions of carriage on the original document.

f) The transport document must not indicate the place of destination as being different from the port of discharge.

g) The transport document must not contain the indication 'intended' or similar qualification in relation to the vessel or other means of transport or port of loading or port of discharge.

h) The transport document must be issued by the carrier or his agent and not by any freight forwarder.

i) Transport documents bearing reference by stamp or otherwise, to costs additional to the freight charges are not acceptable.

j) The Bills of Exchange must be dated and presentation of documents for negotiation must not be later than 15 days after the date of shipment and in any case not later than the expiry date of the Credit.

l) Indian suppliers shall dispatch the materials on freight prepaid and on door-delivery basis (FOR Destination – Destination: BHEL Stores) and

m) In the event there is a delay by the Supplier in negotiating / submitting the document, any demurrage / wharfage arising out of the same shall be to the account of the Supplier and shall be deducted from the final payment. Also, in such cases, the Supplier shall authorize the Steamer / Shipping agent / transporter to freely release the consignment to BHEL by providing a “Surrender Bill of Lading”. Over-seas Suppliers have to give a No-Objection Certificate to BHEL, authorizing BHEL to get the Delivery Order from the Steamer Agent without producing the Original Bill of Lading. This is required to ensure avoidance of incidence of demurrage at Chennai Sea-port that may arise in case of delayed presentation of documents by the Seller.

G) Reverse auction (RA) / on-line bidding on internet:

1. Decision to go for RA would be taken before floating of the tender. In case it is decided to go for RA, same shall be declared upfront in NIT by inserting the following clause:

> "BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."

2. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for "Suspension of Business Dealings with Suppliers/ Contractors (as available on www.bhel.com)."

3. The philosophy followed for reverse auction shall be English Reverse (No ties).

4. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.

5. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.

6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.

7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.

8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.

9. Reverse auction will be conducted on scheduled date & time.

Note: Decision to go for RA or not will be on case to case basis and shall be informed in the NIT conditions .

1. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
2. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, to the Service provider within two working days of Auction without fail.
3. Bidders are be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the „Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
4. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.

5. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.

6. The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with their offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, would also be opened after the RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. It is considered that the bidder having submitted their offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rate/s.

7. If it is found that L1 bidder has quoted higher in the online sealed bid in comparison to the envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com)."

8. The calculation sheet e.g. excel sheet (which will help to arrive at 'Total Cost to BHEL') will be communicated to respective bidders of RA by BHEL. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Goods & Services Tax (GST) and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.]

9. This calculation sheet will be finalized based on the evaluation criteria specified in the NIT.

10. Suppliers are required to submit their best price bid in a separate sealed cover along with techno commercial bid. After evaluation of Techno-Commercial Bids:

a) In case BHEL decides not to conduct RA, the envelope (sealed electronic price bid) sealed price bids of all techno-commercially qualified bidders, along with price impact, if any, would be opened and processed as per extant the internal Purchase/ Works Policy as applicable to BHEL.

b) In case BHEL decides to conduct RA, business rules of RA will be sent to service provider. (See Annexure for Model General Business Rules of RA.)

12. Generally the start price for the RA would be the lowest of

a) Lowest envelope (sealed electronic price bid) sealed bid and

b) Internal Estimate of BHEL

Note: Wherever more than one lowest online sealed bids are identical and lower than the estimate, the start price, would be that price arrived by reducing the lowest online sealed bid by maximum of one decrement.

21. The start price & bid decrement will be decided by RA committee of BHEL and the same would be communicated to the service provider, to start the bidding process.

22. Only those bidders who have submitted the 'Process compliance form' duly signed and within the scheduled time would be eligible to participate further in RA process.

23. RA will be conducted if three or more bidders are techno- commercially qualified . In case of more than four techno commercially qualified bidders , H1 bidder (whose quote is highest in sealed envelope (eps) price bids) will not be allowed to participate in further RA process. However there will be no H1 removal in case , H1 bidder happens to be MSE or qualifying under PPP-MII , order 2017 irrespective of the number of bidder qualifying techno commercially.

24. In case multiple H1 bidders, all H1 bidders (excluding MSEs and bidders qualifying under PPP- M11 Order 2017) shall be removed provided three bidders remain in fray, else no H1 removal.

25. If the lowest sealed envelope (eps) price bids is the starting price, then the lowest bidder in sealed envelope (eps) price bids shall be shown as current L1 automatically by the system. System would have the provision to indicate this bid as current L1 for further bidding.

26. If the start price is lower than the lowest sealed envelope (eps) price bids , on acceptance of such start price by any bidder, this bid would be indicated as current L1 for further bidding.

27. In case of no further bidding, RA will be deemed to have been successful with current L1 bidder.

28. All bidders who had given their bids would be able to see their rank and L1 price and their ranking L1, L2 etc. on the screen. Once the RA is done, the ranking status would be based on the last quoted price irrespective of quote received in RA or sealed envelope (eps) price bid.

29. RA shall be treated as failed in the following scenarios:

a) In cases where the start price is (a) estimate or (b) one decrement (maximum) lower than the lowest of the online sealed bids and no bidder accepts the start price.

b) In cases where the number of online sealed bids are less than three.

Wherever, the evaluation is done for individual line items, RA shall be treated as failed only for those line item(s) for which any of the above a) or b) satisfies.

29. In cases of failure of RA, retendering shall be resorted to without conducting RA in the

subsequent tender

30. Whenever the evaluation is done on total cost basis, after RA, prices of individual line items shall be reduced on pro-rata basis.

31. In case of splitting requirement, H1 bidder(s) who were removed from participation in RA may also be considered for counter offer if the pre-stated (NIT) number of suppliers do not accept the counter offer. However the principle of splitting to N-1 bidder shall be maintained in line with extant Purchase Policy / Work Policy

32. In case BHEL decides not to go for Reverse Auction for the tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL would be opened as per BHEL's standard practice.

33. In case of enquiry through e-Procurement, the sealed electronic price bid (e-bid) would be treated as sealed envelope price bid.

Note: In order to bring more transparency and to address any queries of Bidders on Reverse Auction, an abridged version of BHEL's "Common Guidelines for conducting Reverse Auction (RA)" has been hosted in BHEL's web site www.bhel.com under the links "Supplier Registration Page" and "Tender Notification". All Bidders are requested to visit the link and familiarize themselves with BHEL's RA procedures and guidelines before submission of their bid/s. Submission of Bid shall mean that the Bidder has read and understood BHEL's RA procedures and the bid is in agreement with the same.

H] Force Majeure

If at any time during the currency of this contract, the performance in whole or in part, by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events), then provided notice of happening of any such events is given by either party to other within ten days from the date of occurrence thereof, neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist. If the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

I] Cancellation of Order:

In the event of non-performance of the contract by the Supplier, BHEL reserves the right to cancel the order with issue of a written notice. BHEL would provide a curing period of 30 days, for the Supplier to rectify the situation. If the Supplier fails to rectify the reason/s that led to the issue of cancellation notice by BHEL, then the cancellation order would be issued automatically by BHEL, without further recourse to the Seller. BHEL will not pay any cancellation charges or any other charges / damages to the Supplier, arising out such cancellation. In the event of the non-performance of the supply contract, by the Supplier, the rights of BHEL include, in addition to cancelling the order, to take alternate purchase action at the cost and risk of the supplier. The additional expenditure to be incurred by BHEL in such alternate purchase would be to the account of the supplier. (Risk Purchase). This remedy would be in addition to the invoking of the CEBG on grounds of failure of the Supplier in executing the Contract and any other legal remedies." BHEL reserves the right to initiate the alternate purchase action at the cost and risk of the erring supplier by issue of a simple notice of intention for the alternate purchase action duly sent by any electronic means and / or by a letter. The cancellation of the order would not be a pre-condition for initiation of the alternate purchase action.

J] Contract Execution Bank Guarantee:

To demonstrate the fidelity of the successful bidder, in executing the Contract, on receipt of the Letter of Intent / Purchase Order, the Supplier shall arrange to provide a contract execution bank guarantee (CEBG). The format of the CEBG is a part of this enquiry. The format may be downloaded and necessary stamping may be obtained from the Banker towards submission of the CEBG. The indigenous suppliers have to provide the CEBG from any one of the Nationalized Banks, listed in the annexure to these terms. Overseas suppliers can submit the CEBG from any of the reputed International / National Bankers. However the

CEBG is to be confirmed by any of the Bankers listed by us. In the event of failure by the Supplier to execute the contract either fully or partially, BHEL would encash the entire CEBG. The CEBG shall be valid for the period covering the agreed delivery date of the order with a further claim period of 3 months on the last specified delivery date. In the event of the failure of delivery BHEL would proceed with encashing the CEBG without reference to the Supplier. In the event of BHEL granting extension of the delivery dates, then the CEBG validity shall also be got extended by the Supplier to the extent of the extended delivery times together with the claim period as specified elsewhere. **The CEBG shall be for a value of 2% of the Purchase order.**

Suppliers who are all already registered with BHEL and having a vendor performance rating of A or A+ grade would be exempted from submission of CEBG.

Performance Bank Guarantee

Where ever so required, the Supplier shall arrange to provide a Performance bank guarantee (PBG). The indigenous suppliers have to provide the PBG from any one of the Nationalized Banks, listed in the tender terms. Overseas suppliers can submit the PBG from any of the reputed International / National Bankers. However the PBG shall be confirmed by any of the Bankers listed by us. The PBG shall guarantee the performance of the equipment / materials / items supplied and shall cover the guarantee period. The PBG shall have a claim period of 3 months in addition to the guarantee period. In the event of failure of the supplies made within the guarantee period, BHEL would encash the entire PBG. **The PBG shall be for a value of 10% of the Purchase order.**

The supplier/s have to get the PBG format (pre-printed) from BHEL and get the same stamped by the Banker. Change of PBG terms either by the supplier's Banker or by the supplier, after servicing of the order is not acceptable. Similarly PBG prepared by the supplier (typed by them) will also not be acceptable to BHEL. The pre-printed form issued by BHEL shall be used for making the PBG.

K] Post-order submission of documents for approval

In the event of the release of Letter of Intent (LoI) / Purchase order/s (PO) against this tender, Bidders have to submit the applicable documents as called for in the tender / LoI / PO/s, such as drawings, data sheets, design calculations etc. These documents for approval have to be submitted within the agreed timelines between BHEL and Bidder. Normally the time period for submission for approval is 15 days from the date of receipt of the LoI / PO by the supplier. The actual time period within which the documents have to be submitted for approval would be specified in the LoI / PO.

Such documents would be subjected to evaluation and approval by BHEL and / or by BHEL's customer / Consultant / Customer's Consultant. Bidders have to give their specific acceptance for this.

After approval of such documents and after getting clearance from BHEL, only the items ordered can be taken up for manufacture.

Any changes required by BHEL / Customer etc. in the documents submitted for approval shall be incorporated by the Bidder and no extra cost would be payable by BHEL for such changes.

In the event that the Bidder does not carry out the required corrections, then the LoI / PO would be liable for cancellation by BHEL and BHEL would resort to alternate purchase action at the risk and cost of the Bidder under the Risk Purchase Condition of the Purchase Order.

Note: After receiving the LoI / PO, supplier shall also forward the acknowledgement / acceptance of the LoI / PO by signing and returning the second copy of the LoI / PO as the token of acceptance.

L] Others

a) In case of any contradiction in the terms and conditions given here and elsewhere in the other documents of the tender, it shall be the responsibility of the tenderer to get it clarified from BHEL. The officer authorized to provide such clarifications is the tender issuing officer.

b) Alterations to the conditions of the Tender can be done only by the authorized officer, at any time before the date and time of tender opening and would be duly communicated through a corrigendum. c) **Suspension of Business dealings with Suppliers**:

(i) Before submitting offer, prospective bidders are advised to visit our web-site www.bhel.com / supplier registration to familiarize themselves with BHEL's policy and procedures of Suspension of Business Dealings with Suppliers.
Submission of offer shall be deemed to be evidence of the Bidder to have read and understood the above said policy.

ii) **Treatment of Banned / Under-performing Vendors**:
Any supplier who has been put on "Hold" or "Banned" from having business dealings with BHEL, Ranipet or any other unit of BHEL shall not submit their offer against this tender. If any such offers are received they would be summarily rejected and sent back. During the processing of tender, if any unit of BHEL puts a supplier on "Ban" then further processing of the offer will not be taken up and in case an order is placed, BHEL, Ranipet may resort at their discretion to cancel the PO either fully or partially.
If any of the supplier who is supplying similar material to BHEL, Ranipet has a Vendor Performance Rating (VPR) score of 'C' or below, then offer given by such parties will not be considered for ordering in this tender.
If any of the Bidders have unexecuted order/s with BHEL and if in such orders, the deliveries have been delayed beyond a reasonable period (say 30 days of agreed delivery period), the offer of such Bidders will also be liable for rejection.
Offers of such of those bidders against whom action for suspension of business dealings has been initiated by BHEL, Ranipet or any other Units/Division of BHEL will also not be considered in this tender.

d) **Fraud Prevention Policy**:

The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

e) **Applicability of Integrity Pact**:-

IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. A panel of Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Sl.No	IEM	Email
1.	Shri Arun Chandra Verma, IPS (Retd.)	acverma1@gmail.com
2.	Shri Virendra Bahadur Singh, IPS (Retd.)	vbsinghips@gmail.com

The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid(Part-I, in case of two/three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to the IEM(s).All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

For all clarifications/ issues related to the tender, please contact:

Name: (1) …… (2) ……
Dep't: …… Address:
……
……..
Phone:(Landline/Mobile) (1) …… (2) ……..
Email:
Fax:

Integrity Pact are applicable for all the BHEL enquiries whose estimated value is equal to or more than Rupees 05 Crores.

Copy of Integrity Pact with applicable nominated IEM is attached along with the tender documents for ready reference of Suppliers.

f) If any Supplier attempts to bribe, or pay commission, gift or any advantage or bring in undue influence either by himself or on his behalf any one including a stranger to the tender, in addition to instituting legal proceedings as per the extant laws prevailing, will disqualify the supplier from this tender and all future tenders of BHEL. Decision of the Purchaser would be final in this matter.

g) The laws governing this transaction shall be the laws in India.

h) Wherever not specified, Inco terms 2010 shall be used to interpret the Commercial terms and conditions and

i) In the event of an order, Supplier shall agree to settlement of disputes or differences, if any, by way of arbitration, in accordance with the "Rule of Arbitration" of the Indian Council of Arbitration.

The language in the tender documents downloaded by the Bidders shall at no point of time be changed, altered or modified in any manner by the Tenderer. If such changes are made by any tenderer, it shall be considered as tampering with BHEL's terms and the offer shall be summarily rejected, whenever it is noticed by BHEL. Such Bidders would be disqualified from the Bidding Process and their offers would be forfeited / Bank Guarantees invoked. They would also not be allowed to participate in future tenders of BHEL.

M. Conditions for rejection of offers:

Following is the list of situations which would lead to rejection of offer/s.

This list is not exhaustive but only indicative.

BHEL reserve the right to reject one or all offers without assigning any reason. The decision of BHEL will be final in this regard.

1. *If the offer fails to meet the technical requirements/specifications of the tendered item/s.*
2. *If the offer does not meet the commercial terms & conditions, such as but not limited to delivery period specified in the tender, Delivery terms, payment terms, Liquidated damages, Risk Purchase, cancellation clause etc., including the load factors specified in the tender.*
3. *If the bidder fails to respond to clarification sought, within a reasonable period. In case of doubts / lack of clarity on the technical and commercial offer of the bidder, BHEL will seek clarifications.*

   Bidders are required to respond completely to such BHEL's queries within 3 working days unless otherwise agreed to in writing by BHEL for period beyond 3 days. If supplier fails to respond within 3 working days or maximum 2 working days on a reminder thereon, the offer of such bidders will be automatically dis-qualified in the tender without further recourse to informing the bidder.
4. *If any of the conditions listed below are applicable to the bidder, the offer is liable to be rejected:*

   If any

- Debt recovery / Winding up Proceedings are initiated against the Company in Courts / Debt Recovery Tribunals (DRTs),
- Proceedings are there against the Company in National Company Law Tribunal (NCLT) with respect to Insolvency and Bankruptcy Code (IBC) or otherwise,
- Any proceedings are there against the Company under the "Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act,
- Any restructuring proceedings are underway for the Company under Corporate Debt Restructuring (CDR), Strategic Debt Restructuring (SDR) or otherwise,
- Divestment / demerger proceedings are underway for the Company under the Companies Act.
- If action under guidelines of suspension of business dealings (Ref AA/MM/SB/01 Rev 02 dt 22.07.2016) and its latest revisions has been initiated against the company/bidder.

5. *Failure to sign & accept the Integrity Pact (where applicable). Bidders are hereby informed that the contents of the Integrity Pact are firm and fixed and cannot be changed.*

The above list is not exhaustive but is indicative only.

N. Special Note:

BHEL is a Government of India Undertaking. Its procurement practices are governed by the (Internal) Purchase Policy issued by the management of the company and as per Annexure B applicable at the time of finalising the order against this tender.

-O-

Record of Revisions:

Revision No.	Revision Date	Modification
01	17.08.2016	Payment terms for Foreign suppliers modified wrt loading- Clause k.ii
02	29.08.2016	Treatment of banned vendors – Para 3 added - Clause L.ii
03	14.09.2016	Opening of offers – clause B – sub clause 'b' included and existing clause 'b' renamed as 'c'.
04	14.09.2016	Opening of offers – Note – sub clause (ii) modified
05	12.10.2016	Clause N. Special Note added
06	22.10.2016	Clause G Reverse Auction modified. Annexure on General Business Rules for Reverse Auction appended Role of Principals added under 'Miscellaneous'
07	20.01.2017	Clause L (e) is modified. Clause L (f ,g ,h) renumbered.
08	24.02.2017	Clause F(c) modified.
09	08.07.2017	Clause M, Point 4 is added – regarding the financial health of the Bidder - as a criterion for disqualification.
10	20.07.2017	Duties and Taxes replaced with GST; Applicability of GST for LD inserted in Clause E; Treatment of poor performing current vendors inserted in clause L.c.(ii)
11	25.07.2017	Clause A.Note (iii) CST etc., replaced with GST; Clause C.f Deleted;
12	15.09.2017	Clause M, Point 5 inserted regarding Integrity Pact
13	21.03.2018	Clause A, Point xi inserted regarding Overwriting in Price Bids
14	28.05.2018	Clause A, a),b),c),d) amended for M/s E-Procurement technologies, https://bhel.abcprocure.com . Clause A, (f, g, h) – modified. Clause M, Point 4, - regarding suspension of business dealings inserted.
15	23.07.2018	Clause L,(e)- Applicability of Integrity Pact – modified.
16	31.08.2018	Clause C,(n)- Preference to Make in India – added.
17	04.12.2018	Clause C,(n)- Preference to Make in India & Clause K.2 Note - MSE concessions– modified.
18	13.02.2019	Clause C,(n)- Preference to Make in India – modified. Page no 9 Clause o – Extended credit period - removed.
19	24.09.2019	Clause C,(n) - Preference to Make in India – modified. Clause L,(e) - New IEMs Updated
20	11.03.2020	Clause L,(e) – IEM's address removed

21	11.06.2020	Clause G – Reverse Auction modified
22	22.07.2020	Clause C,(n) - Preference to Make in India – modified. Clause k (2) - MSE registration modified

ANNEXURE

Model General Business Rules for Reverse Auction

This has reference to tender no **{tender number….date…}**. BHEL shall finalise the Rates for the supply of {item name} through Reverse Auction mode. BHEL has made arrangement with M/s. {Service provider}, who shall be BHEL's authorized service provider for the same. Bidders should go through the instructions given below and submit acceptance of the same.

The technical & commercial terms are as per (a) BHEL Tender Enq. No. {…} dated {...}, (b) Bidders' technical & commercial bid (in case of two part bid) and (c) subsequent correspondences between BHEL and the bidders, if any.

1. Procedure of Reverse Auctioning

i. Online Sealed Bid: This duration of online sealed bid will be {…} minutes. All bidders to submit their online sealed bids during this period. ii. Online Reverse Auction: The 'opening price' i.e. start price for RA and 'bid decrement' will be decided by BHEL.

iii. If BHEL decides the lowest online sealed bid as the starting price, then the lowest bidder in online sealed bid shall be shown as current L1 automatically by the system and no acceptance of that price is required. System shall have the provision to indicate this bid as current L1. iv. Bidders by offering a minimum bid decrement or the multiples thereof can displace a standing lowest bid and become "L1" and this continues as an iterative process.

v. After the completion of the online reverse auction, the Closing Price (CP) shall be available for further processing.

2. Schedule for Reverse Auction: The Reverse Auction is tentatively scheduled on {date}:

and the duration of online sealed bid will be {…} minutes. All bidders to submit their online sealed bids during this period. **- Online Sealed Bid:-**

• {Start Time:

• Close Time: }

- Online Reverse Auction:-

• {Start Time:

• Close Time:}

3. Auction extension time:

If a bidder places a bid in the last {…} minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another {…} minutes, for the entire auction (i.e. for all the items in the auction), from the time that bid comes in. Please note that the autoextension will take place only if a bid comes in those last {…} minutes and if that bid gets accepted as the lowest bid. If the bid does not get accepted as the lowest bid, the auto-extension will not take place even if that bid might have come in the last {…} minutes. In case, there is no bid in the last {…} minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, bidders are advised not to wait till the last

minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

The above process will continue till completion of Reverse Auction.

Complaints/ Grievances, if any, regarding denial of service or any related issue should be given in writing thru e-mail/ fax to M/s. {Service provider} with a copy to BHEL within 15 minutes prior to initial closing time of Online Reverse Auction.

4. **Bid price:** The Bidder has to quote the {……} Price inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, GST, Freight (bidder to provide original Freight paid receipt), insurance charges, etc. including loading (if indicated by BHEL due to deviations in technical/ commercial terms) for the Items specified. Details are as shown in Excel Sheet for calculation of total cost to BHEL(To be specified by Unit as per NIT conditions).

5. **Bidding currency and unit of measurement:**

Bidding will be conducted in *Indian Rupees per Unit* of the material as per the specifications {...}

In case of foreign currency bids, exchange rate (TT selling rate of State Bank of India) as on scheduled date of tender opening (Part-I bid) shall be considered for conversion in Indian Rupees. If the relevant day happens to be a Bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken.

6. **Validity of bids:** Price shall be valid for {… *days*} from the date of reverse auction. These shall not be subjected to any change whatsoever.

7. **Lowest bid of a bidder:** In case the bidder submits more than one bid, the lowest bid at the end of Online Reverse Auction will be considered as the bidder's final offer to execute the work.

8. Bidders shall be assigned a **Unique User Name** & **Password** by M/s. *{Service provider}*.Bidders are advised to change the Password and edit the information in the Registration Page after the receipt of initial Password from M/s. *{Service provider}* to ensure confidentiality. All bids made from the Login ID given to the bidders will be deemed to have been made by the bidders/ bidders 'company.

9. Post auction procedure: BHEL will proceed with the Lowest Bid in the Reverse Auction for further processing.

10. Any commercial/ technical loading shall be intimated to bidders prior to RA. The excel sheet provided in this regard shall cover all these aspects. Commercial/ technical loading if any, shall be added by the respective bidder in its price during online sealed bid & Online Reverse Auction. Modalities of loading & de-loading shall be separately intimated to the bidders. The responsibility for correctness of total cost to BHEL shall lie with the bidders.

11. Computerized reverse auction shall be conducted by BHEL (through M/s. {Service Provider}), on prespecified date, while the bidders shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.

During the RA process if a bidder is not able to bid and requests for extension of time by FAX/ email/ phone then time extension of additional 15 minutes will be given by the service provider provided such requests come before 5 minutes of auction closing time. However, only one such request per bidder can be entertained. Despite this extension if bidder fails to upload his prices due to extreme case of failure of Internet connectivity, (due to any reason whatsoever may be) it is the bidders' responsibility/ decision to send fax communication immediately to M/s. {Service provider}, furnishing the price the bidder wants to bid online with a request to the service provider to upload the faxed price online so that the service provider will up load that price online on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by the service provider in a readable/ legible form and also the Bidder should simultaneously check up with service provider about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be uploaded by the service provider only within the closure of Bid time and under no circumstance it shall be allowed beyond the closure of Bid time /reverse auction. It shall also be noted that the service provider should be given a reasonable required time by the bidders, to upload such prices online and if such required time is not available at the disposal of the Service

provider at the time of receipt of the fax message from the bidders, the service provider will not be uploading the prices and either BHEL or the service provider are not responsible for this unforeseen circumstances. In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power or loss of connectivity at the premises of bidders during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor M/s. *{Service provider}* is responsible for such eventualities.

12. Proxy bids: Proxy bidding feature is a pro-bidder feature to safeguard the bidder's interest of any internet failure or to avoid last minute rush. The proxy feature allows bidders to place an automated bid in the system directly in an auction and bid without having to enter a new amount each time a competing bidder submits a new offer. The bid amount that a bidder enters is the minimum that the bidder is willing to offer. Here the software bids on behalf of the bidder. This obviates the need for the bidder participating in the bidding process until the proxy bid amount is decrementally reached by other bidders. When proxy bid amount is reached, the bidder (who has submitted the proxy bid) has an option to start participating in the bidding process.

The proxy amount is the minimum amount that the bidder is willing to offer. During the course of bidding, the bidder cannot delete or change the amount of a proxy bid. Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing bidder bids, regardless of the fact whether the competing bids are submitted as proxy or standard bids. However, it may please be noted that if a manual bid and proxy bid are submitted at the same instant manual bid will be recognized as the L1 at that instant. In case of more than one proxy bid, the system shall bid till it crosses the threshold value of 'each lowest proxy bid' and thereafter allow the competition to decide the final L1 price. Proxy bids are fed into the system directly by the respective bidders. As such this information is privy only to the respective bidder(s).

13. Bidders are advised to get fully trained and clear all their doubts such as refreshing of screen, quantity being auctioned, tender value being auctioned etc. from M/s. *{Service provider}*.

14. M/s. *{Service provider}*, shall arrange to demonstrate/ train the bidder or bidder's nominated person(s), without any cost to bidders. M/s. *{Service provider}*, shall also explain the bidders, all the business rules related to the Reverse Auction. Bidders are required to submit their acceptance to the terms/ conditions/modalities before participating in the Reverse Auction in the process compliance form as enclosed. Without this, the bidder will not be eligible to participate in the event.

15. Successful bidder shall be required to submit the final prices (L1) in prescribed format (Annexure-VI) for price breakup including that of line items, if required, quoted during the Online Reverse Auction, duly signed and stamped as token of acceptance without any new condition (other than those already agreed to before start of auction), after the completion of auction to M/s. *{Service provider}* besides BHEL within two working days of Auction without fail.

16. Any variation between the final bid value and that in the confirmatory signed price breakup

Document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings (as available on www.bhel.com).

17. Bidders' bid will be taken as an offer to execute the work/ supplies of the item as per enquiry

No. {…} dt. {…}. Bids once made by the bidder, cannot be cancelled/ withdrawn and bidder shall be bound to execute the work as mentioned above at bidder's final bid price. Should bidder back out and not execute the contract as per the rates quoted, BHEL shall take action as per extant guidelines for suspension of business dealings (as available on www.bhel.com).

18. Bidders shall be able to view the following on their screen along with the necessary fields during Online Reverse Auction:

a. Leading (Running Lowest) Bid in the Auction (only total price of package). b. Bid Placed by the bidder.

c. Start Price.

d. Decrement value.

e. Rank of their own bid during bidding as well as at the close of auction

19. BHEL's decision on award of contract shall be final and binding on all the Bidders.

20. BHEL reserves the right to extend, reschedule or cancel the Reverse Auction process at any time, before ordering, without assigning any reason, with intimation to bidders.

21. BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause. In such cases, the decision of BHEL shall be binding on the bidders.

22. Other terms and conditions shall be as per bidder's techno-commercial offers and other correspondences, if any, till date.

23. If there is any clash between this business document and the FAQ available, if any, in the website of M/s. *{Service provider}*, the terms & conditions given in this business document will supersede the information contained in the FAQs. Any changes made by BHEL/ service provider (due to unforeseen contingencies) after the first posting shall be deemed to have been accepted if the bidder continues to access the portal after that time..

24. Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines for suspension of business dealings (as available on www.bhel.com), shall be initiated by BHEL.

RA price confirmation and breakup
(To be submitted by L1 bidder after completion of RA)

To
- M/s. Service provider
- Postal address

CC: M/s BHEL

BOILER AUXILIARIES PLANT
INDIRA GANDHI INDUSTRIAL COMPLEX
RANIPET – 632406
TAMILNADU
INDIA.

Sub: Final price quoted during Reverse Auction and price breakup

Dear Sir,

We confirm that we have quoted.

Rs.{ _____in value & in words_____ } for item(s) covered under tender enquiry No. {...} dt.{…}

Total price of the items covered under above cited enquiries is inclusive of {Packing & forwarding, GST, freight and insurance charges up to {……}
District,{……..} State and Type Test Charges etc., [exclusive of Goods & Services tax (GST)], other as
per NIT}

as our final landed prices as quoted during the Reverse Auction conducted today {date} which will be valid for a period of { ___ in nos. & in words ___ } days.

The price break-up including that of line items is as given below.

	========
Total	- Rs.in value & in words
	========

Thanking you and looking forward to the valuable order from BHEL.

Yours sincerely, For
_____
Name:
Company:
Date: Seal:

ANNEXURE - C
BHEL : BAP : RANIPET
PURCHASE – WATER SYSTEM
STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT
Enquiry No.7700588E Dated 29-OCT-2020 Due on: 19-NOV-2020 (NIT_55440)

Sl. No.	DESCRIPTION	BHEL (PURCHASER) REQUIREMENT	VENDOR (SELLER) CONFIRMATION
I	**Technical**		
01	SCOPE OF SUPPLY (Enq. Sl. No. 001& 002)	Please confirm the Scope of Supply of **"STATIC MIXER AND ACCESSORIES"** as per Specification No. 1) ROS 6294 REV 00 DATE 08.05.2020 - TECHNICAL SPECIFICATION FOR STATIC MIXER, 2) ROS 9008 REV 00 DATE 20.10.2019 - GENERAL SPECIFICATION FOR STATIC MIXER submit the same after necessary Filling,signing & returning a copy of the same.	
02	SPECIFICATION	Please confirm Clause wise / Point wise "IN TOTO" for all specifications and submit along with offer.	
03	DATA SHEETS / DRAWINGS	Filled Data Sheets and Drawings are to be submitted along with offer. (if applicable)	
04	QUALITY ASSURANCE PLAN (QAP)	Please Confirm to submit the QAP / RQP / MQP as per the Customer Sample Format for review and approval by customer within 2 Weeks from the date of Purchase Order (PO). Please Refer **Annexure - Q** and provide your accepatnce.	
05	SPECIFICATION DEVIATION DISPOSITION REPORT (SDDR)	Attached SDDR to be filled & submit along with offer. (Even, If NO deviation is taken, NIL report to be submitted).	
06	PRE-QUALIFICATION REQUIREMENT (TECHNICAL)	Vendor should submit the Filled QR Datasheet & Necessary supporting documents proof for meeting the QR as per Pre-Qualification Requirement (PQR) for **"STATIC MIXER AND ACCESSORIES"** **1) SM-UDANGUDI REV 00 DATE 17.10.2020 - PRE-QUALIFICATION REQUIREMENT FOR FOR STATIC MIXER**	
III	**Commercial Terms & Conditions**		
01	PRICE	Please confirm 'Firm Price' till completion of order	
02	UNPRICED BID (PART-1)	Please confirm submission of '**Unpriced bid**' in the price bid format attached duly signed. SCANNED COPY of FILLED & SIGNED COPY OF 'Price Bid' format attached by filling all informations by writing '**Quoted**' as the case may be in the '**Rate**' and '**Value**' columns to be submitted through E-Procurement System.	
03	PRICED BID (PART-2)	Please confirm submission of '**Priced bid**' in the price bid format attached duly signed. SCANNED COPY of FILLED & SIGNED COPY OF '**Price Bid**' format attached by filling all informations by writing the value as the case may be in the '**Rate**' and '**Value**' columns in a separate attachment to be submitted through E-Procurement System. **Price bid opening will be considered after the Techno-Commercial evaluation /confirmation and acceptance by BHEL, Ranipet.**	
04	DELIVERY TERMS & PRICE BASIS	Please confirm for FOR - Destination (**TANGEDCO - UDANGUDI STPP STAGE - I)** basis. Unloading the Material at site is BHEL Scope.	
05	CONSIGNEE ADDRESS (SUPPLY DESTINATION) FOR ENQ. SL. NO. 001 -002	Please confirm supply to the following consignee address in the event of Order. **SE/PROJECTS** **2X660 MW UDANGUDI STPP STAGE - I** **TAMILNADU GENERATION & DISTRIBUTION CORPORATION,** **UDANGUDI, THOOTHUKUDI (DT)** **TAMILNADU - 628203** **GSTIN : 33AADCT4784E1ZC** **Contact Person: will be informed later** **(On account of M/s BHEL, BAP, Ranipet - 632 406)**	
06	ORIGIN OF DESPATCH OF VARIOUS CONSIGNMENT	Please indicate clearly the origin of despatch of various consignments duly indicating whether interstate or intrastate based on the consignee address above. Origin of despatch should not be subjected to change during execution of contract.	

ANNEXURE - C
BHEL : BAP : RANIPET
PURCHASE – WATER SYSTEM
STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT
Enquiry No.7700588E Dated 29-OCT-2020 Due on: 19-NOV-2020 (NIT_55440)

Sl. No.	DESCRIPTION	BHEL (PURCHASER) REQUIREMENT	VENDOR (SELLER) CONFIRMATION
07	PACKING & FORWARDING	Please confirm inclusion of Packing & Forwarding Charges in the Basic quoted price. If it is extra payable by BHEL, Please clearly indicate the applicable Packing & Forwarding charges in % value.	
08	FREIGHT & INSURANCE	Please confirm inclusion of Freight & Insurance Charges towards this in the Basic quoted price. A) If Freight & GST is extra payable by BHEL, Please clearly indicate the applicable portions of : 01.Freight charges in % on Basic Quoted price. 02.If GST applicable for the freight kindly indicate the same. B) If Insurance is extra payable by BHEL, Please clearly indicate the applicable portions of : Insurance charges in % on Basic Quoted price.	
09A	GOODS AND SERVICES TAX FOR **SUPPLY PORTION** (CGST/SGST/UTGST/IGST)	Please indicate the exact percentage of CGST/SGST/UTGST/IGST (whichever is applicable) is quoted as per the existing tariff on the date of the offer and all benefits as per existing laws have been considered. It is the responsibility of the seller to issue the Tax Invoice strictly as per the format prescribed under the relevant applicable GST law (CGST Act/SGST Act/UTGST Act/IGST Act). Vendor to indicate the proper GSTN Registration/ HSN code in their tax invoice.	
09B	GOODS AND SERVICES TAX FOR **SUPPLY PORTION** (CGST/SGST/UTGST/IGST)	Please Confirm the Applicable percentage of CGST/SGST/UTGST/IGST Payable Extra by BHEL (OR) Not?	
10A	PAYMENT TERM FOR SUPPLY .	**In case of Non-MSE vendors.** 100% payment will be against site receipt & submission of Bank Guarantee towards Performance (As called for in Sl. No. 17) within 90 days & receipt of complete documents as per PO. **Offers with payment Terms such as Cash against Delivery / advance payment / payment through Bank against dispatch documents will be summarily rejected**	
10B	PAYMENT TERM FOR SUPPLY .	**In case of Registered MSE vendors.** 100% payment will be against site receipt & submission of Bank Guarantee towards Performance (As called for in Sl. No. 17) within 45 days & receipt of complete documents as per PO. **NOTE: Please confirm your status in case of MSE with relevant proof.** **For MSE Registration, you have to submit the Notarized copy of MSE certificate with Original CA certificate & Udyog Aadhaar Certtificate with date of filing.** **Offers with payment Terms such as Cash against Delivery / advance payment / payment through Bank against dispatch documents will be summarily rejected**	
11	DELIVERY PERIOD FOR THE SUPPLY (ENQ. SL. NO. 001 - 002)	Please confirm the supply completion in **4 Months from the date of CAT-I Approval of all Documents / Manufacturing clearance, which ever is Later.** Vendor to submit all drawings/documents within 2 weeks from the date of purchase order and resubmit the drawings/documents within 1 week incorporating all the comments. In case there are delays of submission of drawings/documents beyond 2 weeks of order or 1 week of comments, that much days of delay would be reduced from delivery period. It is proposed to indicate the delivery period as 4 Months FOR - Destination (TANGEDCO - UDANGUDI STPP STAGE - I) from the date of CAT-I approval of all Drawings, data sheets & MQP documents and Manufacturing clearance whichever occurs later. As and when final approval is given the delivery date will be re-fixed for all purpose with above condition. However, a notional delivery date will be indicated in the PO based on above 3 months to release the PO and trigger post PO activities. Vendor can also quote improved delivery date if any or otherwise, please clearly indicate the delivery period in weeks / months from the date of Manufacturing clearance. **NOTE: Delivery period shall be reckoned till receipt of materials at site subject to issuance of MDCC from Customer / BHEL. For LD Purpose, Date of site receipt of material will only be considered.**	

ANNEXURE - C
BHEL : BAP : RANIPET
PURCHASE – WATER SYSTEM
STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT
Enquiry No.7700588E Dated 29-OCT-2020 Due on: 19-NOV-2020 (NIT_55440)

Sl. No.	DESCRIPTION	BHEL (PURCHASER) REQUIREMENT	VENDOR (SELLER) CONFIRMATION
12A	Preference to make in India	For this procurement, public procurement (preference to make in India), order 2017 dt 15.06.2017, 28.05.2018, 29-05-2019 & 04-06-2020 and subsequent order issued by the restrictive nodal ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT. In the event of any nodal ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable	
12B	Minimum Local content	Minimum Local content declaration in %. Please furnish the local content declaration format and details of location where this value addition has been done. Declaration of Local Content to be submitted by Local supplier with prescribed format attached with this Tender document.	
13	LIQUIDATED DAMAGES (LD) - Supply Portion	Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half (½) percent of the Undelivered Portion price per week or part thereof, subject to a maximum of ten (10) percent of the total contract price including GST & freight, if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/ Contract.	
14	OFFER VALIDITY	Please confirm Offer Validity for a minimum period of 180 days from the date of Part I bid opening.	
15	INSPECTION	Please confirm for 'Inspection of all the Items by BHEL Engineers / BHEL Authorized Engineer and Customer / Consultant Engineer either jointly or individually before the dispatch of the item at vendor works as per approved QAP. Please note that no payment will be made by BHEL towards inspection. Please Refer Annexure - Q and provide your accepatnce.	
16	MDCC (Material Dispatch Clearance Certificate)	Please confirm that required documents to be submitted as per the Inspection document Check List (Ref: INSP:CHK:001 REV 00 DATE 10/08/2020) for getting MDCC from End Customer/Consultant/BHEL.	
17	TEST CERTIFICATE (TC)	Please confirm that required TC will be provided at 'No Extra Cost'.	
18	GUARANTEE CERTIFICATE (GC) - Supply Portion.	Please confirm furnishing of Guarantee certificate in BHEL format for 12 months from the date of commissioning or 18 months from the date of last despatch whichever is earlier.	
19	**Contract Execution Bank Guarantee (CEBG).** Ple Ref: ANNEXURE –A GENERAL TERMS & CONDITIONS (FOR GUIDANCE TO THE SUPPLIERS)Under Clause -J] Contract Execution Bank Guarantee:	To demonstrate the fidelity of the successful bidder, in executing the Contract, on receipt of the Letter of Intent / Purchase Order, the Supplier shall arrange to provide a contract execution bank guarantee (CEBG).	
20	BANK GUARANTEE (BG) TOWARDS Supply Portion (10% OF ORDER VALUE)	BG to be submitted in the format issued by BHEL. BG for 10% of the Total PO Value. Validity of the Bank Guarantee shall be for the entire Guarantee period. Initially, it should be at least 18 months from the date of first dispatch plus 3 months claim period, later extended to cover the entire guarantee period, two months before its expiry.	
21	ERECTION MANUAL (INSTALLATION INSTRUCTIONS)	Please confirm for providing of 'comprehensive Erection Manual covering the entire supply which include bought-outs' 6 sets in Hard copy & one CD form.	
22	O & M MANUAL	Please confirm for providing of 'comprehensive O&M Manual covering the entire System' 6 sets in Hard copy & one CD form.	
23	REVERSE AUCTION	NOT Applicable. Price bids will be opened for techno-commercially qualified vendors.	
24	RISK PURCHASE CLAUSE **(CLAUSE No. 6 of General Terms and Conditions for Indigenous offer)**	BHEL's Standard Risk Purchase clause will be applicable. Please confirm.	
25	ZERO DATE (CONTRACT EFFECTIVE DATE)	Contract Effective date starts from Manufacturing Clearance subject to Documents submission clause. Please confirm for 'Date of Manufacturing Clearance'.	

ANNEXURE - C
BHEL : BAP : RANIPET
PURCHASE – WATER SYSTEM
STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT
Enquiry No.7700588E Dated 29-OCT-2020 Due on: 19-NOV-2020 (NIT_55440)

Sl. No.	DESCRIPTION	BHEL (PURCHASER) REQUIREMENT	VENDOR (SELLER) CONFIRMATION
26	Loading Criteria	Please note that no Commercial deviation is acceptable to BHEL. In case any deviation is taken in any of the commercial terms such as PAYMENT TERMS, LD etc., where in we have specified the days, percentages etc., then loading will be done to the extent of the short fall with respect to the upper Limit specified for evaluation. In repect of LD offers which do not accept for LD Clause would be summerly rejected - Please Confirm. In repect of CEBG & BG offers which do not accept for CEBG & BG Clause would be summerly rejected - Please Confirm.	
27	NEGOTATION	In the event of negotiation if any, please confirm participation only by supplier's representative and not by their Agent which include indian Agent in the case of Foreign Offer.	
28	OTHER DOCUMENTS FOR APPROVAL (BBU)	In the event of order vendor should confirm the submission of BBU for the complete system supply with break up for each line item as well as quantities with value (If Applicable)	
29	PLEASE PROVIDE THE STATUTORY DETAILS (Submit a copy of PAN, if not submitted already)	GST Regn. Number	
		HSN NO.: HARMONIZED SYSTEM OF NOMENCLATURE UNDER GST FOR THE OFFERED ITEM	
		PAN No. :	
30	CONTACT PERSON'S ON **TECHNICAL DETAILS** FOR CORRESPONDENCE	Name:	
		Designation:	
		Phone No.:	
		Mobile No.:	
		Fax No.:	
		E-mail ID:	
31	CONTACT PERSON'S ON **COMMERCIAL DETAILS** FOR CORRESPONDENCE	Name:	
		Designation:	
		Phone No.:	
		Mobile No.:	
		Fax No.:	
		E-mail ID:	
32	**BHEL will not take cognizance of commercial terms mentioned by the bidder any where else.** **Commercial terms and conditions indicated in this Annexure - C will only be applicable and binding.**	**Acceptance Required**	

Signature, Seal & Date of offerer on all the pages.

ANNEXURE - D
BHEL : BAP : RANIPET
PURCHASE – WATER SYSTEM
UN PRICED OFFER / PRICE OFFER (Please Tick whichever is applicable)
STATIC MIXER AND ACCESSORIES
FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT
Enquiry No.7700588E Dated 29-OCT-2020 Due on: 19-NOV-2020 (NIT_55440)

PRICE OFFERS FOR INDIGENOUS PORTION (SUPPLY)

Enquiry Sl. No.	Description	Unit	Qty.	Rate / Unit in Rs.	Amount in Rs.
001	*RWT009430001* *STATIC MIXER & ACCESSORIES* *OF SIZE DN 600 (MOC: DUPLEX SS)* *AS PER TECHNICAL SPECIFICATION NO.* *ROS 9008 REV 00 DATE 20.10.2020 &* *ROS 6294 REV 00 DATE 08.05.2020.*	**ST**	**1.00**		
002	*RWT009430002* *STATIC MIXER & ACCESSORIES* *OF SIZE DN 350 (MOC: GRP)* *AS PER TECHNICAL SPECIFICATION NO.* *ROS 9008 REV 00 DATE 20.10.2020 &* *ROS 6294 REV 00 DATE 08.05.2020.*	**ST**	**1.00**		
	A) Total Base Price (Total of Sl. No. 001 - 002)				
	B) Packing & Forwarding Charges (If Payable Extra by BHEL)_____%				
	C) Freight & Insurance Charges (If Payable Extra by BHEL)_____%				
	D) Applicable percentage of CGST/SGST/UTGST/IGST - _____% **(whichever is applicable) for A+B+C+D** **HSN CODE :_____**				
	E) Total Landed Cost(Sum of A+B+C+D)				

IMPORTANT NOTES

1) All the Items are to be inspected by BHEL Engineers / BHEL Authorized Engineer and Customer / Consultant Engineer either jointly or individually before the despatch of the item at vendor works as per approved QAP.
2) Items 001 & 002 will be compared on SET Basis & Order will be placed on a Single vendor who is the lowest (L1) on set basis
4) Please confirm the **Main supply** completion with in 04 **Months from the date of CAT-I Approval of all Documents / Manufacturing clearance, which ever is Later.**
5) Vendor can also quote improved delivery date if any from the date of from the date of CAT-I Approval of all Documents / Manufacturing clearance,

Signature & Seal of Offerer

ANNEXURE - C SPECIFICATION DEVIATION DISPOSITION REPORT			
Enquiry No.7700588E Dated 29-OCT-2020 **Due on: 19-NOV-2020 (NIT_55440)**		STATIC MIXER & ACCESSORIES FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT	Vendor Name
TECHNICAL SPECIFICATION NO. ROS 9008 REV 00 DATE 20.10.2020 & ROS 6294 REV 00 DATE 08.05.2020.			
Page	Clause	Details Of Deviation With Reason	Disposition By BHEL
Signature Of Vendor			Reviewed By
" AGREED DEVIATION "			APPROVED BY
if any to be incorporated in the PO in the event of order.			

Date :

VENDOR's SIGNATURE WITH SEAL

ANNEXURE - C
SPECIFICATION DEVIATION DISPOSITION REPORT

Enquiry No.7700592E Dated 30-OCT-2020 **Due on: 20-NOV-2020 (NIT_55440)**	STATIC MIXER & ACCESSORIES FOR TANGEDCO - UDANGUDI STPP 2 X 660 MW PROJECT	Vendor Name
TECHNICAL SPECIFICATION NO. ROS 9008 REV 00 DATE 20.10.2020 & ROS 6294 REV 00 DATE 08.05.2020.		

Page	Clause	Details Of Deviation With Reason	Disposition By BHEL
Signature Of Vendor			Reviewed By
" AGREED DEVIATION "			APPROVED BY
if any to be incorporated in the PO in the event of order.			

Date :

VENDOR's SIGNATURE WITH SEAL

ANNEXURE D

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____[1] through its Unit atŭ ŭ ŭ ŭ ŭ ŭ ŭ ..(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at_____[2] hereinafter referred to as the ' Vendor / Contractor / Supplier ', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref Noŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ dated ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ .[3] valued at Rsŭ ŭ ŭ ŭ [4] (Rupees ----------)/FCŭ ŭ ŭ ŭ ŭ ŭ (in wordsŭ ŭ ŭ ..) for ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ [5] (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to ŭ ŭ % (ŭ . Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, ŭ ŭ ŭ ŭ ŭ ŭ ŭ , (hereinafter referred to as the Bank), having registered/Head office at ŭ ŭ ŭ ŭ ŭ . and inter alia a branch at ŭ ŭ ŭ ŭ being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs ---------- [6] (Rupees ----------) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We the ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We ŭ ŭ ŭ ŭ ŭ ..BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier 's liabilities.

This Guarantee shall remain in force upto and includingŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ .. [7] and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ .[8]we shall be discharged from all liabilities under this guarantee thereafter.

We, ŭ ŭ ŭ ŭ ŭ ŭ BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

a) The liability of the Bank under this Guarantee shall not exceedŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ ŭ [6]
b) This Guarantee shall be valid up to ŭ ŭ ŭ ŭ ŭ ŭ [7]
c) Unless the Bank is served a written claim or demand on or before _____[8] all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Datedŭ ŭ ŭ ŭ ŭ .

Place of Issueŭ ŭ ŭ ŭ ŭ .

[1] NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

[2] NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

[3] DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

[4] CONTRACT VALUE

[5] PROJECT/SUPPLY DETAILS
[6] BG AMOUNT IN FIGURES AND WORDS

[7] VALIDITY DATE

[8] DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 3-6 months after validity date. It may be ensured that the same is in line with the agreement/ contract entered with the Vendor.

2. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.

3. In line with the GCC, SCC or contractual terms, Unit may carry out minor modifications in the Standard BG Formats. If required, such modifications may be carried out after taking up appropriately with the Unit/Region˜s Law Deptt.

4. **In Case of Bank Guarantees submitted by Foreign Vendors-**

a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**

b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank˜s (BHEL˜s Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

b.2 **In case, Foreign Vendors intend to provide BG from** Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.

b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). The BG Format provided to them should clearly specify the same.

Online SRF Submission Procedure

Following are the formalities to be completed by your company for registration purpose.

NOTE: BEFORE PROCEEDING FOR ONLINE REGISTRATION " PLS READ STEPS FOR FILLING UP ONLINE REGISTRATION FORM - HELP MENU" - DETAILS ATTACHED WITH THIS MAIL

With effect from 01.04.2015 onwards, we have migrated to online Supplier Registration Form (SRF) as per our Corporate guidelines. ***Supplier Registration Form (SRF)*** is to be fed in our BHEL website portal – ***ie., PDF documents of SRF and its annexure as called for shall be signed by authorized signatory & uploaded in portal.***

We request to visit our Web Site : www.bhel.com and click under heading "Supplier Registration" and fill up the ***"Supplier Registration Form"*** which is available in the Online Supplier Registration Portal.

Or else, copy the following URL Link and paste in the web link address: http:// www.bhel.com/vender_registration/vender.php and proceed with.

Or else, type directly as http://203.129.195.108

Click the button "search material" on the home page of supplier registration portal and search thoroughly your required material / product

After completing the material search then proceed for User Id & Password for filling up the details of registration requirements. Note: If you are an already registered supplier with any of our BHEL Unit - pls select ***" existing permanent supplier"*** *or else select* ***"New Registration"*** *and then proceed accordingly.*

Please note that for a foreign suppliers' there is a separate format to be filled in, which may be taken care suitably.

After successful submission of SRF along with all annexures as called for thro' online i.e., authorized signatory signed pdf documents of SRF and its annexures are to be uploaded thro' online portal and confirm the same in ***"form dispatch"*** area ie., registration part-4 – wherein supplier has to confirm that all the documents were submitted "online" and click the button ***"confirm".*** After clicking confirmation button, the same will be appearing against BHEL Ranipet for registration.

Looking for a long successful & sustaining business association with BHEL.

TERMS AND CONDITIONS FOR INDIGENOUS OFFERS

a) **Quotations :** Each Tender should be sent in duplicate in a sealed cover. Inner cover should sealed with tender's distinctive seal and superscribed with correct Tender No., item of supply and due date of opening. Tender should not be addressed to any individual's names but only by designation and shall be addressed to

Dy. Manager/Purchase, BHARAT HEAVY ELECTRICALS LIMITED, BOLIER AUXILIARIES PLANT, INDIRA GANDHI INDUSTRIAL COMPLEX, RANIPET, VELLORE DISTRICT - 632406, INDIA.

1. Detailed Technical Literature / Write - up
2. Latest Catalogue covering the items in quote.
3. Detailed Dimensional Drawing.

b) Tenders should be neatly typewritten and should be free from CORRECTION AND ERASURES. Corrections, if any, must be attested. All amount shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

c) Price should be nett F.O.R. destination inclusive of risk in transit and remain valid for 90 days from the due date.

d) If any Sales Tax is payable as extra to the quoted price it should be specifically stated in quotation failing which the purchaser will not be liable for payment of Sales Tax. Our TIN No. 33024364741 & CST Number 1141686.

e) Products with I.S.I certification marks will be preferred.

f) The applicable rate of excise duty shall be clearly indicated in the quote itself.

g) The tenderer shall fill up the specification Deviation Disposition Report either NIL or the deviation taken by the tenderer against the Tender specification.

2. **Samples :** Wherever possible samples should be submitted separately whether specifically requested or not, so as to reach the purchase on or before the due date of the enquiry. They should be clearly marked with the Enquiry No. and the date on the outside cover to facilitate identification.

3. **Packing and Marking :**The supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.

4. **Terms of Payment :**Payment will be made within 45 days for MSME (Small / Micro) Vendors and 90 days for others after receipt and acceptance of materials at BHEL Stores or receipt of site acknowledgment in case of direct to site items of satisfactory receipt of materials at site. Where required by the purchase, the successful tenderer must send the operation and maintenance manuals, test certificates, drawings, etc., as called for, for the materials ordered. These should be sent immediately after despatch of the materials and a statement to that effect should be made in the invoice. Failure to comply with this provision will result in delay in payment of the bills. Goods despatched either by V.P.P. or by the documents presented through bank will not be accepted unless agreed to by the Purchaser.

   The transporter's copy of Excise Invoice should accompany the material. The Original Invoice alongwith other documents shall be (a) routed through bank or (b) directly sent to us as called for in the contract. One set of the Advance copies of the above documents shall be sent to Manager / Finance (Stores Bill section), BHEL, BAP, RANIPET - 6 and one set to Dy. Manager / Purchase BHEL, BAP, RANIPET - 6.

5. **Liquidated Damages :** It is clearly understood among the parties to the contract that "Time is the essence of the contract". Therefore, the delivery of the goods specified in the purchase order should be made within the time limit prescribed. Where the seller supplies or despatches the goods, beyond the delivery period specified, the Purchaser will have no obligation to accept the goods. If accepted, liquidated damages at the rate of 1/2% of the value of goods delayed for each week of delay or part thereof will be levied without prejudice to any other relief or compensation due to the purchaser under any other condition of this contract.

6. **Risk Purchase :** Alternatively, the purchaser at his option will be entitled the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefor. The supplier shall be liable for any loss which the purchaser may sustain by reason of such risk purchases in addition to penality at the rate mentioned in Clause 6 above.

7. **Preferential Delivery :** It should be noted that it a contract is placed on higher tenderer as a result of this invitation to tender in preference to the lowest acceptable offer in consideration to the earlier delivery, the seller will be liable to pay to the purchaser the difference between the contract rate and that of the lowest acceptable tender on the basis of final price F.O.R. destination including all elements of freights, sales tax, duties and other incidentals in case of failure to complete supplies in terms of such contract within the date of delivery specified in the tender and incorporated in the contract.

8. **MODVAT CREDIT :** If any Excise duty is payable, the chapter h[illegible] - head reference and the rate of duty should be quoted. If the tenderer is availing MODVAT credit for his input materials, the effect of proforma prod- it should be passed on the purchaser. Tender under "MODVAT" shall be preferred.

9. **General :** a) The Purchaser reserves the right to split up the tender and place for individual items with different tenderers and also increase the quantity.

TERMS AND CONDITIONS FOR FOREIGN OFFERS

10/14

Offer : Offer in ENGLISH LANGUAGE AND IN TRIPLICATE IN A SEALED COVER superscribing the enquiry number and due date shall be submitted addressed to : THE DY. MANAGER / PURCHASE, BHARAT HEAVY ELECTRICALS LIMITED, BOILER AUXILIARIES PLANT, INDIRA GANDHI INDUSTRIAL COMPLEX, RANIPET - 632 406, TAMIL NADU, INDIA.

Offers should be firm for net FOB / FCA nearest Sea / air port price and C & F Chennai Port Price indicating the shipping specifications and the earliest delivery in the respect of others from overseas suppliers.

Documents :

(i) Offers should be accompanied by detailed technical literature, catalogue and detailed dimensional drawing in ENGLISH and in TRIPLICATE, or otherwise the offers will not be considered.

(ii) In case overseas suppliers route their accredited selling agents, a letter of authority should be furnished mentioning the name and address of their selling agents, who are authorised to bid, negotiate and conclude a contract on their behalf.

Agency Commission : In respect of offers from overseas suppliers, agency commission, if any, payable to their agents in India shall invariably be shown separately in the proforma invoice and this will be paid by us in India, in Indian Rupees, on satisfactory completion of the contract.

Spares : The tenderer should quote separately for spares that are required for two years trouble free operation. The spares offer should accompany the offer of main equipment, otherwise the quotation will be overlooked.

Validity : The offers for main equipment and spares shall be kept open for acceptance for 120 days (one hundred and twenty days) for the date of opening of the tender.

Test Certificates, Operating and Maintenance Manuals : The tenderer shall clearly mention in their offer that Test Certificates and Operating and Manuals, etc., as called for in technical specification, in the required number of copies will be provided at no extra cost. If any amount is payable as extra, the same shall be indicated separately in the offer.

Terms and payment : In the event of an order the purchaser will arrange for an unconfirmed irrevocable letter of credit against presentation of documents. Under, no circumstances confirmed irrecoverable letter of credit will be established by the purchaser.

General :

(i) Preference will be given to suitable indigenous or ex-stock imported offers, failing which imported offers from incoming consignment against the indigenous supplies "Stock and sale Licence" will be accepted, if Stock and sale licence is not available with the indigenous suppliers, the same shall be indicated in their offer.

(ii) The offer should reach us before the time of opening of tenders. The offer will be opened at 14.30 hours on the due date in the presence of the tenderers who may like to be present.

(iii) BANK GUARANTEE (if applicable) : The supplier in the event of an order, should furnish a Bank Guarantee from an approved Bank at no extra cost in a proforma which will be supplied to the supplier, along with the order, for an amount equivalent to 10% of the value of the contract. The bank Guarantee should remain in full force and effect during the period that would be taken of successful completion of the contact and shall continue to be enforceable till 12 months from the date of receipt of consignment at purchaser's site or 18 months from the date of last shipment at the port of Delivery, whichever is earlier.

(iv) INCOTERMS : The definition for terms shall be as per Incoterms 2000

(V) PLEASE QUOTE YOUR RATE FOR ALL THE FOLLOWING CONDITIONS.

(a) FOB on at sight L.C.

(b) On C & F Chennai Port India with at sight L.C.

(c) Rate on credit basis with rate of interest and period of credit.

(d) Rates with suppliers credit.

Payment Mechanism at BHEL, Ranipet

(Effective for all tenders issued by BHEL Ranipet from 01 July 2011 onwards unless otherwise notified of change/s in writing given by an authorized official of BHEL, Ranipet)

BHEL, Ranipet's payment mechanism will be as follows: (All Bidders are requested to read this carefully and take note of it before submitting their offer)

All bills of Suppliers processed for payment by BHEL, Ranipet shall pass through the following mile stones:

(1) Receipt of materials at BHEL, Ranipet Stores (evidenced by the Day-Book Number and Date generated at BHEL Stores, Ranipet) or Receipt of materials at Project Site / Destination specified in the Purchase Order (as evidenced by the acknowledgement given by the Consignee).

(2) Acceptance of the supplied materials at BHEL Stores, Ranipet. (Proof of evidence: Stores Receipt voucher - Short form "SRV", raised by BHEL Stores, Ranipet referenced by the SRV Number and Date)

(3) Receipt and Registration of the Bills / Invoices of the Supplier at BHEL, Ranipet Accounts Department. (evidenced by the ABS Number and Date)

(4) Receipt of clarifications, if any that may be required by BHEL, Ranipet Accounts or Purchase Department, from the Supplier. (As evidenced by the IOM Inward Date)

(5) Bill processing and passing.

(6) Payment release.

All these events are transparently available in the SCM web-site of BHEL, Ranipet, {http://bapscm.bhelrpt.co.in/purc} which can be viewed by all registered supplier with a password.

Allowed Time frames:

A] From DB to SRV: 10 Days

B] From SRV to ABS: 15 Days

C] From ABS to Bill Pass: 07 Days (if Stage 4 above is not applicable)

OR

From IOM to Bill Pass: 07 Days (if Stage 4 above is applicable)

D] From Bill Pass to Payment Release: As per payment terms of the Purchase order.

All Suppliers payment/s would be released based on seniority of receipt of the processed bills at the payment section of BHEL, Ranipet Accounts Department.

The seniority would be based on the sequence of milestone events listed above.

In the sequence of the bill processing the preceding mile-stone seniority will be void, if the subsequent event occurs beyond the permitted time frame between two successive events.

Thus for example:

Start seniority would be with the DB date.

If the SRV date is greater than 10 days of the DB date, then the seniority of the DB date would be replaced by the SRV date.

If the ABS date is greater than 15 days of the SRV date, then the seniority would be reckoned by the ABS date.

If the Bill pass date is greater than 07 days of the ABS date then the seniority would be the date of inward receipt of the IOM.

The logics of these sequence is that SRV, ABS, IOM inward entry are dependent entirely on submission of correct documentation by Suppliers, as called for in the Purchase Order. If the documents are correctly submitted each of the milestone listed above will occur within BHEL, Ranipet within the timelines specified above.

Hence, in their own interest all Suppliers are requested to take note of this process and comply with the same.

Caution: Suppliers' payments would get delayed / affected if they fail to adhere to the submission of the documents specified in the Purchase Order / Contract, since the listed milestone events occurrence are contingent upon the availability of the requisite documents.

***(To be submitted In the company letter head by supplier)**

Subject: Public Procurement (Preference to Make In india)

References:

1.P-45021/2/2017-B.E-ll dated. 15th June-2017,
2.P-45021/2/2017-PP(BE-II) dated. 28th May-2018 ,
3.P-45021/2/2017-PP(BE-II) dated. 29th May-2019.
4.P-45021/2/2017-PP(BE-II) dated.4th June-2020

We hereby declare with reference to above subject and references that M/s ----------(Tick whichever is applicable as below)

"Class-I local supplier" meeting the requirement of minimum local content equal to 50%(fifty percent) or more defined in the above government notification for the goods and services (or)

"Class-II local Supplier" meeting the requirement of local content 20% to less than 50%(fifty percent) defined in the above government notification for the goods and services

Please mention the details against the following:

Enquiry no:---------- dated. ----------

Type of Supplier (Class-I/Class-II) ……

Product:----------

Project:……..

Details of location at which local value addition will be made is as follows:

We also understand that the 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 Financial Rules along with such other actions as may be permissible under law.

Authorized Signature M/s----------
(Signature and seal)

Place:……..

Date:……

BHARAT HEAVY ELECTRICALS LIMITED,

RANIPET- 632 406.

TECHNICAL SPECIFICATION

FOR

STATIC MIXER

00	08.05.20	A.Kumar 09/05/2020 ABH	Sivatsan 9/05/20 SS	J.M.Ramdoss 09/05/20 IMRL	Fresh issue
Rev.No	Date	Prepared	Checked	Approved	Remarks

1.0 GENERAL DETAILS:

General details are as per General specification for Static Mixer **Specification No ROS: 9008 Dt: 20.10.09 Rev: 00**

2.0 TECHNICAL DETAILS:

2.1 Fluid details	**Static Mixer – 1**	**Static Mixer - 2**
a. Sizes of Static Mixer	: DN 600	DN 350
b. Medium handled	: Filtered Sea Water	SWRO Permeate
c. pH	: 2 to 12	5 to 7
d. TDS / Chloride ppm	: 38000 / 20000	500 / 250
e. Specific gravity	: 1.03	1.03
f. Temperature °C	: 20 to 40	20 to 40

2.2 Material of construction for

A) Size DN 600

a. Housing / Rating : Duplex SS2205 / PN10
b. Housing flange / Rating : Duplex SS2205/ PN10
c. Backing ring : Duplex SS2205
d. Mixing elements : Duplex SS2205

B) Size DN 350

a. Housing / Rating : UPVC or GRP* / PN10
b. Housing flange / Rating : UPVC or GRP* / PN10
c. Backing ring : GRP/ Galvanized carbon steel
d. Mixing elements : UPVC or GRP*

* The resin used for manufacturing GRP housing shall be suitable for chlorinated sea water.

2.3 Design details

a. Coefficient of Variation (CoV) : 0.05 Maximum (Minimum 90% mixing)
b. End connection : Flanged. Drilling as per ANSI B 16.5, #150 Class.

2.4 Flow details

A) **Static Mixer-1**

a. Location : Before SWRO HP Pump
b. Pipe size : DN 600
c. Operating Pressure -Normal MWC : 35 to 40
-Maximum MWC : 45
d. Flow rate **min/design m^3/hr : 1050/ 2100
e. Pr. drop across mixer at maximum Specified flow rate (in Cl.2.4.d) MWC : 2 (Max)

B) **Static Mixer-2**

a. Location : After Remin. Filter
b. Pipe size : DN 350
c. Operating Pressure -Normal MWC : 30 to 35
-Maximum MWC : 45
d. Flow rate **min/design m^3/hr : 220/ 640
e. Pr. drop across mixer at maximum Specified flow rate (in Cl.2.4.d) MWC : 2 (Max)

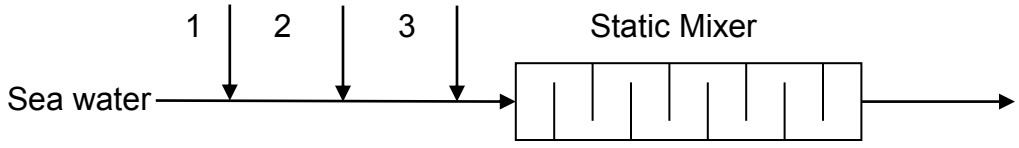
Note: **- The min/ design flow is due to single stream or two stream operation of RO plant.

2.5 Dosing Parameters

Static Mixer-1: DN 600

S.no	Dosing point	Dosing Chemicals	Dosing Rate (LPH)	Sp. gravity
1	1	30% HCl Acid dosing	~ 100	1.19
2	2	5% Anti-scalant dosing	~ 100	1.05
3	3	10% SMBS dosing	~ 100	1.05

:

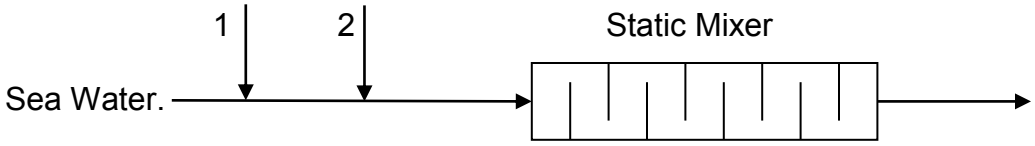


Note: The dosing flow rate and concentration are indicative and will be adjusted depending on feed water quality.

Static Mixer-2: DN 350

S.no	Dosing point	Dosing Chemicals	Dosing Rate (LPH)	Sp. gravity
1	1	48% NaOH dosing	~ 20	1.2
2	2	12% NaOCl	~ 20	1.0

Flow Diagram :



Note: The dosing flow rate and concentration are indicative and will be adjusted depending on feed water quality.

Note:

1. The dosing flow rate and concentration are indicative and will be adjusted depending on feed water quality.
2. Bidder to provide reference list for the offered size / model of mixer for similar application along with the offer.
3. Housing length for each of the Static Mixers may be specified by the bidder.

3.0 SPARES

The bidder shall provide spares for 3 year O&M operation along with split price for each item.

BHARAT HEAVY ELECTRICALS LIMITED,

RANIPET- 632 406.

GENERAL SPECIFICATION

FOR

STATIC MIXER

00	20.10.09	SS	MSM	MN	Fresh issue
Rev.No	Date	Prepared	Checked	Approved	Remarks

1.0 EQUIPMENT SPECIFICATIONS

1.1 GENERAL

a. Equipment : Static Mixer

b. Application : For thorough mixing of dosing chemicals with feed water in RO desalination plant.

c. Surrounding : Dusty, humid atmosphere near thermal power plant.

d. Installation : Outdoor.

e. Ambient temperature : 10°C minimum & 45°C maximum.

f. Operation : Continuous

1.2 TECHNICAL REQUIREMENT

Enclosed as a separate specification.

1.3 GENERAL REQUIREMENTS

a. Only latest revision of standards shall be used.

2.0 DOCUMENTS / DETAILS ALONG WITH BID

The following information / documents shall be submitted along with the offer.

a. Duly filled up data sheet **Annexure-1** in enclosed format.

b. Detailed assembly with overall dimensions.

c. Static mixer cross section drawings indicating dimensional details, Element fixing details & Bill of Material including the material specifications along with flange drilling details.

d. Typical quality plan for supply of the above equipments.

e. Product catalogues for all available types.

f. List of spares as called in the specification.

g. Recommended spares for 3 years O& M along with item-wise price.

h. Any deviation shall be specifically mentioned in the enclosed deviation format **Annexure-2**.

In case of any deviation, the Bidder shall indicate the deviation, clause by clause in the deviation format attached in **Annexure-2**. If there is no deviation "**NIL**" statement shall be furnished. In the absence of **Annexure-2**, it will be construed that the bid confirms strictly to the specification. Acceptance or rejection of the offer with or without deviations (either fully or partially) is sole discretion of the purchaser without seeking further clarification from the bidder.

NOTE: Bidders to note that failing to submit the above documents (Clause:2.0), the bid shall be considered as incomplete and liable for rejection.

3.0 DOCUMENTS / SERVICE AFTER ORDER

3.1 The following documents are to be submitted for BHEL's approval.

- Duly filled up data sheet **Annexure-1** in the enclosed format.
- Detailed assembly drawings with overall dimensions.
- Static mixer cross section drawings indicating dimensional details, Element fixing details & Bill of Material including the material specifications along with flange drilling details.
- Quality plan.

3.2 The following are to be submitted to BHEL's review and acceptance.

- Material test certificate.
- Hydraulic test certificates.
- Performance Guarantee certificates.
- Erection manuals.
- O&M manuals

4.0 DOCUMENTATION

The documentation during bid and post order stage shall meet the following requirements.

a. All documents and drawings shall be submitted in English.

b. Hard copies of all documents and drawings during bid stage to be submitted in duplicate.

c. Hard copies of all documents for approval to be submitted in triplicate.

d. Soft copies of all final documents and drawings.

5.0 INSPECTION

Certificate of conformity to be provided by the supplier.

Annexure-1

Enquiry No/ Purchase contract No: **Dt:**

DATA SHEET STATIC MIXER

I. TECHNICAL PARAMETERS			**STATIC MIXER-1**	**STATIC MIXER-2**	**STATIC MIXER-3**
a. Mixer Size		:			
b. Make		:			
c. Model / Type		:			
d. Fluid details - Specific gravity		:			
- Temperature range °C		:			
e. Mixer size	mm	:			
f. Mixer rating		:			
g. Flow - Design	m^3/hr	:			
h. Operating pressure	bar (g)	:			
i. Design pressure	bar (g)	:			
j. Hydraulic test pressure	bar (g)	:			
k. Pressure drop (Max.) at design flow.	bar (g)	:			
l. Coefficient of variation		:			
II. CONSTRUCTION DETAILS					
a. Material of construction					
- Housing		:			
- Housing flange		:			
- Backing ring		:			
- Mixing elements		:			
b. Mixer Size - OD	mm	:			
- Length	mm	:			
c. No. of fixed elements		:			
d. End connection		:			
e. Flange drilling standard		:			
III. GENERAL					
a. Weight of static mixer	(Kg)	:			
b. Drawing No.		:			

FORM FOR TECHNICAL DEVIATIONS (If any)

Annexure-2

Sl. No	SEC / CLAUSE NO.	Specification	Statement of Deviations/variations	Reason for deviation	Cost of withdrawal

Date:

Signature & seal of the Bidder

PRE-QUALIFICATION REQUIREMENT

The Qualification requirements for Static Mixer and accessories are listed below, and bidder should meet the same.

Bidder should have Designed, Manufactured and Supplied at least one number of Static Mixer (casing/ internals) of Stainless Steel / GRP or equivalent or superior material of construction of minimum 250 NB size. Such Static Mixer should have been supplied in Power Plant / Industrial/ Municipal application.

Documentary evidence to be submitted by the bidder (in support of meeting Qualification requirement) along with the bid.

1. Purchase Order copy for the reference Static Mixer.
2. Supporting documents clearly indicating the size of the Static Mixer supplied.
3. Bidder shall fill up all the relevant information of the reference Static Mixer, in the enclosed format (Annexure-I), and submit the signed format.

General

1. Bidders who defaulted, in any of the previous tenders floated by BHEL are not permitted to respond. Such offers, if found later, will not be considered for evaluation.
2. After receipt of offers, during scrutiny, if any vendor found to have been banned by BHEL, then their offer will be summarily rejected at any stage.
3. In case BHEL decides, bidder to arrange necessary permission to visit the reference plant furnished by the bidder for meeting the PQR requirements.

Prepared by	Checked by	Approved by
17/10/20 Vikas Gaurav	S Srivatsan 17/10/2020 S Srivatsan	I M Ramalingeswara Rao

Annexure-I

Qualification Requirement Datasheet

A. Customer details: -

a) Name :
b) Designation :
c) Mobile :
d) Land line :
e) Fax :
f) Email id :
g) Postal address :

B. Plant Details: -

Date of Supply :

Sl. No.	Parameters	Unit	Value
1.	Size of the Static Mixer	NB	
2.	Material of Construction		

Signature of the Vendor

VOLUME II

SUB-SECTION 2.25

CLEANING, PROTECTIVE COATING AND PAINTING

1.0.0 GENERAL

This specification covers the general requirements related to the cleaning protective coating and painting of equipment, components and systems that are covered under main equipment / system specifications for 2x660 MW Supercritical Thermal Power Plant. The components and/or equipment shall be mechanically and /or chemically cleaned during the following stages of the Contract.

- Cleaning in workshop
- Cleaning before painting and/or corrosion protection (application of prime coat)
- Cleaning before erection and during installation.

Cleaning of fabricated component items shall be carried out after fabrication and final heat treatment or welding at manufacturer's works or at site, as appropriate. No paint shall be applied surfaces within 75 mm of field welded connections. These surfaces shall be coated with a consumable preservative and marked.

For cleaning in workshop and before painting, mechanical cleaning by power tool and scrapping with steel wire brushes shall be adopted to clear the surfaces. However, in certain locations where power tool cleaning cannot be carried out, hand scrapping may be permitted with steel wire brushes and/or abrasive paper. Cleaning with solvents shall be resorted to only in such areas where other methods specified above have not achieved the desired results. Cleaning with solvents shall be adopted only after written approval of the Owner / Engineer.

Machined surfaces shall be protected during the cleaning operations.

In the event of the surfaces not being cleaned to the Owner's satisfaction, such parts of the cleaning procedures or agreed alternatives as are deemed necessary to overcome the deficiencies shall be carried out at the supplier's sole expense.

For reclining small areas, hand cleaning by wire brushing may be permitted.

2.0.0 CODES AND STANDARDS

Painting of equipment shall be carried out as per the Codes indicated below and shall conform to the relevant IS Code for the material and workmanship.

The following codes and standards shall be followed for the surface preparation, surface protection and painting works.

IS: 5	Colors for ready mixed paints and enamels.
IS: 101	Methods of test for ready mixed paints and enamels.
IS: 104	Ready mixed paint, brushing, Zinc Chrome, priming.
IS: 158	Ready mixed paint, brushing, bituminous, black, lead free, acid, alkali, water and heat resisting.
IS: 161	Heat resistant paints
IS: 1303	Glossary of terms relating to paints.
IS: 1477	Code of practice for painting of ferrous metals in buildings (Parts I & II).
IS: 2074	Specifications for ready mixed paint, Air drying, red oxide zinc chrome priming.
IS: 2338	Code of practice for finishing of wood and wood based materials: Parts 2 schedules.

IS: 2339	Aluminum paint for general purposes, in dual container.
IS: 2395	Code of practice for painting of concrete, masonry and plaster surfaces: Part 2 schedules.
IS: 2524	Code of practice for painting of non-ferrous metals in buildings (Parts I & II).
IS: 2932	Specification for enamel, synthetic, exterior (a) undercoating, (b) Finishing
IS: 3140	Code of practice for painting asbestos cement building products.
IS: 6158	Recommended practice for design safeguarding against Embrittlement of hot dip Galvanized Iron & steel products.
IS: 6159	Recommended practice for design & fabrication of Iron &steel products prior to Galvanizing & metal spraying.
IS: 6278	Code of practice for white washing and Color - Washing.
IS: 10221	Code of practice for coating & wrapping of underground mild steel pipelines.
IS: 33	Inorganic pigments and extenders for paints –Methods of sampling & test.
IS: 13183	Aluminum paint, Heat resistant - specifications.
IS: 144	Specification for ready mixed paint brushing, petrol resisting, Air drying for Interior paints of tanks and containers, Red oxide.
IS: 9954	Pictorial surface preparation standards for painting of steel surfaces.
IS: 11883	Specification for Ready Mixed Paint, Air Drying, Red Oxide Priming for metals.
IS: 9404	Color code for identification of pipelines used in the Thermal Power Plants.
IS: 12744	Specification for Ready Mixed Paint, Air Drying, Red Oxide-Zinc Phosphate Priming.
BS: 2015	Glossary of paint selected terms.
BS: 5252	Final coat color.
BS: 7079A1/S1	Specification for rust grades and preparation grades of uncoated substrates after overall removal of previous coating.
BS: 7079A2	Preparations grades of previously coated steel substrates.
BS: 7079GrC	Surface roughness characteristics of blast cleaned steel substrates.
BS: 7079GrD	Methods for surface preparation.
BS-4232	Surface Finish of Blast cleaned steel for painting.
ASTM	American Standard for Testing Material.
ASTM A 780	Standard practice for repair of damaged galvanized coatings.
AWWA	American Water Works Association.
ASA-A-13.1-1981	Scheme for identification of piping system (American National Standard Institution).
DIN	Deutsehes Institute for Normung
S1S-055900-1967	Surface preparation standards for painting steel surfaces. (Swedish standard Institution)
SSPC-SP	Preparation Specifications (Steel structures painting council, U.S.A.).
	National Association of Corrosion Engineers, U.S.A. (NACE).

3.0.0 SCOPE OF WORK AND GENERAL REQUIREMENTS

This specification covers the surface preparation, method of application and material to be used for all coating of equipment, steel structures and piping. Steel material subjected to surface preparation on shop/site shall have minimum requirements in accordance with Rust Grade B (SSPC/SSPM Volume-2).

Coating materials according to SSPC, EN ISO, ASTM, BIS or DIN standards, shall be used. The paint shall comply with applicable laws, regulations, ordinances etc., of the local authority, state or the nation pertains to the work. The materials shall be matched with each other so that they are compatible. Coatings deviating this specification shall be subject to approval.

Standards of surface preparation and painting shall give a time to first maintenance of minimum 10 years.

The paint to be applied shall be approved by Owner.

All paints & paint material used shall be procured from approved manufacturers. Paint shall be supplied in manufacturers original containers with the description of content, specification No., colour, ref no, date of manufacture, shelf life expiry date & pot life.

The paint manufacturers shall provide coating system data sheet for each coating system to be used containing the following information

a. Surface preparations
b. Film thickness (min and max)
c. Min and max recoating intervals at relevant temperatures
d. Mixing ratio, thinner details and coating repair systems

The sample for testing the paint being used may be taken by the Owner at any time.

In general Shop fabricated equipment will be delivered to the site coated with a shop applied system or the manufacturer's standard finish in accordance with the requirements of this specification.

For equipment that has received shop prime coat, all touch-up prime coat and additional coats shall be applied in accordance with the coating schedule. It is responsibility of the vendor to ensure compatibility between shop and field applied paint systems.

Necessary precautions shall be provided to all equipment, structures to protect other surfaces from abrasive blasting, coating over spray and spatter. Damage to other surfaces or equipment shall be repaired by the vendor.

The Contractor shall submit the following for review and approval by the Owner:

a. Manufacturer's recommended paint scheme for the project
b. Latest published product & instructions for application data,
c. Procedures for surface preparation and application.
d. Pre qualification for equipments and blasting materials, product, procedure and personnel qualifications for the paint and painting systems.
e. Painting repair procedures

Painting records shall contain:

- Equipment/components/location painted
- Date of painting
- Paint details such as specification No, colour, date of manufacture, shelf life, expiry date
- Application equipments

- Ambient conditions at the time of painting
- Surface temperature
- Drying time between coating, DFT and number of coatings
- Appropriate work plan for painting.

The supply of all necessary equipments, weather protection, and scaffolding for painting to ensure work is carried out in accordance with the specification and agreed programme.

Maintenance of the paint work until completion of the contract, this shall include repair of any damaged areas caused by third party.

Disposal of painting waste resulting from painting, shall comply with applicable laws, regulations, ordinances etc., of the local authority, state or the nation pertains to the work and coating materials.

It is a mandatory requirement that all operatives working to this procedure take full cognizance and implement necessary safety precautions.

4.0.0 CLEANING AT MANUFACTURER'S WORKS

Mechanical cleaning shall preferably be carried out by abrasive blasting. The Owner is prepared to consider alternative methods such as chemical cleaning provided they achieve the necessary surface condition.

In case of chemical cleaning, the detailed procedure for chemical cleaning as well as the system for which chemical cleaning is required shall be submitted by the contractor for Owner's approval. The procedure shall comprise of pre-treatment and acid treatment to achieve cleanliness equivalent to that specified for mechanical cleaning.

Surface condition:

The Metal surfaces shall be clean and free of mil scale, rust, dirt, grease and any other deleterious matter.

Where metal surfaces are to be painted the surface profiles shall conform to the painting specification requirements.

Where this does not apply, surfaces shall have a surface texture not coarser than Grade 80 abrasive paper.

Abrasives:

Abrasives containing silica, silicates or slag residues shall not be used for water/steam side surfaces of plant except for cleaning sand castings, where hydro blasting may be employed.

For austenitic materials only, abrasives containing 98% or more of alumina, $Al_2 O_3$, shall be used.

Removal of abrasive and debris:

After cleaning, abrasive and debris shall be thoroughly removed for components.

5.0.0 PROTECTION AT MANUFACTURER'S WORKS

As soon as all items have been cleaned and within four hours of the subsequent drying, they shall be given suitable anti-corrosion protection.

All water, air and steam side surfaces shall be protected by the application of approved water soluble corrosion inhibitors, or vapor phase inhibitors that can be subsequently removed by site water washing or steam blowing.

The gas side of steam generating plant items shall be protected by the application of temporary protective that do not require to be removed before commissioning, but which are removed during initial firing.

The rate of application of volatile corrosion inhibitors shall be at least 10 grams per square meter or 35 grams per cubic metre, whichever is the greater, except for pipes up to 300 mm diameter for which the minimum application rates shall be 5 grams per square metre.

Immediately after the protective treatment has been applied all vessels and pipes shall be suitably sealed off by discs or caps or approved alternatives to prevent ingress from the surroundings. Cylindrical plugs shall not be driven into the ends of pipes. These protective covers shall not be removed until immediately before final connection is made to the associated equipment.

6.0.0 WEATHER CONDITIONS

Painting shall be done only when the surface temperature is above 5℃. Surface temperature must be at least 3℃ above dew point to ensure that condensation does not occur on the surface.

Reasonable protection against precipitation and seawater spray shall be exercised for the painting of outdoor parts.

Precautions shall also be taken against solar radiation to ensure that the specified dry film thickness of priming or finish coats is obtained.

Any prime coat exposed to excess humidity, rain, dust etc., before drying, shall be permitted to dry and the damaged area of primer shall be removed and the surface prepared and primed again.

Sheltered or unventilated horizontal surfaces on which dew may collect require more protection, and to achieve this additional top coat of paint shall be applied.

The temperature quoted as “normal” in the “Paint System Tables” refers to the average local climatic conditions.

7.0.0 SURFACE PREPARATION

In preparing any surface to be coated, all loose paint, dirt, grease, rust, scale, weld slag or spatter or any other extraneous material shall be removed and defects repaired, so as to obtain a clean, dry, even surface to receive the priming or finishing coat (s) as called for in the painting schedules. Sharp edges should be rounded, especially when tank linings have to be applied.

All machined surfaces, including flange faces, shall be suitably covered to prevent damage during surface preparation.

All surfaces should be blast cleaned whenever possible.

Surface preparation methods:

Bare steel surfaces should be prepared by one of the methods described below in order of preference and in accordance with Swedish Standard SIS 05 59 00 or Steel Structures Painting Council, SSPC, Vis 1, or DIN 55928, section 4.

The relative humidity level should not be more than 60% & the steel surface temperature at least 3º C above the dew point during dry blast cleaning operations.

a. White metal blast cleaning Sa 3 or SSPC - SP 5

Sa 3 Blast cleaning to bare metal. Mill scale, rust and foreign matter must be removed completely. Subsequently, the surface is cleaned with vacuum cleaner, clean dry compressed air or a clean brush. It must then have a uniform metallic color and correspond in appearance to the prints designated Sa 3.

b. Near white metal blast cleaning Sa 2 1/2 or SSPC - SP 10

Sa 2 1/2. very thorough blast cleaning. Mill scale, rust and foreign matter shall be removed to the extent that the only traces remaining are slight imperfections in the form of spots or stripes. Subsequently, the surface is cleaned with a vacuum cleaner, clean dry compressed air or a clean brush. It must then correspond in appearance to the prints designated Sa 2 1/2.

Mechanical cleaning should only be used when procedures (a) and (b) are not practicable.

c. Near white metal blast cleaning P Sa 2 1/2 DIN 55928

Very thorough blast cleaning. Very adhesive coatings remain. From all other surface mill scale and rust are to be removed to such an extent that the only traces remaining are slight imperfections in the form of spots or stripes. Further treatments see Sub b).

The adhesivity of residual coatings in the transition zone has to be tested even after the application of the primer.

d. Very thorough mechanical scraping and wire brushing St 3

St 3 very thorough scraping and wire-brushing - machine brushing - grinding - etc. are to be preferred. Surface preparation as for St 2. But much more thoroughly. After the removal of dust, the surface must have a pronounced metallic sheen and correspond to the prints designated St. 3.

e. Thorough scraping and wire brushing St 2

St 2 Thorough scraping and wire-brushing - machine brushing - grinding - etc. The treatment shall remove loose mill scale, rust and foreign matter. Subsequently, the surface is cleaned with a vacuum cleaner, clean dry compressed air or a clean brush. It should then have a faint metallic sheen. The appearance must correspond to the prints designated St 2.

f. Air Blasting with Non-Metallic Abrasives Powder

Whenever the "Duplex"-process is to be applied (hot dip galvanising followed by painting), prepare the hot dip galvanised surface by water washing to remove flux residues and careful air blasting with non-metallic abrasive powder. Use an abrasive with grain size from 0.1 to 0.5 mm, at a greatly reduced air pressure, max. 2 bar (g) (28 psig).

This procedure also applies to stainless steel and aluminium surfaces to be coated.

Surface preparation methods	SIS 055900	DIN 55928 Part-4	BS 4232 only for blasting	SSPC-Vis
Blasting acc to item (a),(b),(c),	Sa 3		First quality	White metal SP 5
Blasting acc to item (b)	Sa 2 1/2		Second quality	near White SP 10
Blasting acc to item (c)	Sa 2		Third quality	Commercial blast SP 6
Hand/or power tool derusting acc to item (e)	St 2		--	Hand tool cleaning SP 2
acc to items (d) and (e)	St 3		--	Power tool cleaning SP 3
Flame jet cleaning		F1	--	Flame cleaning SP 4
Pickling		Be	--	Pickling

Steel structures to be blast cleaned have to be free of pitting and other severely corroded places in accordance with B.S. 4232 and SIS 055900.

The abrasives used for blast-cleaning shall be graded flint, grit, shot or silica sand and shall be such that they will produce an average keying profile on the blast-cleaned surface of not more than 40 microns.

An air pressure of 7 bar g at the nozzle shall be used.

After blast-cleaning, all accumulated grit, dust, etc., must be removed leaving the surface clean, dry and free of mill scale, rust grease and other foreign matter.

In the event of rusting after completion of the surface preparation, the surface must be cleaned again in the manner specified.

Oil, grease, soil, cement, salts, acids or other corrosive chemicals shall be cleaned from steel surfaces, by the use of solvents, emulsions or cleaning compounds. The final wiping shall be with clean solvent and clean rags or brushes. There shall be no detrimental residue left on the surface.

Primed areas which suffer damage must be spot blasted on site to a degree of cleanliness Sa 2 1/2 before, touching up.

Protective coating must be applied as quickly as possible after the completion of surface preparation no matter what cleaning method has been used.

No blast-cleaned surface shall be allowed to remain uncoated overnight.

Steel work protected by shop primer after arrival on site must be cleaned of salt, sand, oil etc. Before the first coat of paint is applied on site. Shop primer damaged during transport must be rectified by blast-cleaning and coating before application of the site coats.

Wood surfaces shall be sanded clean. All nail holes shall be puttied and sanded before priming.

Concrete: If a protective coating is required, concrete shall be allowed to cure before painting.

8.0.0 PREPARATION OF COATING MATERIALS

All containers shall remain un-opened until required for use.

Primers and paints which have livered, gelled or otherwise deteriorated shall not be used.

The oldest primer or paint of each kind shall be used first.

All ingredients in any container shall be thoroughly mixed before use, and shall be agitated frequently during application to keep the primer in suspension.

Primer or paint mixed in the original container shall not be transferred until all settled pigment is incorporated into the body of liquid.

Mixing in open containers shall be done in a well ventilated area.

Primer or paint shall be mixed in a manner ensuring the breakdown of all lumps, complete dispersion of pigment and uniform composition.

Two-component primers shall be mixed in accordance with the manufacturer's instructions.
Thinners shall not be added to primers or paints unless necessary for proper application according to the manufacturer's instructions.
When use of thinners is permitted, it must be added to the primer or paint during mixing.

8.1.0 Primer Paint

After the surface is prepared, one coat of suitable primer shall be applied. After this first coat is dried up completely, second coat of primer shall be applied.

Primer shall be applied by brushing to ensure a continuous film without 'holidays'. The dry film thickness of each coat shall be as specified in the Annex- ANNEX 25.1.2 -Paint System of this specification.

The primer should be worked by brush application to cover the crevices, corners, sharp edges etc. in the presence of inspector.

The shades of successive coats should be slightly different in color in order to ensure application of individual coats, the thickness of each coat and complete coverage should be checked as per specification approved by Engineer before application of successive coats.

The contractor shall provide standard thickness measurement instrument with appropriate range(s) for measuring.

Elko meter for measuring the Dry film thickness of each coat, surface profile gauge for checking of surface profile in case of sand blasting. Holiday detectors and pinhole detectors for checking the painted surface discontinuities should be provided by the contractor.

The contractor shall make arrangements for paint manufacturer to provide expert technical service at site as and when required free of cost and without any obligation to the Owner, as it would be in the interest of the manufacturer to ensure that both surface preparation and application are carried out as per their recommendations.

Final inspection shall include measurement of paint dry film thickness, check of finish and workmanship.

8.2.0 Rub down and Touch Up of Primer

The shop coated surfaces shall be rubbed down thoroughly with emery paper to remove all dust, rust and other foreign matters, washed, degreased, then cleaned with warm fresh water and air dried.

The portions, from where the shop coat has peeled off, shall be touched up and allowed to dry before applying a coat of primer.

The compatibility between shop coat and field primer shall be ascertained from the paint manufacturer. In case degreasing with white spirit is not effective, the surface shall be finally wiped clean with aromatic solvent like xylol or light naphtha.

8.3.0 Non Compatible Shop Coat Primer

a) The compatibility of finishing coat shall be confirmed from the paint manufacturer. In the event of use of primer such as zinc rich epoxy, inorganic zinc silicate etc., the paint system shall depend on condition of shop coat. If the shop coat is in satisfactory condition showing no major defect, the shop coat shall not be removed. The touch up primer and finishing coat(s) shall be identified for application by Engineer. Shop coated (coated with primer & finishing coat) equipment shall not be repainted unless paint is damaged.

b) Shop primed equipment and surfaces shall only be 'spot cleaned' in damaged areas by means of power tool brush cleaning or hand tool cleaning and then spot primed before applying one coat of field primer unless otherwise specified. If shop primer is not compatible with field primer then shop coated primer shall be completely removed before application of selected paint system for particular environment. For package units/equipment, shop primer shall be as per the paint system given for particular environment.

c) In case of existing paint, compatibility between finishing coat and new selected finish coat shall be ascertained before application of finish coat. In case, the coat is selected for upgrading existing alkyd coating to high performance coating then, surface preparation shall be by manual/mechanical means to remove loose rust, peeled off/damaged paint, but sound old coating need not be removed. It shall be touched with suitable primer wherever it has peeled of before application of tie coat. The tie coat shall be applied after 7 days of curing of the primer. If, new paint system is not suitable to upgrade existing coating then complete paint shall be removed by mechanical or blast cleaning before application of new coating system.

8.4.0 Finish Paint

Suitable Finish paints as per the schedule shall be applied for the jobs. The color/shade shall be as approved by the Owner. After cleaning the dust on the dried up primer, first coat of finished paint shall be applied. After this first coat dries up hard, the surface is wet scrubbed cutting down to a smooth finish and ensuring that at no place the first coat is completely removed. After applying second coat, allowing the water to get evaporated completely, third finish coat of finish paint may be applied(if applicable).

9.0.0 STEEL STRUCTURES PAINTING

Generally, all steel structures shall receive two primer coats and two finish coats of painting. First coat of primer shall be given in shop after fabrication before dispatch to erection site after surface preparation as described below. The second coat of primer shall be applied (if required) after erection and final alignment of the erected structures. Two finish coats shall also be applied after erection.

Steel surface which is to painted shall be cleaned off dust and grease and the heavier layers of rust shall be removed by chipping to grade ST-2 as per SIS05-5900 or as per IS: 1477 (part -I) prior to actual surface preparation. Suitable primer of required DFT shall be applied as specified in the Paint system of this document- Annex-25.1.1.

Suitable finish paint of required DFT shall be applied as specified in the Paint system of this document- Annex-25.1.1. The undercoat and finish coat shall be of different tint to distinguish

the same from finish paint. All paints shall be of approved brand and shade as per the Owner's requirement.

Joints to be site welded shall have no paint applied within 100 mm of welding zone. Similarly where Friction grip fasteners are to be used no painting shall be provided. On completion of the joint the surfaces shall receive the paint as specified.

Surfaces inaccessible after assembly shall receive two coats of primer prior to assembly. Surfaces inaccessible after erection including top surfaces of floor beams supporting gratings or chequered plate shall receive one additional coat of finish paint over and above number of coats specified before erection. Portion of steel member embedded / to be encased in concrete shall not be painted.

10.0.0 PAINT MATERIALS

The paints shall conform to the specifications given in this Annex and class - 1 quality in the products range of any of the following manufacturers:

a. Asian Paints (India) Ltd.
b. Bombay Paints
c. Berger Paints India Ltd.,
d. Good lass Nerolac Paints Ltd.,
e. Garware Paints
f. Jenson & Nicholson
g. Shalimar Paints
h. Equivalent other country manufacturer after prior approval of Owner.

11.0.0 STORAGE

All paints and painting material shall be stored only in rooms to Engineer's approval. All necessary precautions shall be taken to prevent fire. The storage building shall preferably be separated from adjacent buildings. A signboard bearing the words "PAINT STORAGE - NO NAKED LIGHT - HIGHLY INFLAMMABLE - DANGER - NO SMOKING" shall be clearly displayed outside. All paints shall be stored in the safest manner so that no container rolls down and causes accidents. The shelf life of the paints shall be ensured so that the paint materials are not in storage and use after the date of expiry.

12.0.0 APPLICATION

Health and safety of work

The supplier has to check all painting work to be carried out according to the specification of the paint supplier further to all relevant prescriptions and regulations concerning the health and safety of work.

The paint supplier has to present a written specification including at least the flash point of the paints, ventilation requirements, handling precautions such as inhalation, eye and skin protection, and first aid procedure, storage requirements, spill or leak procedure, fire precaution, waste disposal.

Methods

Quality of the surface to be painted or coated has to be tested acc. to DIN 55928 and DIN 8202.

Temporary corrosion protections are to be completely removed prior to applying the definite one, in acc. with DIN 55928.

All prime coatings shall be applied by brush or airless spray or a combination of these methods, as approved by the coating manufacturer.

All doors, windows, stairways, handrails (if painted), bolts, flanges and equipment supports shall be finish painted by brush.
Spray guns should not be used outside in windy weather or near surfaces of a contrasting colour unless the latter is properly protected.

All cold-spray painting shall be done using standard equipment in accordance with accepted standards and methods.

Care has to be taken not to connect spraying devices for nitro and backelite paints simultaneously to oil based paints.

Paint applied to items that are not being painted shall be removed at the supplier's expense, leaving the surface clean, unstained and undamaged.

Dry film thickness (DFT)

To the maximum extent practicable the coats shall be applied as a continuous film of uniform thickness and free of pores. Overspray, skips, runs, sags and drips should be avoided. The different coats shall not be of the same colour.

For a composite paint or coating system consisting of several coats, the total DFT must be at least equal to the sum of the minimal DFT's for the individual coats. If, the paint system does not have the required minimum DFT those areas should be marked & repainted. If the occurrence of those areas is high, the complete surface must be repainted. It is also critically important to check the DFT of primers and intermediate coats and to correct them where necessary.

For paintings based on Zinc silicate the DFT is limited as well on minimum DFT as on maximum (150µm) because of the risk of mud cracking.

Consumption of paints

Has to be evaluated according to DIN 53220. The paints shall be tested as per
IS - 101.

Each coat of paint shall be allowed to harden before the next is applied. For epoxy paint the hardening time normally is 12-14 hours. Suppliers' recommendations regarding hardening time of epoxy paints must be followed.

Particular attention must be paid to full film thickness at edges.

The minimum total dry film thickness of the paint systems shall be as recommended in the **Annex 25.1.2**. The DFT is given in microns (millionths of a metre).

13.0.0 PROTECTIVE COATINGS AND PAINT SYSTEMS

The colour coding for identification of pipelines should comply with IS-2379 & IS -9404.

The type and number of protective coats for any item requiring painting are to be in accordance with DIN 55928 and are to be at least of a quality as shown in the attached Annex-25.1.1- Paint System.

Alternative to the Annex-25.1.1- Paint System specified, are to be presented on the schedule Departure from Specification, as indicated elsewhere.

Generally, all parts shall receive the specified prime coat (s) at the supplier's works to ensure that no corrosion occurs during transport to the site and storage at the site.

Parts which cannot be damaged during transport shall receive the full number of coats.

Types of Substrate, Base metal:

- Ferrous (Surface Temperature during operation < 120º C, EN ISO 12944:1998)

  To this group belongs carbon steel, low alloyed steel & high alloyed steel. All paint systems are inevitable for corrosion protection.

- Hot dip galvanized surfaces.

  Hot dip galvanized surfaces do require painting in a wet, industrial, chemicals and/or marine environment

- SS (EN ISO 12944:1998 conditionally applicable)

  In general, SS surfaces do not require painting unless in a chemical and/or marine environment. In case of chemical and/or marine environments determination of whether or not the surface requires painting depends on the chemical content of the base metal.

  The following formula applies:
  W = Cr + 3.3 x Mo + 22.45 N2

  If W < 23, then the surface has to be painted.

  If W < 28 & W > 23, then the surface to be painted if splash contact with the media (i.e. sea) is possible. This may also occur if there is a strong wind carrying drops to the surface.
  If W > 28, then the surface need not be painted.

- Aluminium

  By default such surfaces/components will not be painted. Exceptions are architectural/aesthetic reasons and high corrosive conditions, which shall be evaluated separately depending on aluminum alloys.

14.0.0 GALVANIZING

Galvanizing works shall conform in all respect to B.S. 729, B.S. 3083 and B.S.C.P. 2008 and to DIN 50976 whatever requires the higher quality and shall be performed by the hot dip process, unless otherwise specified.

It is essential that details of steel members and assemblies which are to be hot-dip galvanized should be designed in accordance with B.S 4479.

Vent-holes and drain-holes should be provided to avoid high internal pressures and air-locks during immersion, which may cause explosions, and to ensure that molten zinc is not retained in pockets during withdrawal.

Careful cleaning of welds is necessary before welded assemblies are dipped. The welds and the surrounding metal should be cleaned separately, preferably be blast-cleaning, because the usual preliminary pickling cannot be relied on to remove the welding slag.

All defects of the steel surface including cracks, surface laminations, laps and folds shall be removed in accordance with B.S. 4360. All drilling, cutting, welding, forming and final

fabrication of unit members and assemblies shall be completed, where feasible, before the structures are galvanized. The surface of the steelwork to be galvanized shall be free from paint, oil, grease and similar contaminants in accordance with DIN 55928, part 4 and DIN 50976. The weight of zinc coating per unit area has to be noted in the manufacturing documents in accordance with DIN 50976.

The minimum average coating weight shall be as specified in Table 1 of B.S. 729 or Table 2, DIN 50976, whatever requires higher quality.

Structural steel items shall be initially grit-blasted to B.S. 4232, second quality,
(Sa 21/2) or by pickling in a bath and the minimum average coating weight on steel sections 5 mm thick and over shall be 610 g/m^2 (DFT = 85µ) .

On removal from the galvanizing bath, the resultant coating shall be smooth, continuous, free from gross surface imperfections such as bare spots, lumps, blisters and inclusions of flux, ash or dross.

Galvanized contact surfaces to be joined by high-tensile friction-grip bolts shall be roughened before assembly so that the required slip factor (defined in B.S. 3294, part 1 and B.S. 4604, part 1) is achieved. Care shall be taken to ensure that the roughening is confined to the area of the mating faces.

Bolts, nuts and washers, including general grade high-tensile friction grip bolts (referred to in B.S. 3139, and B.S.4395 part 1) shall be hot dip galvanized and subsequently centrifuged (according to B.S. 729). Nuts shall be tapped up to 0.4 mm oversize after galvanizing and the threads oiled to permit the nuts to be finger-turned on the bolt for the full depth of the nut. No lubricant, applied to the projecting threads of galvanized high-tensile friction-grip bolt after the bolt has been inserted through the steelwork, must be allowed to come into contact with the mating faces of the steelwork,. A local remelting of the galvanized parts to achieve the nuts to be finger turned on the bolt is possible in accordance with DIN 50976.

Protected slings must be used for offloading and erection. Galvanized work which is to be stored at the works or on site shall be stacked so as to provide adequate ventilation to all surfaces to avoid wet storage staining (white rust).

Small areas of the galvanized coating damaged in any way shall be restored in accordance with DIN 55928, part A and DIN 50976 by:

- Cleaning the area of any weld slag rust and other impurities and by thorough wire brushing to give a metallic clean surface.

- Application of suitable number of coats of zinc-rich paint containing more than 90 % w/w of zinc in dried film. The dry film thickness shall exceed at least 50 % the thickness of the desired galvanization. In case of application of a low melting point zinc alloy repair rod, the rods shall be in accordance with DIN1707, the thickness of the alloy shall be at least as of the desired galvanization.

The restored area is not to exceed 1 % of the galvanized surface.

Surface restoration of parts in contact with drinking water is not allowed and the quality of the galvanization is to be in accordance with DIN 2444.

After fixing, bolt heads, washers and nuts shall receive two coats of zinc-rich paint. Connections between galvanized surfaces and copper, copper alloy or aluminum surfaces shall be protected by suitable preferably hydrophobe tape wrappings to the owner's approval.

15.0.0 SPRAYED METAL COATINGS

Corrosion protection may be also achieved by spraying of suitable metals as zinc and/or aluminum on the surfaces of structures. For special cases tin, copper, lead can be used as well. Methods of surface preparation have to conform to B.S. 2569 or to DIN 8567. A proper treatment of the surface followed by an immediate spraying is to apply to ensure adhesion of the sprayed metal. The surface has to be clean, free of impurities, rust, mill scale and rough enough to have binding properties to ensure good enticulation with the sprayed layer. Suitable roughness can be achieved by blast cleaning acc. to BS 4232 or DIN 8567. Welds are to be cleaned and prepared with special care. All surfaces to be treated have to be dry and accessible.

Application of coatings, requirements for thickness, adhesion, composition of coating metals, and subsequent treatment have to conform to BS 2569, DIN 8565 and 8567.

Testing of the spray coated layers are to be carried out in accordance with DIN 8565.

The contractor has to specify the type, composition and thickness of the sprayed metal and of the sealing coating according to DIN 8565 including the corresponding warranties and tests if, sprayed metal coating will be applied.

Safety of work:

All precautions connected with this type of application of corrosion protection have to be in accordance with German regulation DVS 2307, page 1. 2.

Sprayed, unfused coating of metals and metallic compounds applied by combustion gas flame, plasma arc, detonation and similar processes, and the preparation of components, spraying techniques, sealing, finishing and inspection shall be according to B.S. 4761.

The hot galvanized surface has to be cleaned before the application of the coats to remove corrosion products, dirt, dust, grease.

The cleaning can be achieved by

- brush off
- washing with 1 - 1.5 % ammonia water with up to 0.1 % detergent added and followed by wet grinding to turn the foam to grey color,
- steam blasting.

16.0.0 WARNING NOTES / SIGNALS

This Instruction serves the identification of the coated surfaces that are received from shop in assembled condition / module wise.

The warning note shall prevent any possible damage to the coated surfaces during transportation / assembly at site.

Eg.: Welding work OR Heat treatment work on the outside of coated or lined surfaces is prohibited.

17.0.0 COLOUR CODE FOR PIPING

a. The colour code scheme is intended for identification of the individual group of the pipeline. The system of colour coding consists of a ground colour and colour bands superimposed on it. The colour coding for the identification of pipelines shall comply with **Annex – 25.1.1** of this specification.

Ground Colour shall be applied throughout the entire length for un insulated pipes. For insulated pipes, on the metal cladding or on the pipes of material such as non-ferrous metals, austenitic stainless steel etc., ground colour coating of minimum 2m length or of adequate length not to be mistaken as colour band shall be applied at places requiring colour bands. Colour band(s) shall be applied at the following location.

i. At battery limit points

ii. Intersection points & change of direction points in piping ways.

iii. Other points, such as midway of each piping way, near valves, junction joints of service appliances, walls, on either side of pipe culverts.

iv. For long stretch/yard piping at 50 M interval.

v. At start and terminating points.

b. Flow direction shall be indicated by an arrow in the location stated above and as directed by Engineer. Colors of arrows shall be black or white and in contrast to the color on which they are superimposed. The size of the arrows shall confirm to IS:2379. Product names shall be marked at pump inlet, outlet and battery limit in a suitable size as approved by Engineer. As a rule minimum width of color band shall conform to 75 mm up to 300 NB and to 100 mm over 350 NB. Whenever it is required by the Engineer to indicate that a pipeline carries a hazardous material, a hazard marking of diagonal stripes of red and golden yellow as per IS:2379 shall be painted on the ground color.

c. All uninsulated piping systems, hangers and supports shall have two coats of suitable primer coats and with suitable finish paints as per Annex 25.1.2 Painting system. Shades shall be as per IS 5 or as indicated by Owner /Engineer. Service of the pipe/line designations shall be painted on all pipes at visible locations.

18.0.0 IDENTIFICATION OF VESSELS, PIPING ETC.

Equipment number shall be stenciled in black or white on each vessel, column, equipment and machinery after painting.

Line number in black or white shall be stenciled on all the pipelines of more than one location as directed by Engineer; size of letters printed shall be 150 mm (high) for column & vessels. 50 mm (high) for pump compressor and other machinery and shall be as per IS: 9404 for piping. The storage tanks shall be marked as detailed in the respective drawing.

19.0.0 INSPECTION AND TESTING

a) All painting materials including primers and thinners brought to site for application shall be procured directly from manufacturer as per specifications and shall be accompanied by manufacturer's test certificates. Paint formulations without certificates are not acceptable. Engineer at his discretion, may call for tests for paint formulations. Contractor shall arrange to have such tests performed including batch wise test of wet paints for physical & chemical analysis. All costs thereof shall be borne by the contractor. The paints shall be tested as per IS: 101 / equivalent international standard and approved by the Owner.

b) The painting work shall be subject to inspection by Engineer at all times. In particular, following stage wise inspection shall be performed and contractor shall offer the work for inspection and approval of every stage before proceeding with the next stage. The record of inspection shall be maintained in the registers. Stages of inspection shall be surface preparation, primer application and each coat of paint. In addition to above, record shall include type of shop primer already applied on equipment e.g. red oxide zinc chromate or zinc phosphate or Silicate primer etc.

c) Any defect noticed during the various stages of inspection shall be rectified by the contractor to the entire satisfaction of Engineer before proceeding further. Irrespective of the inspection, repair and approval at intermediate stages of work, contractor shall be responsible for making good of any defects found during final inspection/guarantee period/defect liability period as defined in general condition of contract. Dry film thickness (DFT) shall be checked and recorded after application of each coat and extra coat of paint shall be applied to make-up the DFT specified without any extra coat to the Owner.

20.0.0 GUARANTEE

The contractor shall guarantee that the chemical and physical properties of paint materials used are in accordance with the specifications contained herein/to be provided during execution of work. The contractor shall produce test reports from the manufacturer regarding the quality of the particular batch of paint supplied. The Engineer shall have the right to test wet samples of paint at random for quality of the same. Batch test reports of the manufacturer's for each batch of paints supplied shall be made available by the contractor.

ANNEX-25.1.1

STANDARD FINAL COLOUR OF EQUIPMENT AND PIPING

1.0.0 STANDARD COLOUR CODE FOR MECHANICAL EQUIPMENT

Sl. No.	Description	Ground Colour
A	**CLOSED COOLING WATER SYSTEM**	
1	Closed cooling water pumps	Sea Green
2	Plate heat exchanger	Sea Green
3	Closed Cycle cooling Water (CCCW) pumps	Sea Green
4	CCCW Expansion tank	Sea Green
5	CCCW chemical dosing tank	Sea Green
B	**WATER TREATMENT PLANT**	
1	Raw water	
a	Raw water pump	Sea Green
b	Clarifier	Sea Green
c	- Raw / Fire water storage tank	Sea Green
d	DM plant supply pump	Sea Green
e	Filter air blower	Sea Green
f	Filter back wash pump	Sea Green
g	Lime slaking tank & agitator	Sea Green
h	Lime slurry transfer pump	Sea Green
I	Lime solution tank	Sea Green
j	Lime solution dosing pump	Sea Green
k	Alum solution tank	Sea Green
l	Alum solution metering pump	Sea Green
m	Polyelectrolyte solution tank	Sea Green
n	Polyelectrolyte solution metering pump	Sea Green
o	Sludge feed pump	Sea Green
p	Filter press	Sea Green
q	Service water tank for DM building	Sea Green
r	Service water tank for control annex	Sea Green
2	Demineralization system	
a	Activated carbon filter	Sea Green
b	Cation exchanger	Sea Green
c	Anion exchanger	Sea Green
d	Degasser tower	Sea Green
e	Air blower for degasser tower	Sea Green
f	Strong base anion exchanger	Sea Green
g	Degassed water transfer pump	Sea Green
h	Strong base anion exchanger	Sea Green
I	Mixed bed polisher	Sea Green
j	Air blower for mixed bed polisher	Sea Green
k	DM Water Storage tank	Sea Green
l	DM water transfer pump	Sea Green
m	Acid unloading cum transfer pump	Dark Admiralty Grey
n	Bulk acid storage tank	Dark Admiralty Grey
o	Acid measuring tank for SAC	Dark Admiralty Grey
p	Acid measuring tank for MB	Dark Admiralty Grey
q	Regeneration water pump	Dark Admiralty Grey
r	Caustic Lye unloading cum transfer pump	Dark Violet
s	Bulk caustic storage tank	Dark Violet
t	Caustic regeneration tank & agitator	Dark Violet

Sl. No.	Description	Ground Colour
u	Caustic solution filter	Dark Violet
v	Caustic dilution tank for SBA/WBA	Dark Violet
w	Caustic dilution tank for MB	Dark Violet
x	Caustic pump for regeneration for WBA/SBA	Dark Violet
y	Waste water recirculation cum disposal pump	Sea Green
C	**CRANE & HOIST**	
1	Power house EOT crane	Canary Yellow
2	CW pump house EOT crane	Canary Yellow
D	**COMPRESSED AIR PLANT**	
1	Air compressor	Sky Blue
2	Compressed air dryer	Sky Blue
3	Air receiver	Sky Blue
E	**Chemical Dosing**	
1	Hydrazine preparation tank	Dark Admiralty Grey
2	Ammonia preparation tank	Dark Admiralty Grey
3	Hydrazine & ammonia dosing tank	Dark Admiralty Grey
4	Hydrazine & ammonia dosing pump	Dark Admiralty Grey
5	Phosphate preparation tank	Dark Admiralty Grey
6	Phosphate dosing tank	Dark Admiralty Grey
7	Phosphate dosing pump	Dark Admiralty Grey
8	Sampling system	Dark Admiralty Grey
F	**FIRE PROTECTION SYSTEM**	
1	Diesel engine driven pump	Fire Red
2	Fuel tank for diesel engine driven pump	Fire Red
3	Main hydrant pump (Electrical)	Fire Red
4	Jockey pump	Fire Red
5	Fire Water Storage tank	Fire Red
6	CO2 cylinder	Fire Red
G	**FUEL OIL SYSTEM**	
1	Fuel oil pumps skid	Light Brown
2	Fuel oil Storage tank	Light Brown
3	Fuel oil strainer	Light Brown
H	**ASH DISPOSAL SYSTEM**	
1	Ash transmitting vessel	Aluminium
I	**AIR CONDITIONING AND VENTILATION SYSTEM**	
1	Refrigerant compressor	Sky Blue
2	Chilled / condenser pumps	Sea Green
3	Condenser water pipe	Sea Green
4	Fans	Grey

Notes:

1. This color code basically refers to IS:2379 for piping with necessary modifications
2. For any item left out, color coding will be decided after Owner's approval.

2.0.0 STANDARD COLOUR CODE FOR ELECTRICAL EQUIPMENT

	Description	Colour	Colour No.
1	Generator	Two undercoats of high quality epoxy based primer followed by two coats of epoxy painting	
2	Generator circuit breaker a) Outdoor	-	RAL 7032
	b) Indoor	Glossy white	-
3	Transformers	Pebble grey	RAL 7032
4	Bus ducts	Pebble grey	RAL 7032
5	Junction boxes.	Pebble grey	RAL 7032
6	HT/LT Switchboards, Distribution boards, Control & Relay panels		
	a) Indoor	Pebble grey	RAL 7032
	b) Outdoor	Pebble grey	RAL 7032
7	UPS Panel, charger panels	Pebble grey	RAL 7032
8	DG Alternator	Onan Green	-
9	NGR	Pebble grey	RAL 7032
10	Motor	Pebble grey	RAL 7032
11	Lighting fittings	As per manufacturer's standard	As per manufacturer's standard
12	Cable trays	Galvanized	
13	Elevator	Red oxide primer paint	

1. For interior coating, manufacturer's standard can be adopted subject to Owner's approval.
2. All panels that are to be erected at CCR floor shall be painted using RAL 7032 (exterior colour). All Electrical, C&I, Fire alarm or any other panel shall have this colour.

3.0.0 COLOUR CODING FOR IDENTIFICATION OF PIPELINES USED IN THERMAL POWER PLANTS

		Ground Shade		Band Shade		
Sl.No	**Medium**	**Color**	**Color No. as per IS:5**	**Color**	**Color No. as per IS:5**	**Remarks**
1	Water system					
a)	Untreated or raw / service	Sea green	217	White	-	White is not included in IS - 5-2007
b)	Treated/dematerialized	Sea green	217	Light orange	557	
c)	Condensate	Sea green	217	Light brown	410	
d)	Potable water	Sea green	217	French blue	166	
e)	RO water	Sea green	217	Light orange	557	
f)	Service & clarified water	Sea green	217	French blue	166	
2	Steam system					
a)	Auxiliary steam	Aluminum	-	Signal red	537	with aluminum
3	Air system					
a)	Instrument	Sky Blue	101	White	-	
b)	Service/Plant	Sky Blue	101	White	-	White not included in IS-5 - 2007
c)	Vacuum pipes	Sky Blue	101	Black	-	Black not included in
4	Gas system					
a)	Hydrogen	Canary yellow	309	Signal red	537	
b)	Chlorine	Canary yellow	309	Dark violet	796	
c)	Carbon dioxide	Canary yellow	309	Light grey	631	
d)	Oxygen	Canary yellow	309	White	218	White is not included in
5	Oils					

		Ground Shade		Band Shade		
Sl.No	**Medium**	**Color**	**Color No. as per IS:5**	**Color**	**Color No. as per IS:5**	**Remarks**
a)	LDO/HFO	Light brown	410	Brilliant green	221	
b)	Transformer oil	Light brown	410	Light orange	557	
6	Chemical feed					
a)	Acid piping (in water treatment plant)	Dark admiralty grey	632	Signal red	537	Hazard mark is given
b)	Alkali Piping (in water treatment plant)	Dark violet	796	Golden yellow	356	Hazard mark is given
7	Fire services	Fire red	536	-	-	-
8	Effluent pipes	Black	-	-	-	-

4.0.0 COLOUR CODE FOR STRUCTURAL STEEL

SL. NO	ITEAM/SERVICE	COLOR	COLOR No. as per IS:5
1	Gantry girder & monorail	Brilliant green	221
2	Gantry girder & monorail stopper	Signal red	537
3	Building structural steel columns brackets, beams bracings, roof truss, purloin, side grit, louvers, stringers	Dark admiralty grey	632
4	Pipe rack structure & trestle	Dark admiralty grey	632
5	Chequered plate (Plain Face)	Black	-
6	Grating	Black	-
7	Ladder	Dark admiralty grey	632
	Hand railing		
8	Hand rail	Signal red	537
9	Middle rail	Signal red	537
10	Toe Plate	Signal red	537
11	Vertical post	Black	-
12	Structural steel for Silo	Smoke grey	692

Notes

1. Covering capacity and DFT depends on method of application. Covering capacity specified above is theoretical. Allowing the losses during application, min specified DFT shall be maintained.

2. All primers and finish coats shall be cold cured and air dried unless otherwise specified.

3. All paints shall conform to relevant Indian Standard and shall be applied in accordance with manufacturer's instructions for surface preparation, intervals, curing and application. The surface preparation, quality and workmanship shall be ensured.

4. Technical data sheets for all paints shall be supplied at the time of submission of quotations.

5. In case of use of epoxy tie coat, manufacturer shall demonstrate satisfactory test for inter coat adhesion. In case of limited availability of epoxy tie coat, alternate system may be used taking into consideration the service requirement of the system.

6. Contractor will submit the final colour shade for all equipments & piping under his scope for final approval by client / consultant.

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
Structural Steel work, piping (Oil + Water), tanks outside surface, transmission towers cranes, steel floors, galleries, stairways, Outdoor.	< 130 Deg	SA 2 1/2	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1	75
			Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Mid coat	1	2 pack High build High Solid Lamellar MIO based Epoxy Mid coat.	200
			Finish	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of at least 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**350**
Structural Steelwork, piping, indoor and outdoor	130 to 200 Deg	SA 2 1/2	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
			Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Sealer	1	Single pack Heat Resistant Silicon Acrylic Finish paint.	25
			Finish	2	Single pack Heat Resistant Silicon Acrylic Finish paint.	25
					Total	**150**
Alternative -2		SA 2 1/2	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
				1	Single pack Moisture Cured, Inorganic Silicate based heat resisting finish up to 400 Deg - Grey shade./ white/ Aluminium.	50
			Finish	1		50
					Total	**175**
Alternative-3			Finish	1	Single pack Heat Resistant Silicon Acrylic Finish paint. - either Aviation White/ Aviation Orange.	80
					Total	**155**
Structural Steel work Piping, Un-insulated	200 to 400	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs	75

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
Carbon Steel Indoor and Outdoor	Deg C.				/ 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	
			Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level 2.	(75)
			Finish	2	Heat Resisting Silicon Aluminium Paint. VS to be min 28%.	20
					Total	**115**
Carbon steel surfaces subjected to temperature up to 400℃. But Under Thermal Insulation.	< 400℃	Power tool cleaning to St 2 /3		**2**	Red-oxide Zinc phosphate primer to IS 12744	**30**
						60
Components coming in the gas path (other than Coils), including water walls, SH panels, SH Headers, Hot air ducts etc.		Power tool cleaning		**2**	Red-oxide Zinc phosphate primer to IS 12744	**30**
						60
Structural Steel work, Piping (Oil + water) , Tanks Indoor.	<130 Deg.C	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
			Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Mid coat	2	2 pack High build High Solid Lamellar MIO based Epoxy Mid coat.	100
			Finish	2	Two component Polyamide Cured Epoxy Coating.	25
					Total	**325**
Structural Steel work in the battery rooms, chlorination plant and	Ambien t	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance	75

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
water treatment plant, (extremely aggressive atmosphere)					specifications for SSPC Paint 20 , Level 1	
			Touch up		Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Mid coat	1	Two component, high build rust encapsulating, aluminium pigmented modified epoxy coating.	125
			Finish	1	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%	150
					Total	**350**
Steel Tanks inside Surface (Total) for Oil Storage	Normal	SA 2.5	Primer	1	Two component high build amine cured epoxy Primer with zinc phosphate pigment.	75
			Finish	2	Two component Self priming High Build Polyamine adduct cured epoxy coating.	125
					Total	**325**
Alternative-1			Finish	3	Two component Self priming High Build Polyamine adduct cured epoxy coating. **(No primer required. Self priming coating post blasting)**	125
					Total	**375**
Alternative-2			Finish	2	Two component High build high solid Solvent free epoxy coating - certified by CFTRI for Potable water usage**.(Primer same as above)**	150
					Total	**300**
Steel Tanks inside Surface (Total) for Water Storage (Potable and Distilled Water)	Ambient	SA 3	Primer	1	Two component high build polyamide cured zinc phosphate Primer	75
			Finish	2	Two component Self priming High Build Polyamine adduct cured epoxy coating - certified by CFTRI for Potable water usage.	125
					Total	**325**
Alternative 1			Finish	2	Two component High build high solid Solvent free epoxy coating - certified by CFTRI for Potable water usage. **(No primer required. Self priming coating post blasting)**	200
					Total	**400**
Steelwork immersed in	< 60	SA 3	Primer	1	Two component High Build High Solid Rapid Curing Epoxy	75

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
seawater such as inlet/ outlet structures, dolphins, sheet piling	Deg C				Zinc Phosphate Primer.	
			Finish	1	Two component High build High Solid Modified Epoxy coating.	500
					Total	**575**
			Wherever TAR based product is not to be recommended.			
			Finish	1	Two component High build High Solid Modified Epoxy coating	500
					Total	**500**
			Finish	1	Two component High build High Solid Modified Epoxy coating with Glass Flake.	500
					Total	**500**
Alternative 1						
Cast Iron Water pipelines - Outside surface, buried in Soil	< 60 Deg C	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1	75
			Finish	2	Polyamide Cured Coal Tar Epoxy, Vs min 65% black.	200
					Total	**475**
Alternate-1			Finish	1	Two component High build High Solid Modified Epoxy coating	500
Alternate -2			Finish	1	Two component High build High Solid Modified Epoxy coating with Glass Flake	500
Steel Pipes - Inside surfaces such as cooling water lines.	< 60 Deg C	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
			Finish	2	Coal Tar Epoxy, Vs min 65% black.	225
					Total	**525**
Water Pipelines - Outside Surface, Indoor	< 60 Deg C	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
			Touch	1	Two component Zinc rich Primer meeting performance and	(75)

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
			up		compositional specifications of SSPC Paint 20 Level2	
			Finish	2	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%	100
					Total	**275**
Oil pipelines - Outside surface, above ground	< 100 Deg C	SA 3	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
			Touch up		Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Mid coat	2	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%	100
			Finish	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of at least 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**350**
Pumps, Motors, Turbine, Claddings, Steam Turbine Condenser, Indoor	Up to 90 Deg	SA 2.5	Primer	1	Catalysed Zn rich Primer with a VS of 60% min, complying to SSPC Paint 20 level 2.	75
			Finish	2	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%.	100
					Total	**275**
Alternative 1		SA 2.5	Primer	1	Catalysed Zn rich Primer with a VS of 60% min, complying to SSPC Paint 20 level 2.	75
			Mid coat	1	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%.	100
			Finish	2	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of at least 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**250**
Heat Exchangers - Inside Surface.	Up to 60 Deg	SA 2.5	Primer	1	Solvent based IZS - VS of 60%. Zn Dust - 1.77 kg/ltr minimum. Zn dust by weight - minimum 85%. Pot life 12 hrs / 21 Deg.- Paint to meet compositional & performance specifications for SSPC Paint 20 , Level 1.	75
			Finish	2	Coal Tar Epoxy, Vs min 65% black.	200

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
					Total	**475**
Heat exchanger Coils coming in the gas path . (Eco, SH, RH coils & Loose tubes etc.)		Power tool cleaning			One coat of dip-coat paint -Red-oxide Zinc phosphate primer	35
Instrument panels, Electrical cubicles and similar steel sheet – indoor **(Can be used on Aluminium, steel, stainless steel and galvanized substrates.)**	Ambient	Oil grease and contamin atnts must be removed	Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	75
			Mid coat	1	Two component High Build Surface Tolerant Epoxy coating pigmented with Aluminium and Lamellar Micaceous iron oxide	100
			Top coat	1	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%	100
					Total	**275**
Instrument panels, Electrical cubicles and similar steel sheet – outdoor **(Can be used on Aluminium, steel, stainless steel and galvanized substrates.)**	Ambient	Oil grease and contamin atnts must be removed	Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	100
			Mid coat	1	Two component High Build Surface Tolerant Epoxy coating pigmented with Aluminium and Lamellar Micaceous iron oxide.	150
			Top coat	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of atleast 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**325**
Substrate, base metal: Carbon steel, HDG acc ISO 1461 Or. Equiv. Non Insulated. - Outdoor	<120 Deg	Air blasting with Nonmetallic abrasive Powder	Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	50
			Mid coat	1	Two component High Build Surface Tolerant Epoxy coating pigmented with Aluminium and Lamellar Micaceous iron oxide	150

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
			Finish	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of atleast 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**275**
Substrate, base metal: Carbon steel, HDG acc ISO 1461 Or. Equiv. Non Insulated.- Indoor	<120 Deg	Air blasting with Nonmetallic abrasive Powder	Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level 2.	75
			Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	125
			Finish	1	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%.	100
					Total	**225**
			For Outdoor Application			
			Touch up	1	Two component Zinc rich Primer meeting performance and compositional specifications of SSPC Paint 20 Level2	(75)
			Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	125
			Finish	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of at least 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**200**
			For Indoor Application			
Substrate, Stainless Steel - Non insulated.	< 120 Deg	Air blasting with Nonmetallic abrasive Powder	Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	125
			Finish	1	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%	100
					Total	**225**
			For Outdoor Application			
			Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	125
			Finish	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of atleast 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**200**
Applicable for Water -				**For Indoor Application**		

ANNEX 25.1.2 PAINTING SYSTEMS						
Cleaning, Protective Coating and Painting - Systems designed as per ISO 12944 with service life of 10 yrs.						
Surface/ Location	**Temp**					
		Surface prep	**Coat**	**No. of coats**	**Generic Type**	**Dft/Coat**
Water Cooled heat Exchangers like Condensers, Flash box, Water - Water coolers etc. For Outdoor installations in corrosive atmosphere - like Chemical/ Marine.	< 120 Deg	Air blasting with Nonmetallic abrasive Powder	Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	75
			Top coat	2	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%.	100
					Total	**275**
				For Outdoor Application		
			Primer	1	Two pack , high build siloxane modified epoxy primer with zinc phosphate pigment.	125
			Mid coat	1	Two component High Build high Solid Aliphatic Amine Cured Epoxy coating. - Min VS 85%.	100
			Top coat	1	2 pack Acrylic Aliphatic Polyurethane top coat - with Gloss retention of at least 90% on QUVB exposure of minimum 1000 hrs.	75
					Total	**300**

PAINTING SPECIFICATION FOR CIVIL BUILDINGS – COASTAL

S.No.	Location	Description
1	Metal and Timber Joinery	Two component high build, self priming, rust encapsulating, modified epoxy coating. Min VS 80%.
2	All Ceiling	Oil bound distemper (Office rooms) White Washing - all areas.
3	Internal wall surfaces	Oil Bound distemper
4	Control room/office	Acrylic Emulsion.
5	External faces of walls	Cement based Water proof paint
6	Walls of battery room and other acid/alkali spillage areas	1. Primer -1 coat of 50 microns - Two pack Polyamide Epoxy Primer with Zinc phosphate Pigment for concrete application. Min VS 48%. 2. Top coat - 1 coat of 125 microns - Two component self priming, high build polyamine adduct cured epoxy coating having excellent chemical resistance. Min VS 60%.
7	Cooling Tower External	
	a. Steel sections	i) Blasting to SA 2.5 ii) 1 x 75 microns - Inorganic Zinc Silicate as per SSPC Paint 20 Level 2. iii) 1 x 150 microns –Two components high build epoxy intermediate pigmented with lamellar micaceous iron oxide. Min VS 65%. iv) 1 x 75 microns - Two component high solids, Glossy, Acrylic Aliphatic Polyurethane paint, Min VS of 57%, Gloss retention of 90% after exposure to 2000 hrs under QUV B 313 lamp
	b. Concrete sections	1. 1 x 50 microns - Epoxy Polyamide Primer 2. 1x 500 microns-Two components high build high solid, engineered epoxy coating. Min VS 87%. - Typical dft - 500 microns per coat. Condensation as per IS 101 - 9000 hrs, Salt spray as per ASTM G 85 - 8000 hrs.
8	Chimney external	i) 1 x 50 microns Concrete Epoxy Polyamide primer followed by ii) 2 Coats of 50 microns of Acrylic Aliphatic Polyurethane paint

	Manufacturer Name & Address:	MANUFACTURING QUALITY PLAN		
		ITEM:	QP NO: REV. NO: DATE: **Page 1 of 2**	PROJECT: PACKAGE: MAIN SUPPLIER: BHEL, BAP RANIPET

S.NO	COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS D		AGENCY			REMARKS
					M	C/B					M	C	B	
1	2	3	4	5	6		7	8	9	D*	** 10			11
I.0	**RAW MATERIAL**													
1.1			MAJOR						TC	√	P	V	-	
2.0	**BOUGHT OUT ITEMS**													
	MOTOR	TYPE & ROUTINE TEST	MAJOR	PERFORMANCE PARAMETER	100%	100%	PRQA:550/LATEST (AS PER BHEL STANDARD PROCEDURE)		REPORT	√	P	V	-	
3.0	**INPROCESS INSPECTION**													
				MT/PT	100%	100%	ASME SEC V	ASME SEC V	REPORT	√	P	W	-	
				MEASUREMENT	100%	100%	DRAWING	DRAWING	DR	√	P	W	V	
5.0	**FINAL INSPECTION**													
5.1	IDENTIFICATION, PAINTING & PRESERVATION	COMPLIANCE TO COMPANY STANDARD	MINOR	VISUAL	100%	100%	AS PER APPD PAINTING SCHEDULE	AS PER APPD PAINTING SCHEDULE		√	P			

		LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** **M:** MANUFACTURER/SUB-SUPPLIER C**:** MAIN SUPPLIER, **B**: BIFPCL **P:** PERFORM **W**: WITNESS AND **V:** VERIFICATION. AS APPROPRIATE, **CHP:** BIFPCL SHALL IDENTIFY IN COLUM "B" AS ' W"		DOC.NO.: REV……. CAT……
MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER		**FOR BIFPCL USE**	
SIGNATURE			REVIEWED BY	APPROVED BY / APPROVAL SEAL

	Manufacturer Name & Address:	MANUFACTURING QUALITY PLAN		
		ITEM:	QP NO: REV. NO: DATE: **Page 2 of 2**	PROJECT: PACKAGE: MAIN SUPPLIER: BHEL, BAP RANIPET

S.NO	COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS D		AGENCY			REMARKS
					M	C/B					M	C	B	
1	2	3	4	5	6		7	8	9	D*	** 10			11

RECORD OF REVISION

REV NO	DATE	DESCRIPTION

NOTES:

1. Latest revision of standards & specifications shall apply. Only International Standards are applicable. Indian & Chinese Standards are not applicable.
2. Materials shall be procured in compliance to Functional Technical Specification.
3. Inspection shall be in compliance with approved Quality Control Procedure for the product.
4. NDT shall be carried out by Qualified Personnel with compliance to approved NDT Procedures and Acceptance Norms, as per ASME Section V.
5. Gauges and measuring Instruments, with valid calibration only shall be used
6. Cleaning and Painting of products shall be carried out as per Approved Painting Schedule.
7. Finished Products shall be packed to comply with approved Packing Schedule.

		LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** **M:** MANUFACTURER/SUB-SUPPLIER C**:** MAIN SUPPLIER, **B**: BIFPCL **P:** PERFORM **W**: WITNESS AND **V:** VERIFICATION. AS APPROPRIATE, **CHP:** BIFPCL SHALL IDENTIFY IN COLUM "B" AS ' W"		DOC.NO.: REV……. CAT……		
MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER		**FOR BIFPCL USE**			
SIGNATURE				REVIEWED BY	APPROVED BY	APPROVAL SEAL

Enquiry No.7700558E Dated 29-OCT-2020 Due on: 19-NOV-2020		
Sl.No	**BHEL / Customer Requirement**	**##Specific confirmations by the manufacture**
1	**Quality Plan Requirement:**	
	(i) MQP (Manuafcutering Quality Plan) shall be submitted in attached format for BHEL/Customer review & approval. Typical MQP is attached for indicative purposes for guidance & use.	
	(ii) MQP shall invaribly cover w.r.t Inward inspection including on Raw materail Procurement, In process and Final inspection in elaborated way/details.	
	(iii) Bidder shall also to give specific confirmation that on need basis, their competent officials shall visit to BHEL/customer for finalization of Quality plan including test procedure/methodology during preaward / post award approval / detailed engineering in the event of an order.	
	(iv) No deviation on BHEL/Customer approved MQP is acceptable.	
	(v) Bidder shall agree to submit all cross referred documents other than codes/standrads to BHEL/Customer/Consultant.	
	Important Notes shall be included in MQP : (a) Latest revision of Standard s & Specification shall apply. Only International Standards are applicable. Indian & Chinese Standards are not applicable (b) Materials shall be procured in compliance to Functional Technical Specification. (c) Inspection shall be in compliance with Approved Quality Control Procedure for the Product. (d) NDT shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME Section V. (e) Gauges and measuring Instruments, with valid calibration only shall be used. (f) Cleaning and Painting of products shall be carried out as per Approved Painting Schedule. (g) Finished Products shall be packed to comply with Approved Packing Schedule. (h) Welding shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME Section V.	
2	**Domastic / Inland Inspection** will be carried out by BHEL/BHEL apointed Third Party Inspection Agency (TPIA) / Customer/Customer Apointed Inspection Agency/Consulatnat. This is applicable for all Stage inspection and Final Inspection identified as "W" - Witness or "CHP" - Customer Hold Point as per customer approved Quality Plan/ Technical specification / Approved Drawing/ Approved Data sheet / Scheme / PID / PFD / SLD (Process Instrumentaion Diagram / Process Flow Diagram / Single Line Diagram) etc (As applicable).	
3	**Inspection Agency for Foreign Bidders and also for Indian Bidder but importing from Forgign Sources**: (1) Any one of the fllowing Third Party Inspection Agency (TPIA) shall be appointed by the bidder and same shall be furnished by the bidder in techno commercial bid itself. (2) The details of TPIA with contact details like Name of the official, Phone no, Email id shall also to be submitted during pre/post award. However cost for such inspection agency shall be borne by the bidder only. Inspection charges for such inspection agency shall be indicated separately so that if BHEL/Customer is undertaking the inspection by on their own , then these charges non claimable by the bidder. **List of TPIA** 1.M/s Bureau Veritas 2.M/s TUV-Nord 3.M/s TUV-SUD 4.M/s TUV Rheinland 5.M/s Lloyds Register 6.M/s SGS 7.M/s Germanischer Lloyds 8.M/s QUEST 9.M/s Certification Engineers International 10.M/s Intertek 11.M/s IR Class Systems and Solutions 12.M/s DNV 13. M/s Fichtner 14. M/s ABS Inspection Services	

Sl.No	BHEL / Customer Requirement	##Specific confirmations by the manufacture
4	**Stage Inspection during manufacturing Process :** Stage Inspection during manufacturing shall be carried out as per approved quality plan and all necessary documents shall be provided for review,verification and clearanace for further processing. This inspection call shall be given well in advance (atleast 2 weeks before) to TPI/Bidder's own inspection agency to avoid delay in the manufacturing processes.	
5	**Inspection before despatch for domestic supplier :** Inspection before despatch at supplier's works shall be carried out by BHEL/BHEL appointed Inspection agency. Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet .	
6	Inspection at Forign Source/Supplier: (a) As in sl no: 3. shall be ensured without fail (b) No materail / items shall be despatched without getting the written communication from BHEL / Customer inspection carried out by BHEL/BHEL apointed Third Party Inspection Agency (TPIA) / Customer/Customer Apointed Inspection Agency/Consulatnat. This is applicable for all Stage inspection and Final Inspection identified as "W" - Witness or "CHP" - Customer Hold Point as per customer approved Quality Plan/ Technical specification / Approved Drawing/ Approved Data sheet / Scheme / PID / PFD / SLD (Process Instrumentaion Diagram / Process Flow Diagram / Single Line Diagram) etc (As applicable). Inspection before despatch for Foreign supplier : Inspection before despatch at supplier's works shall be carried out by bidder appointed inspection agencies having international presence at vendors and or vendor's sub vendor works. Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet by TPIA mentioned in Sl no: 03 at supplier's cost.	
7	**Painting** shall be done strictely as per BHEL/Customer approved painting schedule / scheme only. Paint Thickness / Paint shade shall be ensured as per BHEL / Customer approved painting schedule / specification / data sheet etc. No deviation is acceptable unless otherwise accepted by BHEL/Customer in writing. Any conflict if any among BHEL / Customer approved painting schedule / Spec / data sheet etc shall be brought to the notice to BHEL well in adavnce before proceding including the BOI being procured for assy / skid like motors etc	
8	Specific conformation for document package in the event of an order (2 Hard copies & soft copy in PDF file) is to be given containing the following with proper linkages (i) Index Sheet (ii) MQP/RQP/Endorsemment Sheet (As applicable) (iii) TCs identfied by BHEL/ Customer for record for "CHP" / "W" and Verification portion ("V") as given in approved QP. (iv) Final inspection report + TC including Chemical + Mechnaical + HT + NDT etc (v) Third party Inspection report + TC (vi) Customer CHP/ MDCC (vii) Type test / Performance Test reports conducted (viii) Type test / Performance Test approval/ clearance obtained from BHEL/Customer (ix) BOM with As Build Drgs with actual make / rating used with BHEL/customer approved drawings.	
9	**Packing / Seaworthy Packing** shall be as per BHEL Packing schedule / approved drg / sketch. This shall be ensured to take care tarnsit / handling / transhipment in Road / Sea / Air. Photographs are to be submitted for BHEL review before despatching the material as per contract conditions.	
10	**Outsourcing of test facilities:** Bidder shall ensure all the testing facilities in house. However If any of the test facilities are not available with successful bidder, then bidder shall ensure the same at NABL accreadted third party lab / Govt / Govt Lab for major testing such as NDT, Electrical & Mechanical testing.	
11	**Important Note:** No deviation on the above requirement 01 to 10 is acceptable w.r.t Quality Requirement and those offers not meeting these specific customer requirement is liable for rejection and hence the bidder shall submit all the required documentary evidances in the offer itself.	
12	## Necessorily to be filled up by the bidder at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirement being customer specific requirement.	

Ref :INSP:CHK:001/ REV 00
DT:10/08/2020

Inspection document Check List

Inspection documents to be submitted after inspection of the items for getting dispatch clearance. Vendor shall provide documents to the BHEL/BHEL TPIA inspector during inspection and TPIA shall sign all the documents.

The document dossier shall contain following.

SL no.	Documents
1	Unpriced PO COPY.
2	Latest approved specification, datasheet, drawing, P&ID, test procedures, approved painting schedule, Packing etc.
3	Approved QAP.
4	CQIR Report (Disposal code should be Accepted all the offered QTY)
5	As per approved QAP all the inspection documents to be submitted. **Indexing of the reports as per QAP and each page wise numbered and correlated to QAP.** **If more than one test in each page, against each test the clause number of QAP to be mentioned.** Inspection clause shall be mentioned against each test. 1. Raw Material Test Certificates (NABL approved Lab TC/Manufacturer TC like Mechanical properties, Chemical Properties, UT etc. as per approved QAP.

K. Kovar

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வரிஷ்ட இஞ்சினியர் / Sr. Engineer
தரக்கட்டுப்பாடு / Quality Department
பி.எச்.இ.எல் / BHEL RAP RANIPET-6

	2. In process Inspection Reports like Hydro test, Dimension Report, MPI,UT ,Balancing etc. as per approved QAP. 3. Final Inspection Reports like Shop Assembly with testing reports, Hydro test/Leak / Pressure test reports, Type test Reports, WPS/PQR/WPQ Reports, PT/RT/UT/MT Reports etc. as per approved QAP. 4. Final Inspection like packing and surface preparation & Painting/Metal finishing reports. (Sea worthy packing / Special Packing requirement).
6	Relevant pages of standard shall be attached with report.
7	Calibration reports of the instruments used to be signed by TPI after verification.
8	Above said documents are should be in single .pdf file with not more than 10MB (if more than 10MB can be split into multiple files)
9	Hard copy of the same to be submitted along with material dispatch.

K KOVARTHANAN

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DM/QC PROC

BHEL RANIPET