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भारत हेवी इलेक्ट्रिकल्स लिमिटेड

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Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

CE: PR: 003- Rev 02

PB 2606 , Mysore Road Bangalore , 560026 INDIA

SPECIAL COMMERCIAL CONDITIONS OF CONTRACT

Reference is brought to BHEL's Instructions to Bidders (Document Ref: CE: PR: 001- Rev 03) and General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 02).

These two documents along with Special Conditions of Contract annexed to this RFQ will form an integral part of the contract as and when the RFQ culminates into a Purchase Order / Contract.

RFQ No. : PVR0000251
RFQ Date : 15-10-2022
RFQ Due Date : 27-10-2022
Customer/Project : PATRATU (3x800 MW)
Scope Description : ELECTRONIC TRANSMITTERS

Kindly submit your quotation as **single/two/three part bid** (Pre-Qualification Criteria and Techno-Commercial bid - 1st part & Price bid - 2nd part) in E-Procurement System portal: <https://eprocurebhel.co.in> within the Due- Date of 27-10-2022 before **13.00** hours IST and note that tenders will be opened on the same day at **15.30** hours IST.

Purchase Executives: Clarifications with regard to the tender shall be addressed to purchase officers whose e-mail IDs are given below:

poojavrao@bhel.in or vijaykumarym@bhel.in

~~**Splitting of tendered quantity to MSE vendors:** The tendered quantity will be split to MSE vendor/s subject to submission of relevant document/s by vendors. Refer clause: I of Instructions to Bidders for conditions applicable and for information on document/s to be submitted. (Strike off, if not applicable)~~

Destination: For Indigenous scope of supply, items are to be directly despatched to BHEL site office/stores located near PATRATU in JHARKHAND state, India. Detailed Consignee details will be issued by BHEL along with Despatch Clearance.

Imported scope of supply:

- DEEC / SEZ/EPCG/DFIA/ Physical Export contract: Eligible for "NIL" Basic Customs Duty.
- Project Imports: Eligible for Concessional Basic Custom Duty.
- Basic Custom duty and Cess on Basic Custom duty are reimbursable by customer.

Terms of Delivery:

- Indigenous scope of supply:** Ex-works, <indicate station of dispatch> (including Packing & Forwarding charges but excluding Taxes).

- ~~**Imported scope of supply:**~~

~~F.C.A. (for air consignments) < indicate international port of dispatch > / C.I.F. (for sea consignments) < ICD, Bangalore > (including Packing, Forwarding, Handling, Ancillary charges like processing of Sight Draft/ Letter of Credit, negotiation of bank documents, Export declaration, Country of Origin etc.).~~

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Kindly indicate the approximate weight of the total imported consignment, which is required for calculating air freight charges: _____

Under-mentioned details shall be provided against indigenous supplies & services:

- a. GSTIN of place of supply : _____
- b. HSN (Harmonized System of Nomenclature) code : _____
Applicable tax and Rate : _____ & _____
- c. GSTIN of place of supply of service :
- d. SAC (Service Accounting Code) : _____
Applicable tax and Rate : _____ & _____
- e. GeM Seller ID is mandatorily required for PO placement: _____
- f. If bidder is MSE vendor, are supporting documents enclosed: Yes /No
(If MSE, supporting documents viz., Udyam certificate to be enclosed)

I. Bidders to mandatorily provide confirmation/compliance for the under-mentioned terms:

SL NO	TERMS	BHEL ACCEPTABLE TERM	BIDDER'S CONFIRMATION	REMARKS,if any
01	Reverse Auction (RA) <i>(strike off, if not applicable)</i>	BHEL shall be resorting to Reverse Auction (Guidelines as available on http://www.bhel.com/index.php/vender) 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.	AGREE	
02	Parting of license for imported raw materials <i>(strike off, if not applicable)</i>	In case of projects where Basic Custom Duty is NIL and vendor is importing any raw materials / components for the enquired item, same are eligible for Zero Customs duty. As per EXIM policy, BHEL will part the import licence with the vendors to obtain import licence by themselves and custom clear the raw materials/ components by availing zero customs duty. Hence, please furnish list of raw materials / components to be imported by you with Quantity and CIF value (for which BHEL has to share import licence). The benefit due to the above shall be passed on to BHEL and confirmed in the quotation.	AGREE CIF value Yes, benefit passed on to BHEL in the priced quotation. (or) We confirm that there are no imported components	

		If there are no imported raw materials/ components, same shall be confirmed in the offer.		
03	Delivery Period	<p>Within 12 weeks from the date of issue of Manufacturing clearance along with approved document.</p> <p>Delay in contractual delivery will attract Penalty as per GCC Clause no.:04 b.</p> <p>Delivery period mentioned is only indicative. Please enter your best lead-time in BIDDER'S CONFIRMATION column.</p> <p>Tentative Delivery Schedule: Unit-1: December 2022 Unit-2: June 2023 Unit-3: December 2023 Mandatory Spares: June 2024</p>	<p>AGREE</p> <p>..... weeks</p>	
04	Terms of Payment at the time of material supply <i>(strike off, whichever is not applicable)</i>	<p>Refer Clause "F" of Instructions to Bidder for BHEL standard Payment terms and loading factors applicable for non-compliance against payment terms:</p> <p>Indigenous Scope : a)Supply with Service(s) b)Supply only</p> <p>Imported Scope : c)Supply with Service(s) d)Supply only</p> <p>High-Sea sales : e)Supply with Service(s) f)Supply only</p> <p>Spares : b) and/or d)/f) depending upon the scope</p>	<p>AGREE</p>	
05	Declaration of local content : The 'Class-I local supplier'/'Class-II local supplier' shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local	<p>'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.</p> <p>{'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under Public procurement order no.P-45021/2/2017-PP (BE-II) dt: 16.09.2020.</p> <p>'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under Public procurement order no.P-45021/2/2017-PP (BE-II) dt: 16.09.2020.</p> <p>In the event of any Nodal Ministry prescribing higher or lower margin of purchase preference</p>	<p>Percentage of local content : _____%</p> <p>Details of the Location(s) at which the local value addition is made : _____</p>	

	supplier’/‘Class-II local supplier’, as the case may be.	and/or higher or lower percentage of local content in respect of this procurement, same shall be applicable}.’ (Refer Clause ‘A’ Sl. No. 12 of Instructions to Bidders).		
06	Declaration as a compliance to Rule 144(xi) of GFR, 2017 amendment dt 23.07.2020 issued by Ministry of Finance, Govt. of India.	The below declaration is to be submitted on Company Letter head duly signed and sealed by authorised signatory, for ascertaining the eligibility of offer in the tender. “I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that our firm is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that our firm fulfils all requirements in this regard and is eligible to be considered.” (Refer Clause ‘A’ Sl. No. 13 of Instructions to Bidders).		

II. Bidder to note that Deviations shall not be permitted for the below mentioned terms and are deemed to be complied. In case of non-compliance/deviation, offer shall be liable for rejection:

- (1) **Submission of documents post PO viz., drawings /data sheet etc. as indicated in Cl: 04 of GCC:** Within **02** weeks from the date of receipt of Purchase Order. Delay in submission of complete set of specified documents in NIT, will attract Penalty as per GCC Clause no.:04.a.
In case of any corrections in documents to be incorporated by seller for approval of document based on end-user/consultant/buyer comments, revised documents have to be submitted incorporating all corrections within 07 days. Seller shall be required to commence manufacturing only after receipt of approved documents.
- (2) **Validity:** The offer will be valid for a period of **90** days from the date of part-I bid opening and in case of Negotiation/ Counter-offer/RA, price validity will apply afresh for a period of **30** days from the date of according final price by bidder (or) up to original validity period, whichever is later.
- (3) **Warranty: 24** months from date of receipt of goods at site **or 18** months from date of commissioning, whichever is earlier. The seller should guarantee the rectification of goods in case of any break down during the Warranty period. Seller should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service.
- (4) **Performance Bank Guarantee (PBG):** PBG will be applicable for a period of **36** months from the date of dispatch of goods + claim period of 03 months, for a value equal to 10% of the basic value of purchase order. It shall however be noted that PBG is not applicable against supply of Mandatory Spares.

Refer Clause “H” of Instructions to Bidders. Also note that PBG should be in the format specified in Annexure VII of ITB and no deviation to this format will be allowed.

Note: In case PBG is not furnished, the 10% basic amount will be withheld from the supply invoice. This withheld amount will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.

- (5) **Despatch Documents:** Complete set of despatch documents (original + 1 photocopy set) as per Purchase Order shall be forwarded to Purchase Executive/BHEL directly. Depending upon the project/customer demands, Despatch documents may include one (or) more documents from the following:

Invoice (01 original and 01 copy with original sign & seal / digitally signed invoice), Lorry Receipt (L/R), Packing List, NIL Short-Shipment Certificate, insurance intimation letter, E-way bill, ~~original Performance Bank Guarantee (directly from issuing bank to BHEL), Country of Origin certificate~~ and original POD (Proof of Delivery) on L/R.

The precise list of despatch documents needed for the project will be specified in the Purchase Order.

One set of Invoice, Packing List, E-way bill (Part-A & B), Lorry Receipt ~~(or) AWB/BOL~~ shall be e-mailed immediately to BHEL-EDN at the time of despatch.

Note: Detailed Packing List should indicate package-wise content details and also Net & Gross weight of each package. **Tag numbers along with model numbers to be mentioned in the stickers being provided on each transmitter box, as well as on the packing list.**

- (6) **Freight Charges (for indigenous scope of supply):** Freight charges shall be to vendor's account. Bidder to quote reasonable Freight charges along with applicable tax, in price bid.

(7) **Evaluation criteria to determine L1 bidder:**

(a) ~~Item-wise evaluation of tendered item.~~

(or)

(b) Items will not be split on item-wise lowest offer. Evaluation of the lowest bidder will be done as a combined package basis.

Note:

a. Purchase preference to Micro and Small Enterprises will get precedence over preference to 'Make in India' products.

b. Non-local offers i.e. other than Class-I offer & Class-II offer are also acceptable for this RFQ. However, purchase preference will be provided to Class-I offer only based on Government guidelines.

Hence, please submit your offer with relevant documents if MII/MSE purchase preference is applicable and needs to be claimed.

1) Preference to Make in India products: Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products.

The minimum local content to qualify as a Class 1 local supplier is denoted above. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted.

Default margin of purchase preference shall be 20% to local suppliers with default minimum local content of 50%.

2) Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase

preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 100% of total value.

(8) ~~Erection and Commissioning charges:~~ *(strike off, if not applicable)*

~~In case the quoted total E&C value is less than ___% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price and apportioning towards E&C charges. Refer Sl. no. 'g' under Clause 'F' of Instructions to Bidders for Payment terms of E&C charges.~~

(9) ~~Erection Supervision and Commissioning charges:~~ *(strike off, if not applicable)*

~~In case the quoted total Erection Supervision & Commissioning value is less than 5% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price and apportioning towards Erection Supervision & Commissioning charges.~~

~~Refer Sl. no. 'h' under Clause 'F' of Instructions to Bidders for Payment terms of Erection Supervision & Commissioning charges.~~

(10) ~~Comprehensive Annual Maintenance Contract:~~ *(strike off, if not applicable)*

~~CAMC will be applicable for a period of ___ years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later.~~

~~In case the quoted total CAMC value is less than ___% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price and apportioning towards CAMC charges. It shall also be noted that year wise quote/ charges for CAMC should be either uniform (or) in increasing trend.~~

~~Refer Sl. no. 'i' under Clause 'F' of Instructions to Bidders for Payment terms of CAMC~~

(11) Integrity Pact: *(strike off, if not applicable)*

Execution of Integrity Pact is applicable for this tender (Refer clause "K" of Instructions to Bidders). The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) 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.

(12) Project specific Conditions:

Ordering & Delivery

1. Separate purchase orders will be placed for Main Equipment and Spares.
2. Separate LR for Mandatory spares is required.

Packing Standard

1. For non-hazardous items, wooden packing shall be strong and efficient enough to ensure safe preservation without moisture ingress upto the final point of destination.
2. For hazardous/dangerous items, packing as specified in the applicable international regulations/standards.
3. Unit 1, 2 and 3 materials should be packed separately. Common consumables, if any

for Unit 1, 2 and 3 should also be packed separately.

4. Spares should be packaged separately.

5. Labels should be put on the packages to identify unit wise materials.

6. One copy of packing list should be kept inside the boxes and one copy should be pasted outside the boxes.

O&M Manual (No. of Sets)

a) 2 soft copies(CDs) created in generally accepted standard computer programs (e.g. Microsoft office, AutoCad etc.)

b) 5 hard copies (Hard board plastic folders)

Dispatch Documents

1. Vendors should submit the original LR to BHEL within a week after dispatch without fail. Delay in this regard will not be acceptable.

2. Detailed packing list should be submitted to PMC after dispatch without fail. Net weight and Gross weight should be mentioned in dispatch documents.

(13)Prospective bidders, participating for this tender have to submit attached “**Sub vendor questionnaire**” form duly filled and signed with necessary documents to take up with M/s. NTPC for vendor approval. Offer acceptance of such bidders is subject to final approval from M/s. NTPC.

(14)**Price variation clause:** PVC clause is applicable as mentioned below:

EXCHANGE RATE PRICE VARIATION CLAUSE

Price of transmitter shall be variable as per following PVC formulae, if USD to INR **exchange rate variation is beyond +/-5%** from the date of issue of tender.

$$P = P_o + \{P_o * 0.45 * \frac{[USDINR - USDINR_o]}{USDINR_o}\}$$

P_o : Unit rate of Transmitter quoted/confirmed

P : Unit rate of Transmitter payable as adjusted in accordance with above formula. It will be rounded to two decimal points.

2. Base date for prices

a) Initial price (USDINR_o): Date of Part-I bid opening.

b) Final price (USDINR): Item readiness date. The date for which Inspection call is raised along with test certificates, as proof of completion of manufacturing will be treated as date of deemed delivery.

The USD to INR exchange rate will be taken as per TT selling rate of SBI. If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.

3. PVC shall be applicable for Order Qty. and subsequent lots (if any) till completion of requirement.

4. PVC shall be payable within agreed contractual delivery period. In case of delay is attributable to vendor, for the payment purpose, the PVC shall be calculated based on rates applicable on the first working day of month

one month prior to contractual delivery expiry date or the first working day of month, one month prior to the date on which item is notified as being ready for inspection, whichever is beneficial to BHEL

5. The positive/upward price variation shall be limited to +20% per annum from the initial price base date and negative/downward price variation shall be unlimited.

With this, we hereby confirm that all the terms & conditions as indicated in Instructions to Bidders (Document Ref: CE: PR: 001- Rev 04) & General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 03) are accepted without any deviation.

Vendor's Signature with Seal

Note: The above filled-in document shall be furnished as a part of Techno-commercial bid (i.e. Part-I Bid).



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Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE:PR:001- Rev 04

INSTRUCTIONS TO BIDDERS

Bidder is requested to read the instructions carefully and submit their quotation taking into consideration of all the points:

A. GENERAL INSTRUCTIONS:

1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: CE: PR: 001 – Rev 03), General Conditions of Contract (document reference: CE: PR: 002 - Rev 02) and Special Conditions of Contract, if any, of the enquiry.
2. Any deviations from or additions to the “General Conditions of Contract” or “Special Conditions of Contract” require BHEL’s express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
3. Regret letter (either through post or by mail or by EPS) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender.

Supplier shall be liable for removal as a registered vendor of BHEL when the supplier fails to quote against four consecutive tender enquiries for the same item or all enquiries in last two years for the same item, whichever is earlier.

4. Procurement directly from the manufacturers is preferred. However, if the OEM/ Principal insist on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender.

Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. Agent/Representative authorized by the OEM/Principal in turn cannot further sub authorize any other firm for submitting the offer or for placement of order.

In case bids are received from the manufacturer/ supplier and his agent, bid received from the agent shall be ignored.

5. Consultant / firm (and any of its affiliates) shall not be eligible to participate in the tender/s for the related goods for the same project if they were engaged for consultancy services for the same project.
6. If an Indian representative/associate/liaison office quotes on behalf of a foreign based bidder, such representative shall furnish the following documents:
 - a. Authorization letter to quote and negotiate on behalf of such foreign-based bidder.
 - b. Undertaking from such foreign based bidder that such contract will be honored and executed according to agreed scope of supply and commercial terms and conditions.
 - c. Undertaking shall be furnished by the Indian representative stating that the co-ordination and smooth execution of the contract and settlement of shortages/damages/replacement/repair of imported scope

till the equipment is commissioned and handed over to customer will be the sole responsibility of the Indian representative/associates/agent/liaison office.

d. Refer **Annexure I** on “Guidelines for Indian Agents”.

7. In case of imported scope of supply, customs clearance & customs duty payment will be to BHEL account after the consignment is received at Indian Airport /Seaport. Bidders must provide all original documents required for completing the customs clearance along with the shipment.

Warehousing charges due to incomplete or missing documentation will be to supplier’s account. All offers for imported scope of supply by air, must be made from any of the gateway ports (within the country) indicated **(Refer Annexure II)**.

8. The offers of the bidders who are on the banned list and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of the banned firms is available on BHEL website: http://www.bhel.com/vender_registration/vender.php
9. Business dealings with bidders will be suspended if they are found to have indulged in any malpractices/misconduct which are contrary to business ethics like bribery, corruption, fraud, pilferage, cartel formation, submission of fake/false/forged documents, certificates, information to BHEL or if they tamper with tendering procedure affecting the ordering process or fail to execute a contract, or rejection of 3 consecutive supplies or if their firms / works are under strike/lockout for a long period. Bidder may refer “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” available on www.bhel.com for more details.

The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies / guidelines.

10. 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 your notice.
11. Offer is to be submitted in English language only.
12. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public procurement (Preference to Make in India), Order 2017 dated 16.09.2020 issued by DPIIT.

In case of subsequent Orders issued by the Nodal Ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of price bids against this NIT. Default margin of purchase preference shall be 20% for Class-I local supplier only.

13. The Bidder shall mandatorily submit Declaration as mentioned under Rule 144(xi) of General Financial Rules, 2017 amendment dt 23.07.2020 issued by Ministry of Finance, Govt. of India. Where applicable, evidence of valid registration by the Competent Authority shall be attached.

The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Refer Annexure-X for ‘Restrictions under Rule 144(Xi) of General Financial Rules,2017 amendment dt: 23.07.2020’.

B. GUIDELINES FOR PREPARATION OF OFFER:

1. Quotation shall be submitted in Single Part Bid, Two Part Bid or Three Part Bid, as called for in the tender:
 - **SINGLE PART BID:** Technical and Commercial Bid with prices along with price summary & filled in BHEL Standard Commercial terms and conditions in a single sealed envelope.
 - **TWO PART BID:** Unpriced offer i.e. “Techno-commercial Bid” with filled in BHEL Standard Commercial terms and conditions in a sealed envelope **along with the copy of the “Price Bid” without the prices** should be enclosed in one cover and the cover must be super scribed **“Techno-commercial offer)** and Priced offer i.e. “Price Bid” containing price summary in a separate sealed envelope and must be super scribed **“Price Bid”**.

Both these envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.

- **THREE PART BID:** Pre-qualification Bid (Part-I), Techno Commercial Bid with filled in BHEL Standard Commercial terms and conditions (Part-II), and Price Bid (Part-III). All three envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.

If any of the offers (Part I, Part II or Part III) are not submitted before the due date and time of submission (or) if any part of the offer is incomplete, the entire offer of the bidder is liable for rejection.

2. Supplier shall ensure to superscribe each envelope with RFQ number, RFQ Date, RFQ Due date and time, Item Description and Project clearly & boldly. Also mention on the envelope whether it is “Techno Commercial Bid” or “Price Bid” or “Pre-Qualification Bid”.

Please ensure complete address, department name and purchase executive name is mentioned on the envelope (before dropping in the tender box or handing over) so that the tender is available in time for bid opening.

3. BHEL standard Commercial Terms and Conditions (duly filled, signed & stamped) must accompany Technical-Commercial offer without fail and should be submitted in original only.

The above indicated submission of Offers in “sealed envelope/hard copy” as mentioned in points B.1-B.3 is applicable for tenders that are not floated through E-Procurement System (EPS).

4. Validity: Unless otherwise specified in SCC (special commercial conditions of contract), the offer will be valid for a period of 90 days from the date of part-I bid opening and in case of Negotiation/Counter-offer/Reverse Auction, price validity will apply afresh for a period of 60 days from the date of according final price by bidder (or) up to original validity period, whichever is later.
5. Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the Techno-Commercial Bid.

If no deviations are brought out in the offer it will be treated as if all terms and conditions of this enquiry are accepted by the supplier without deviation.

6. Deviation to this specification/item description, if any, shall be brought out clearly indicating “DEVIATION TO BHEL SPECIFICATION” without fail, as a part of Techno-Commercial Bid.

If no deviations are brought out in the offer it will be treated as if the entire specification of this enquiry is accepted without deviation.

7. Suppliers shall submit one set of original catalogue, datasheets, bill of materials, dimensional drawings, mounting details and/or any other relevant documents called in purchase specification as part of Technical Bid.
8. "Price Bid" shall be complete in all respects containing price break-up of all components along with all applicable taxes and duties, freight charges (if applicable) etc. Once submitted no modification / addition / deletion will be allowed in the "Price Bid." Bidders are advised to thoroughly check the unit price, total price to avoid any discrepancy.
9. In addition, bidder shall also quote for erection & commissioning charges/erection supervision & commissioning charges (E&C service charges), documentation charges, testing Charges (type & routine), training charges etc. if & as applicable along with corresponding tax. The price summary must indicate all the elements clearly.
10. Wherever applicable, bidders should indicate "lumpsum" Erection and Commissioning (or) Erection Supervision and Commissioning charges, as applicable (including To & Fro Fare, Boarding, Lodging, Local Conveyance etc.) for carrying out E&C activity and further handing over to customer.
The quotation shall clearly indicate scope of work, likely duration of commissioning, pre-commissioning checklist (if any).
11. Wherever bidders require PAC (Project Authority Certificate)/applicable certificates for import of raw materials, components required for DECC,EPCG Power Projects, Export Projects or other similar projects wherein supplies are eligible for customs duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.
12. Prices should be indicated in both figures & words. 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.
Any typographical error, totalling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure III** "Guidelines for dealing with Discrepancy in Words & Figures – quoted in price bid" and BHEL decision will be final.
13. Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder. However, this requirement is not mandatory for offers uploaded through E-Procurement System (EPS).

C. GUIDELINES FOR OFFER SUBMISSION:

The under-mentioned clauses 1, 2&3 will not be applicable for EPS tenders.

1. Offers / Quotations must be dropped in tender box before 13.00 Hrs. on or before due date mentioned in RFQ. The offers are to be dropped in the proper slot of the Tender Box kept in our reception area with caption "CE, SC&PV, DEFENCE".

Tenders are opened on 3 days in a week (Monday/Wednesday/Friday). Tender must be deposited in the slot corresponding to the day (Monday - Box no.4/Wednesday - Box no. 6 /Friday - Box no.8) while depositing the offer.

2. E-Mail/ Internet/EDI offers received in time shall be considered only when such offers are complete in all respects. In case of offers received through E-mail, please send the offer to the email ID specified in the SCC document of the tender.
3. Offers of Vendors who already have a valid Technical/Commercial MOU with BHEL-EDN for the items of the RFQ shall mention the relevant MOU reference no. and give only such other details not covered in the MOU.

4. In cases where tender documents are bulky, or due to some reasons tender documents are required to be submitted by hand or through posts/couriers, the offers are to be handed over either of the two purchase officers whose names are mentioned in the SCC document of tender RFQ.
5. Tenders will be opened on due date, time and venue as indicated in the RFQ in the presence of bidders at the venue indicated in the RFQ. For EPS tenders, e-mail notifications will be automatically generated and forwarded to registered e-mail ID/s of bidders during opening of tenders.
6. Bidder will be solely responsible:
 - a. For submission of offers before due date and time. Offers submitted after due date and time will be treated as "Late offers" and will be rejected.
 - b. For submission of offers in the correct compartment of the tender box based on the day of due date (Monday/Wednesday/Friday). Please check before dropping your offer in the correct tender box.
 - c. For depositing offers in proper sealed condition in the tender box. If the bidder drops the tender in the wrong tender box (or) if the tender document is handed over to the wrong person, BHEL will not be responsible for any such delays.
 - d. For offers received through email etc., suppliers are fully responsible for lack of secrecy on information and ensuring timely receipt of such offers in the tender box before due date & time (This clause will not be applicable for EPS tenders).

The above indicated submission of Offers as mentioned in points 6.a-6.d is applicable for tenders that are not floated through EPS.

- e. In case of e-tender, all required documents should be uploaded before due date and time. Availability of power, internet connections, system/software requirements etc. will be the sole responsibility of the bidder.

Wherever assistance is needed for submission of e-tenders, help-line numbers as available in the website of service provider of BHEL may be contacted.

Purchase Executive/ BHEL shall not be responsible for any of the activities relating to submission of offer.

D. PROCESSING OF OFFERS RECEIVED:

1. Any discount/ revised offer submitted by the supplier on its own shall be accepted provided it is received on or before the due date and time of offer submission (i.e. Part-I bid).
The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder.
2. Changes in offers or Revised offers given after Part-I bid opening shall not be considered as a part of the original offer unless such changes/revisions are requested by BHEL.
In case of withdrawal of any Technical/Commercial deviation(s) by the bidder before opening of price bids/conducting the Reverse Auction, revision of price/impact bid will not be accepted.
3. In case there is no change in the technical scope and/ or specifications and/ or commercial terms & conditions, the supplier will not be allowed to change any of their bids after Technical bids are opened (after the due date and time of tender opening).

4. In case of changes in scope and/ or technical specifications and/ or commercial terms & conditions by BHEL and it accounts for price implications from bidders, all techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid.

Impact price will be applicable only for changes in technical specification / commercial conditions by BHEL. The impact price must be submitted on or before the cut-off date specified by BHEL and the original price bid and the price impact bid will be opened together at the time of price bid opening.

5. Un-opened bids (including price bids) will be returned to the respective bidders after release of Purchase order.

Regarding Offers for EPS tenders that get rejected on PQC/ techno-commercial grounds, the bids for the subsequent parts will not be opened i.e., both technical bid and price bid (Parts-II & III) will not be opened in case of rejection on PQC ground and price bid (Part-II/Part-III, as applicable) will not be opened in case of rejection on techno-commercial ground.

6. After receipt of Purchase Order, supplier should submit required documents viz., specified drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report , O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/ Customer.
7. Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of Purchase Order, unless clarification is sought for by BHEL and agreed upon in the Purchase Order.
8. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL").

"Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and/or duties (as applicable), freight charges, taxes on Services, customs clearance charges for imported items, any other cost indicated by bidder for execution of the contract and loading factors (for non-compliance to BHEL Standard Commercial Terms & Conditions).

Benefits arising out of Nil Import Duty on DEEC, EPCG, DFIA Projects, Physical Exports or such 100% exemptions (statutory benefits), project imports, customer reimbursements of statutory duties (like Basic Customs Duty and cess on customs duty), Input tax credits as applicable will also be taken into account for arriving at the Total cost to BHEL (wherever applicable and as indicated in SCC document of tender).

For EPS tenders, it shall be noted that the prices (including discounts) vis-a-vis currency quoted in EPS portal only will be considered as Final for the purpose of evaluation of the lowest bidder.

Bidder shall ensure to indicate the applicable taxes against each line item in online portal, failing to which the same will be considered as inclusive/NIL.

In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

9. The evaluation currency for this tender shall be INR. For evaluation of offers in foreign currency, the exchange rate (TT selling rate of SBI) shall be taken as under:

Single part bids: Date of tender opening

Two/three part bids: Date of Part-I bid opening

Reverse Auction: Date of Part-I bid opening

In case of Performance Bank Guarantee (PBG) also, exchange rate will be considered as mentioned above for converting foreign currency to Indian currency and vice versa.

If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.

10. Ranking (L-1, L-2 etc.) shall be done only for the techno-commercially acceptable offers.
11. GeM Seller ID shall be mandatory before placement of order/award of contract for goods and services to the successful bidder(s), for orders exceeding Rs.25 lakhs (including all taxes etc.).

Department of Expenditure (DoE) OM no.6/9/2020-PPD dated: 24.08.2020 may be referred in this regard.

E. INFORMATION ON PAYMENT TERMS:

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format (**Refer Annexure IV**) for receiving all payments through NEFT.(Applicable for Indian vendors only).
2. In case of High Sea Sales transaction, customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors.
All warehousing charges due to delay in submission of complete and or correct HSS documents to BHEL will be to supplier's account only. Such recovery will be made out of any of the available bills (**Refer Annexure V**).
3. Statutory deductions, if any, will be made and the deduction certificate shall be issued.
 - A. In case vendor does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.
In addition to the above, Foreign vendors shall also submit relevant details of their bankers like Swift Code, Banker's Name &Address etc.
 - B. TDS deduction as per section 51 of CGST Act,2017 shall be applicable as per Gazette Notification No. 50/2018-Central Tax, Dated: 13th September 2018. TDS deduction is also applicable on purchase of goods as per the latest notification under section 194Q, and subsequent notification(s) as and when released by Govt. authorities.
4. Procurement of Goods/ Works/ Services/ Consultancy Services [under clause relating to "Income Tax and Corporate Tax" or "TDS" of Model ITBs]
 - a) Provision w.r.t. TDS on Purchase of Goods under section 194Q of Income Tax Act applicable from 01.07.2021 is as under:
 - i. TDS as applicable will be deducted by BHEL under section 194Q of the Income Tax Act, 1961 on Purchases exceeds, the amount of Rupees. 50 Lakhs or limit defined therein from time to time during the financial year under the Indian Income Tax act 1961.
 - ii. Since BHEL is liable to deduct Income Tax TDS under section 194Q, the provision of TCS as per section 206C(1H) of the Income Tax Act, 1961 shall not be applicable.

- b) Higher rate of TDS for non-filers of ITR as per Section 206AB of Income Tax Act, 1961, in case of any vendor who does not filed their Income Tax Return for both of the two previous years preceding to current year and aggregate amount of TDS is more than or equal to Rs. 50,000/- in each of those previous two years (or limit defined by Govt. from time to time), then TDS will be deducted at the higher of following rates:
- (i) Twice the rate mentioned in relevant TDS section.
 - (ii) Twice the rate or rates in force
 - (iii) 5%

5. Incomplete documentation will not be accepted. Delayed submission of invoice / documents may result in corresponding delay in payment. In this connection, request to also refer clause: G about invoicing & payment formalities under GST regime.

Applicable documents shall be submitted to the purchaser at the time of execution of supplies/services for availing GST input credits.

F. STANDARD PAYMENT TERMS OF BHEL-EDN:

<u>PURCHASE ORDERS FOR:</u>	<u>SUPPLY WITH SERVICE(S)</u>	<u>SUPPLY ONLY</u>
<u>INDIGENOUS PROCUREMENT</u>	<p>a. 100% of basic value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.</p> <p><u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>b. 100% of PO value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.</p>
<u>IMPORT PROCUREMENT</u>	<p>c. 100% of basic value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents.</p> <p><u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>d. 100% of PO value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents.</p>

<p><u>HIGH-SEA SALES PROCUREMENT</u></p>	<p>e. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later</p> <p><u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>f. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later.</p>
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g. Erection and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 10% of the main supply value. In case the quoted total E&C value is less than 10% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

h. Erection Supervision and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 5% of the main supply value. In case the quoted total E&C value is less than 5% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

i. Comprehensive Annual Maintenance Contract:

Evaluation methodology: Unless and otherwise specified in SCC, CAMC will be applicable for a period of 04 years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later and the total CAMC value should not be less than 20% of the main supply value. In case the quoted total CAMC value is less than 20% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards CAMC charges.

Payment terms: 100% CAMC charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of CAMC on yearly basis.

j. Terms of Payment for Training: 100% payment will be made in 45 days from the date of completion of Training or 15 days from the date of submission of complete set of invoice along with documentary evidence, whichever is later.

LOADING FACTORS FOR DEVIATION IN PAYMENT TERMS (APPLICABLE FOR IMPORT PROCUREMENT ONLY):

- 1) For offers received with Sight draft payment term in place of Usance draft, loading applicable will be 1.0% of basic value.
- 2) For offers received with Letter of Credit payment term with Usance of 45 days, loading applicable will be 2.5% of basic value.
Additional loading of 2% will be applicable for payment term as Letter of Credit at Sight.
- k. Any payment term with credit period of less than 45 days for indigenous supply/HSS and any other variation of payment terms are liable for rejection.
- l. Standard payment terms indicated in Clauses: F (a), (b), (c), (d), (e), (f), (g), (h), (i) & (j) will not attract any loading.

Note 1: Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable). Wherever the Purchase Order is split into import portion and indigenous portion of supply, minimum % to be quoted for Services, wherever mentioned, will be of both purchase order values put together.

Note 2: In case of multiple packages/units in a power plant, payment of E&C charges will be processed on pro-rata basis.

Note 3: No deviation will be permitted from the duration of Guarantee/Warranty and/or Comprehensive Annual Maintenance Contract period specified in SCC.

G. Terms & Conditions to be complied under GST regime:

1. All invoices to contain BHEL-EDN (buyer) GSTIN number: 29AAACB4146P1ZB. However for CGST +SGST/UGST billing outside the state of Karnataka, invoice has to be generated with BHEL's Nodal Agency GSTIN number. Address of Nodal Agency along with GSTIN number will be provided by BHEL at the time of issuing dispatch clearance.
2. The Bidder shall mention Bidder's GSTIN number in all quotations and Invoices submitted.
3. The Bidder shall also mention HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) mandatorily in all quotations and invoices submitted.
4. Invoice submitted should be in the format as specified under GST Laws viz., all details as mentioned in Invoice Rules like GST registration number(GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST,IGST mentioned separately, HSN Code / SAC Code etc. Invoice should be submitted in original for buyer plus duplicate for credit availment.
5. Payment of GST to Vendor will be made only if it is matching with data uploaded by the Vendor in GST portal.
6. For invoices paid on Reverse charge basis – “Tax payable on reverse charge basis” to be mentioned on the invoice.
7. In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount will be recoverable from vendor along with interest levied/ leviable on BHEL.
8. In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law will be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.

9. Vendor should intimate BHEL immediately on the same date of invoicing without any delay.
10. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the supplies, within the calendar month notified by BHEL.
11. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to, as and when notified by Govt. authorities.
12. As per Notification 88/2020-Central Tax dated 10th November 2020 (applicable w.e.f. 01 January 2021), the turnover for applicability of E-invoicing provisions has been reduced from 500 crores to 100 crores. In other words, registered person [other than a SEZ unit and those referred in Rule 54(2), 54(3), 54(4) and 54(4A) of the CGST Rules], whose aggregate turnover in any preceding financial year from 2017-18 onwards exceeds 100 crores, is required to comply with the requirement of IRN and QR code in respect of supply of goods or services or both to a registered person or for exports.

H. Performance bank guarantee (PBG):

Performance bank guarantee (PBG) will be applicable as called in the tender documents. Unless otherwise specified in the SCC, the PBG against performance of the contract shall be valid for a period of 24 months from the date of dispatch of goods + claim period of 03 months, for a value equal to 10 % of the basic value of the purchase order which will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable).

1. The BG issued in Indian Rupees by Banks in India is to be executed 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/Bank issuing the guarantee.
2. No deviation for the duration and value of PBG will be permitted.
3. PBG shall be from any of the BHEL consortium of bankers (**refer Annexure VI**).
4. PBGs from nationalized banks are also acceptable.
5. PBG should be sent directly by the bank to the dealing executive mentioned in the purchase order located at the address mentioned in the purchase order.
6. PBG should be in the format specified (**refer Annexure VII**). No deviation to this format will be allowed. However in case BHEL changes the PBG format, bidder shall honor the same.
7. Bank Guarantee should be enforceable in Bangalore.
8. 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 Bangalore.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)
 - b.1 Please note 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 shall be noted that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor.

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 is 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).

9. Expired PBGs will be returned only after expiry of the claim period.

10. PBG shall not be applicable for spares.

I. PURCHASE PREFERENCE FOR MSE(MICRO AND SMALL ENTERPRISES) VENDORS:

Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product. Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

1. If tendered quantity is Splitable: In tender, participating MSEs quoting price within price band of L1+15 percent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price from someone other than a MSE and such MSE shall be allowed to supply at least 25% of total tendered value. In case of more than one such MSE, the supply shall be shared proportionately (to tendered quantity).

- 3% of the 25% will be earmarked for women owned MSEs.
- 25% of the 25% (i.e., 6.25% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms provided conditions as mentioned in (1) & (2) are fulfilled.
- In case where no SC/ST category firms are meeting the conditions mentioned in (1) and (2) or have not participated in the tender, the 6.25% of earmarked quantity for SC/ST owned MSE firms will be distributed among the other eligible MSE vendors who have participated in the tender.

2. If tendered quantity is Non-Splitable: If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 100% of total value.

J. INTEGRITY COMMITMENT IN THE TENDER PROCESS, AND EXECUTION OF CONTRACTS:

1. Commitment by BHEL: BHEL commits to take all measures necessary to prevent corruption in connection with the Tender process and execution of the Contract. BHEL will, during the tender process, treat all bidder / suppliers in a transparent and fair manner, and with equity.
2. Commitment by Bidder(s)/ Contractor(s):
 - a. The Bidder(s)/ Contractor(s) commit(s) to take all measures to prevent corruption and will not directly or indirectly try to influence any decision or benefit which he is not legally entitled to.
 - b. The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding or any actions to restrict competition.
 - c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant Acts. The Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain or pass on to others, any information or document provided by BHEL as part of business relationship.

- d. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to the relevant guidelines issued from time to time by Government of India/ BHEL.

If the Bidder(s) / Contractor(s), before award or during execution of the Contract commit(s) a transgression of the above or in any other manner such as to put his reliability or credibility in question, BHEL is entitled to disqualify the Bidder(s) / Contractor (s) from the tender process or terminate the contract and/ or take suitable action as deemed fit.

K) Integrity Pact (IP):

(a) 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. Following 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	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

(b) 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.

(c) 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 any of the above 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 indicated in SCC document of tender.

Annexure

Annexure I
Guidelines for Indian Agents

- **Definition of Indian Agent:** An Indian Agent of foreign principal is an individual, a partnership, an association of persons, a private or public company, that carries out specific obligation(s) towards processing of BHEL tender or finalization or execution of BHEL's contract on behalf of the foreign supplier.

In case of yes, vendor to note the following and reply accordingly:

- BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines - which require mandatory submission of an Agency Agreement.
- It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.
- The Agency Agreement should specify the precise relationship between the foreign OEM / foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent/ associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier/ Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.
- Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- Tax deduction at source is applicable to the agency commission paid to the Indian agent as per the prevailing rules.
- In the absence of any agency agreement, BHEL shall not deal with any Indian agent (authorized representatives / associate / consultant, or by whatever name called) and shall deal directly with the foreign principal only for all correspondence and business purposes.
- The "Guidelines for Indian Agents of Foreign Suppliers" enclosed at annexure - 'A' shall apply in all such cases.

- viii. The supply and execution of the Purchase Order (including indigenous supplies/ service) shall be in the scope of the OEM/ foreign principal. The OEM/ foreign principal should submit their offer inclusive of all indigenous supplies/ services and evaluation will be based on 'total cost to BHEL'. In case OEM/ foreign principal recommends placement of order(s) towards indigenous portion of supplies/ services on Indian supplier(s)/ agent on their behalf, the credentials/ capacity/ capability of the Indian supplier(s)/ agent to make the supplies/ services shall be checked by BHEL as per the extant guidelines of Supplier Evaluation, Approval & Review Procedure (SEARP), before opening of price bids. In this regard, details may be checked as per Annexure-B (copy enclosed). It will be the responsibility of the OEM/ foreign principal to get acquainted with the evaluation requirements of Indian supplier/ agent as per SEARP available on www.bhel.com.

The responsibility for successful execution of the contract (including indigenous supplies/ services) lies with the OEM/ foreign principal. All bank guarantees to this effect shall be in the scope of the OEM/ foreign principal.

--x--

Vendor's Signature with Seal

Guidelines for Indian Agents of Foreign Suppliers

- 1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with BHEL shall apply for registration in the registration form in line with SEARP.
- 1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the Principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/ salary/ retainership being paid by the principal to the agent before the placement of order by BHEL.
- 1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.
- 2.0 **Disclosure of particulars of agents/ representatives in India, if any.**
- 2.1 Tenderers of Foreign nationality shall furnish the following details in their offers:
 - 2.1.1 The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is existing Company and details of the same shall be furnished.
 - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.
 - 2.1.3 Confirmation of the Tenderer that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by BHEL in Indian Rupees only.
- 2.2 Tenderers of Indian Nationality shall furnish the following details in their offers:
 - 2.2.1 The Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
 - 2.2.2 The amount of commission/ remuneration included in the price (s) quoted by the Tenderer for himself.
 - 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/ remuneration, if any, reserved for the Tenderer in the quoted price(s), may be paid by BHEL in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/ remuneration, if any payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph 2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by BHEL. Besides this there would be a penalty of banning business dealings with BHEL or damage or payment of a named sum.

ANNEXURE - II
LIST OF INTERNATIONAL GATEWAY AIRPORTS

For air based consignment, terms of delivery will be on FCA basis from following listed airports only. Vendors are requested to verify this list for use before submission of offer.

SCHEDULE NO	COUNTRY	CURRENCY CODE	AIRPORT
D01	UK	GBP	LONDON (HEATHROW)
D02	UK	GBP	NEW CASTLE
D03	UK	GBP	OXFORD. CHETLAM
D04	UK	GBP	BRISTOL. WELLINGBOROUGH
D05	UK	GBP	BIRMINGHAM
D06	UK	GBP	EAST MIDLANDS
D07	UK	GBP	MANCHESTER
D08	UK	GBP	LEEDS
D09	UK	GBP	GLASGOW
D10	FRANCE	EURO	PARIS (ROISSY) & LYON
D11	SWEDEN	EURO	STOCKHOLM
D12	SWEDEN	EURO	GOTHENBERG & MALMO
D13	ITALY	EURO	ROMA, MILAN
D14	ITALY	EURO	TURIN, BOLOGNA, FLORENCE
D15	NETHERLANDS	EURO	AMSTERDAM, ROTTERDAM
D16	AUSTRIA	EURO	VIENNA, LINZ, GRAZ
D17	BELGIUM	EURO	ANTWERP, BRUSSELS
D18	DENMARK	DKK	COPENHAGEN
D19	JAPAN	JPY	TOKYO, OSAKA
D20	SINGAPORE	SGD	SINGAPORE
D21	CANADA	CAD	TORONTO
D22	CANADA	CAD	MONTREAL
D23	USA	USD	NEW YORK, BOSTON
D24	USA	USD	CHICAGO
D25	USA	USD	SAN FRANCISCO, LOS ANGELES
D26	USA	USD	ALANTA, HOUSTON
D27	GERMANY	EURO	MUNICH, KOLN, DUSSELDORF, HANNOVER, HAMBURG, STUTTGART, DAMSTADT, MANIHIEM, NURUMBERG
D28	GERMANY	EURO	FRANKFURT
D29	GERMANY	EURO	BERLIN
D30	SWITZERLAND	SFR	BASLE, ZURICH, GENEVA
D31	SPAIN	EURO	BARCELONA
D32	AUSTRALIA	AUD	SYDNEY
D33	AUSTRALIA	AUD	MELBOURNE
D34	AUSTRALIA	AUD	PERTH
D35	CZECH	EURO	PRAGUE
D36	HONG KONG	HKD	HONG KONG
D37	NEW ZELAND	NZD	AUCKLAND
D38	RUSSIA	USD	MOSCOW
D39	SOUTH KOREA	USD	KIMPO INTERNATIONAL, INCHEON
D40	FINLAND	EURO	HELSINKI
D41	ROMANIA	EURO	BUCHAREST
D42	NORWAY	EURO	OSLO
D43	IRELAND	EURO	DUBLIN
D44	ISRAEL	USD	TEL AVIV
D45	UAE	USD	DUBAI
D46	OMAN	USD	MUSCAT
D47	EGYPT	USD	CAIRO
D48	TAIWAN	USD	TAIPEI
D49	UKRAINE	USD	KIEV
D50	CHINA	USD	SHANGHAI, SHENZHEN
D51	PHILIPINES	USD	MANILA
D52	MALAYSIA	USD	KUALALUMPUR, PE NANG
D53	CYPRUS	USD	LARNACA
D54	SOUTH AFRICA	USD	JOHANNESBERG, DURBAN
D55	SLOVAKIA	EURO	BARTISLOVA
D56	SAUDI ARABIA	SAR	RIYADH
D57	TURKEY	EURO	ISTANBUL
D58	THAILAND	USD	BANGKOK
D59	BRAZIL	USD	SAO PAULO, RIO DE JANEIRO

ANNEXURE – III

DISCREPANCY IN WORDS & FIGURES – QUOTED IN PRICE BID

Following guidelines will be followed in case of discrepancy in words & figures-quoted in price bid:

(a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.

(b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

(d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

ANNEXURE - IV
Electronic Funds Transfer (EFT) OR
Paylink Direct Credit Form

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): _____ CREATE _____ CHANGE

BHEL Vendor / Supplier Code:

Company Name :

Permanent Account Number(PAN):

Address

City: PINCODE STATE

Contact Person(s)

Telephone No:

Fax No:

e-mail id:

1 Bank Name:

2 Bank Address:

3 Bank Telephone No:

4 Bank Account No:

5 Account Type: Savings/Cash Credit

6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank

7 Bank IFSC Code(applicable for NEFT)

8 Bank IFSC code(applicable for RTGS) (Indian Financial System Code)

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation: _____ Telephone No. with STD Code _____

Company Seal

Bank Certificate

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date: _____ (.....)

Place: _____ Signature _____

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call concerned purchase executive.

ANNEXURE - V
PRESENT PROCEDURE FOR SALE IN TRANSIT (HIGH SEA SALES)

In case of High Sea Sales, vendor should submit following documents:

1. ORIGINAL HIGH SEA SALES AGREEMENT

- Sale agreement (on Rs. 200/- non-judicial stamp paper & notarised with 2 witnesses with identity) has to be signed between BHEL and the Party importing material. The date of the sale documents should be in between the date of House Air Way Bill / Bill of Lading and before landing of the goods in Indian origin.
- Following shall be included in the High Sea Sales Agreement:
"THE BUYER ALSO UNDERTAKE DISCHARGES, THE OBLIGATION AND FULFILLMENT OF CONDITIONS, IF ANY, ATTACHED TO THE IMPORTATION, ASSESSMENT AND CLEARANCE OF THE GOODS IN TERMS CUSTOMS TARIFF ACT 1975, THE CUSTOMS ACT 1962 & RULES & REGULATIONS MADE THERE UNDER AND OTHER RELEVANT ACTS, ORDERS, NOTIFICATIONS".

2. ORIGINAL INVOICES: INDIGENOUS RUPEE INVOICE & FOREIGN CURRENCY INVOICE

- Prices should be C.I.F., designated airport/seaport basis.
- I.E.C., C.S.T., K.S.T. Nos. to be mentioned.
- Description of item (Nomenclature), Unit & Quantity in both the Foreign Currency & the Indigenous Invoice in Rupee shall be exactly as per Purchase Order Description of item, Quantity and Unit. The Indigenous Invoice value shall be exactly as per Purchase Order value.
- Seller should give Foreign Currency Invoice from the original consignor. The Foreign Currency Invoice value should be at least 2% (two per cent) less than the Indigenous Rupee Invoice value in equivalent foreign currency.

4. ORIGINAL HOUSE AIR WAY BILL/ BILL OF LADING

- The sale agents should duly endorse House Air Way Bill (HAWB) for air shipments or original Bill of Lading (O.B.L.) for sea shipments and Foreign Currency Invoice in favour of BHEL-EDN.

5. ORIGINAL CARGO ARRIVAL NOTICE FROM FORWARDER.

6. ORIGINAL DELIVERY ORDER ISSUED IN NAME OF BHEL-EDN.

7. ORIGINAL PACKING LIST.

8. A LETTER TO THE COMMISSIONER OF CUSTOMS FOR EFFECTING ABOVE SALE.

9. A LETTER TO THE DEPUTY ASSESSOR (OCTROI) FOR EFFECTING ABOVE SALE IN FAVOUR OF BHEL.

REMARKS: In case vendor needs any clarifications on the above, the same may be sought in writing.



ELECTRONICS DIVISION, BANGALORE

Annexure-VI

BHEL MEMBER BANKS (LIST OF CONSORTIUM BANKS)

Bank Guarantee (BG) shall be issued from the following banks only:

Sl. No.	Nationalised Banks	Sl. No.	Public Sector Banks
1	Allahabad Bank	18	IDBI
2	Andhra Bank		
3	Bank of Baroda	Sl. No.	Foreign Banks
4	Canara Bank	19	CITI Bank N.A
5	Corporation Bank	20	Deutsche Bank AG
6	Central Bank	21	The Hongkong and Shanghai Banking Corporation Ltd. (HSBC)
7	Indian Bank	22	Standard Chartered Bank
8	Indian Overseas Bank	23	J P Morgan
9	Oriental Bank of Commerce		
10	Punjab National Bank	Sl. No.	Private Banks
11	Punjab & Sindh Bank	24	Axis Bank
12	State Bank of India	25	The Federal Bank Limited
13	Syndicate Bank	26	HDFC Bank
14	UCO Bank	27	Kotak Mahindra Bank Ltd
15	Union Bank of India	28	ICICI Bank
16	United Bank of India	29	IndusInd Bank
17	Vijaya Bank	30	Yes Bank

Note:

- All BGs must be issued from BHEL consortium banks listed above.
- This list is subject to changes. Hence vendors are requested to check this list every time before issuing BGs.
- Bank Guarantees issued by Co-operative Banks/Financial Institutions cannot be accepted under any circumstance.

Annexure-VII

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 at.....(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 No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at 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 thebank 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.

WeBANK 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 including.....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 the⁸we shall be discharged from all liabilities under this guarantee thereafter.

We, 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 exceed.....⁶
- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before⁸ 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)

Dated.....

Place of Issue.....

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

Certificate by Chartered Accountant on letterhead

This is to certify that M/s _____
(hereinafter referred to as 'enterprise') having PAN Number _____ and
UDYAM Registration Number _____, registered office at _____
_____ is falling under the category
_____ (**Micro / Small / Medium**) under MSMED Act 2006. (Copy of UDYAM Registration
Certificate to be enclosed).

The said classification of _____ (**Micro / Small / Medium**) is arrived at based on the
Notifications / guidelines / clarifications issued under Micro, Small and Medium Enterprises
Development Act, 2006 including the notification S.O.2119 (E) dated 26th June 2020.

The Investment of the enterprise in Plant and Machinery or Equipment as at 31st March
2020 as per Clause 4 of the Notification is _____ (Rupees in Lakhs).

The turnover of the Enterprise for the period ending 31st March 2020 as per Clause 5
of the Notification is _____ (Rupees in Lakhs).

Date:

(Signature) Name-
Membership number-

Seal of Chartered Accountant with UDIN reference

INTEGRITY PACT**Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for _____
Electronic Transmitter - Pr./Diff Pr. & Transmitter Accessories for Patratu 3x800 MW project
_____ (hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commits himself to observe the following principles during participation in the tender process and during the contract execution.

- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process, terminate the contract, if already awarded, exclude from future business dealings and/ or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 -Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

Pooja V Rao
 ಪೂಜಾ ವಿ. ರಾವ್, ಉಪ ವ್ಯವಸ್ಥಾಪಕರು/ನಿ.ಉ.-ಎಂ.ಎಂ.-ಪಿ.ಆರ್.
 पूजा वी. राव, उप प्रबंधक/सी.ई.एम.एम.-पी.आर.
 Pooja V Rao, Dy Manager/CE-MM-PR
 For & On behalf of the Principal
 BHEL-EDN, MYSURU ROAD, BANGALURU-560026
 (Office Seal)

 For & On behalf of the Bidder/ Contractor
 (Office Seal)

Place BENGALURU

Date 27.09.2022

Witness: *Vijayakumar*
 (Name & Address) _____

ವಿಜಯಕುಮಾರ್, ವ್ಯವಸ್ಥಾಪಕರು/ಉ.ಪಿ.ಉ.-ಪಿ.ಆರ್.
 वाई.एम. विजयकुमार, प्रबंधक/एस.ए.-पी.सी.बी.(टेस्टिंग)
 Y.M. VIJAYAKUMAR, MANAGER/SA-PCB (TESTING)
 BHEL-EDN, MYSORE ROAD, BANGALORE - 560 026

Witness: _____
 (Name & Address) _____

Annexure-X

Restrictions under Rule 144(xi) of General Financial Rules, 2017 amendment dt: 23.07.2020

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means :-
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation--

 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
 भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE: PR: 002- Rev 03

GENERAL COMMERCIAL CONDITIONS FOR CONTRACT

These 'General Commercial Conditions for Contract for Purchase' herein after referred to as GCC apply to all enquiries, tenders, requests for quotations, orders, contracts and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliveries") to Bharat Heavy Electricals Limited and any of its units, regions or divisions (hereinafter referred to as "BHEL" or the Purchaser) or its projects/ customers.

Any deviations from or additions to these GCC require BHEL's express written consent. The general terms of business or sale of the vendor shall not apply to BHEL. Acceptance, receipt of shipments or services or effecting payment shall not mean that the general terms of business or sale of the vendor have been accepted.

Orders, agreements and amendments thereto shall be binding if made or confirmed by BHEL in writing. Only the Purchasing department of BHEL is authorized to issue the Purchase Order or any amendment thereof.

Definitions: Throughout these conditions and in the specifications, the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.

- 'The Purchaser' means Bharat Heavy Electricals Limited, Electronics division, Mysore road, Bangalore 560 026, a Unit of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the Companies Act having its registered office at BHEL House, Siri Fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- 'The vendor' means the person, firm, company or organization on whom the Purchase Order is placed and shall be deemed to include the vendor's successors, representative heirs, executors and administrator as the case may be. It may also be referred to as Seller, Contractor or Supplier.
- 'Contract' shall mean and include the Purchase Order incorporating various agreements, viz. tender/ RFQ, offer, letter of intent/acceptance/ award, the General Conditions of Contract and Special Conditions of Contract for Purchase, Specifications, Inspection/ Quality Plan, Schedule of Prices and Quantities, Drawings, if any enclosed or to be provided by BHEL or his authorized nominee and the samples or patterns if any to be provided under the provisions of the contract.
- 'Parties to the Contract' shall mean the 'The Vendor' and the Purchaser as named in the main body of the Purchase Order.

Order of Precedence:

In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI / LOA, Special Conditions of Contract and General Conditions of Contract for commercial conditions; and specific agreement on technical conditions, RFQ/offer and specification for Technical Conditions.

Interpretation:

In the contract, except where the context requires otherwise:

- words indicating one gender include all genders;
- words indicating the singular also include the plural and words indicating the plural also include the singular;

- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Applicable Conditions:

1. **Price Basis:** All prices shall be firm until the purchase order is executed / completed in all respects. No price variations / escalation shall be permitted.
2. **Ordering and confirmation of Order:** Vendor shall send the order acceptance on their company letter head/ through e-mail within a week from the date of receipt of Purchase Order or such other period as specified/ agreed by BHEL. BHEL reserves the right to revoke the order placed if the order confirmation differs from the original order placed. The acceptance of goods/services/supplies by BHEL as well as payments made in this regard shall not imply acceptance of any deviations.
The purchase order will be deemed to have been accepted if no communication to the contrary is received within one week (or the time limit as specified/agreed by BHEL) from the date of receipt of the purchase order.
3. **Documentation:** After receipt of Purchase Order, vendor should submit necessary documents (if & as applicable) like drawings specified, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/ Customer.
At any stage within the contract period, the vendor shall notify of any error, fault or other defect found in BHEL's documents / specifications or any other items for reference. If and to the extent that (taking account of cost and time) any vendor exercising due care would have discovered the error, fault or other defect when examining the documents/specifications before submitting the tender, the time for completion shall not be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the vendor's documents, they shall be corrected at his cost, notwithstanding any consent or approval.
4. **Penalty:**
 - a. **For delay in documentation:** In the event of delay in submission of complete set of specified documents ((like drawings, bill of materials, datasheets, catalogues, quality plan etc. as called in tender specifications including soft copies wherever applicable) in required sets beyond two(02) weeks (or as agreed/indicated in the SCC/Purchase Order) from the date of receipt of Purchase Order (by email), penalty at 0.5% (half percent) per week or part thereof, limited to a maximum of 5% (five percent) of the basic material value of the Purchase Order will be applicable.

Penalty for delayed documentation if applicable, shall be deducted at the time of first supply payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted. GST as applicable will be recovered along with penalty amount.
 - b. **For delay in delivery:** In the event of delay in agreed contractual delivery as per Purchase Order, penalty @ 0.5 % (half percent) per week or part thereof but limited to a max of 10% (ten percent) value of undelivered portion (basic material cost) will be applicable. Delivery will commence from the date of issue of Manufacturing clearance along with approved document. The date for which Inspection call is issued by vendor along with test certificates / test reports / Certificate of Conformance / calibration reports, as proof of completion of manufacturing will be treated as date of deemed delivery for penalty calculation. In the absence of furnishing such document indicated above as proof of completion of manufacturing along with inspection call, actual date of inspection will be considered as date of deemed delivery and BHEL will not be responsible for delay in actual date of inspection.

Penalty for delayed delivery if applicable, shall be deducted at the time of first supply payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted. GST as applicable will be recovered along with penalty amount.

5. Contract variations (Increase or decrease in the scope of supply): BHEL may vary the contracted scope as per requirements at site. If vendor is of the opinion that the variation has an effect on the agreed price or delivery period, BHEL shall be informed of this immediately in writing along with technical details. Where unit rates are available in the Contract, the same shall be the basis for such additional work. Vendor shall not perform additional work before BHEL has issued written instructions/ amendment to the Purchase Order to that effect. The work which the vendor should have or could have anticipated in terms of delivering the service(s) and functionality (i.e.) as described in this agreement, or which is considered to be the result of an attributable error on the vendor's part, shall not be considered additional work.
6. Inspection: Prior written notice of at least 10 days shall be given along with internal test certificates/COC and applicable test certificates. Materials will be inspected by BHEL-EDN-QS/CQS or BHEL nominated Third Party Inspection Agency (TPIA) or BHEL authorized Inspection Agency or Customer / Consultant or jointly by BHEL & Customer / consultant. All tests have to be conducted as applicable in line with approved Quality plan or QA Checklist or Purchase specification and original reports shall be furnished to BHEL-EDN, Bangalore for verification/acceptance for issue of dispatch clearance. BHEL reserves the right for conducting repeat test, if required.
All costs related to inspections & re-inspections shall be borne by vendor. Whether the Contract provides for tests on the premises of the vendor or any of his Sub-contractor/s, vendor shall be responsible to provide such assistance, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by BHEL only if specifically agreed to in the purchase order.
7. Transit Insurance: Transit insurance coverage between vendor's works and project site shall be to the account of BHEL, unless specifically agreed otherwise. However, vendor shall send intimation directly to insurance agency (as mentioned in dispatch instructions issued by BHEL) through fax/courier/e-mail, immediately on dispatch of goods for covering insurance. A copy of such intimation sent by vendor to insurance agency shall be given to BHEL along with dispatch documents. Dispatch documents will be treated as incomplete without such intimation copy. BHEL shall not be responsible for sending intimations to insurance agency on behalf of the vendor.
8. Mode of dispatch:
Indigenous Scope: By road on Door Delivery Consignee Copy attached basis through your approved transporter (unless otherwise indicated in Dispatch Instructions), only on receipt of Despatch Clearance from BHEL.
Imported Scope: By Air/Sea through BHEL approved Freight Forwarder/supplier approved Consolidator respectively as per agreed contractual terms, only on receipt of Dispatch Clearance from BHEL.
9. Changes in Statutory levies:
If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the execution of Contract, which was or will be assessed on the bidder in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there from, as the case may be. However, these adjustments would be restricted to direct transactions between BHEL and the bidder /agent of foreign bidder (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the bidder /agent.
10. Availing duty/tax exemption benefits by bidder, wherever applicable: BHEL shall issue the required Certificate/s, as per relevant policies of the Govt. of India, to facilitate the bidders to avail any such benefits under the Contract. In case of failure of the bidders to receive the benefits partly or fully from the Govt. of India and/or in case of any delay in receipt of such benefits, BHEL shall neither be liable nor responsible in any manner whatsoever.

11. Taxes against sub-vendor dispatches: All taxes/levies, as applicable in respect of all components, equipments and material to be despatched directly from the sub-vendor's works to Site irrespective of the fact whether such taxes and levies are assessable and chargeable on Vendor or the BHEL, shall be to the vendor's account and no separate claim in this regard will be entertained by BHEL.
12. High Sea Sales (HSS): Customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors.
Any delay in submission of complete/correct HSS documents to BHEL may incur demurrage charges. All demurrage charges on account of incomplete /incorrect HSS documents submission by vendor will be to vendor's account and all such charges will be recovered from any of the available vendor bills with BHEL.
13. Packaging and dispatch: The Seller shall package the goods safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea/ Air / Rail/ Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures/ hooks and sling marks as may be required for easy and safe handling. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations.
The packing, shipping, storage and processing of the goods must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Any Imported/Physical Exports items packed with raw/ solid wood packing material should be treated as per ISPM – 15 (fumigation) and accompanied by Phytosanitary/ Fumigation certificate. If safety information sheets (MSDS – Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment.
Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (LxBxH) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated in the packing list.
Separate packing & identification of items should be as follows.
1. Main Scope - All items must be tagged with part no. & item description.
2. Commissioning accessories/spares - All items must be tagged with part no. & item description.
3. Mandatory spares - All items must be tagged with part no. & item description.
Nevertheless, vendor shall adhere to dispatch & packing instructions issued by BHEL at the time of dispatch.
14. Assignment of Rights & Obligations; Subcontracting: Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
15. Progress report: Vendor shall render such report as to the progress of work and in such form as may be called for by the concerned purchase officer from time to time. The submission and acceptance of such reports shall not prejudice the rights of BHEL in any manner.
16. Non-disclosure and Information Obligations: Vendor shall provide with all necessary information pertaining to the goods as it could be of importance to BHEL. Vendor shall not reveal any specified confidential information that may be divulged by BHEL to Vendor's employees not involved with the tender/ contract & its execution and delivery or to third parties, unless BHEL has agreed to this in writing beforehand. Vendor shall not be entitled to use the BHEL name in advertisements and other commercial publications without prior written permission from BHEL.
17. Cancellation /Termination of contract: BHEL shall have the right to completely or partially terminate the agreement by means of written notice to that effect. Termination of the Contract, for whatever reason, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination.
BHEL shall have the right to cancel/foreclose the Order/ Contract, wholly or in part, in case it is constrained to do so on account of any decline, diminution, curtailment or stoppage of the business.

18. Risk Purchase Clause: In case of failure of supplier, BHEL at its discretion may make purchase of the materials / services not supplied / rendered in time at the RISK & COST of the supplier. Under such situation, the supplier who fails to supply the goods in time shall be wholly liable to make good to BHEL any loss due to risk purchase.

In case of items demanding services at site like erection and commissioning, vendor should send his servicemen/representatives within 7 days from the service call. In case a vendor fails to attend to the service call, BHEL at its discretion may also make arrangements to attend such service by other parties at the **RISK & COST** of the supplier. Under such situation the supplier who fails to attend the service shall be wholly liable to make good to BHEL any loss due to risk purchase/service including additional handling charges due to the change.

19. Shortages: In the event of shortage on receipt of goods and/or on opening of packages at site, all such shortages, caused by supplier's act or omission, shall be made good at free of cost within a reasonable time that BHEL may allow from such intimation.

Transit Damages: In the event of receipt of goods in damaged condition or having found them so upon opening of packages at site, supplier shall make good of all such damages within a reasonable time from such intimation by BHEL. In case BHEL raises an insurance claim, the cost of material limited to insurance settled amount less handling charges will be reimbursed to supplier.

20. Remedial work: Notwithstanding any previous test or certification, BHEL may instruct the vendor to remove and replace materials/goods or remove and re-execute works/services which are not in accordance with the purchase order. Similarly BHEL may ask the vendor to supply materials or to execute any services which are urgently required for any safety reasons, whether arising out of or because of an accident, unforeseeable event or otherwise. In such an event, Vendor shall provide such services within a reasonable time as specified by BHEL.

21. Indemnity Clause: Vendor shall comply with all applicable safety regulations and take care for the safety of all persons involved. Vendor is fully responsible for the safety of its personnel or that of his subcontractor's men / property, during execution of the Purchase Order and related services. All statutory payments including PF, ESI or other related charges have to be borne by the vendor. Vendor is fully responsible for ensuring that all legal compliances are followed in course of such employment. Vendor shall fully indemnify and keep indemnified BHEL against all claims of whatsoever nature arising during the course and out of execution of this Order/Contract.

22. Product Information, Drawings and Documents: All specified drawings, technical documents or other technical information received by Vendor from BHEL or vice versa shall not, without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the Disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are binding only to the extent that they are by reference expressly included in the contract.

Vendor, as per agreed date/s but not later than the date of delivery, provide free of charge information and drawings which are necessary to permit and enable BHEL to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in as many numbers of copies as may be agreed upon.

All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the Contract shall continue to be the property of the disclosing party.

23. Intellectual Property Rights, Licenses: If any Patent, design, Trade mark or any other intellectual property rights apply to the delivery (goods/related service) or accompanying documentation shall be the exclusive property of the Vendor and BHEL shall be entitled to the legal use thereof free of charge by means of a non-exclusive, worldwide, perpetual license. All intellectual property rights that arise during the execution of the Purchase Order/ contract for delivery by vendor and/or by its employees or third parties involved by the vendor for performance of the agreement shall belong to BHEL. Vendor shall perform everything necessary to obtain or establish the above mentioned rights. The Vendor guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Vendor shall do everything

necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties. The Vendor shall indemnify BHEL against any (alleged) claims by third parties in this regard and shall reimburse BHEL for any damages suffered as a result thereof.

24. Force Majeure: Notwithstanding anything contained in the purchase order or any other document relevant thereto, neither party shall be liable for any failure or delay in performance to the extent said failures or delays are caused by the "Act of God" and occurring without its fault or negligence, provided that, force majeure will apply only if the failure to perform could not be avoided by the exercise of due care and vendor doing everything reasonably possible to resume its performance.

A party affected by an event of force majeure which may include fire, tempest, floods, earthquake, riot, war, damage by aircraft etc., shall give the other party written notice, with full details as soon as possible and in any event not later than seven (7) calendar days of the occurrence of the cause relied upon. If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.

Notwithstanding above provisions, in an event of Force Majeure, BHEL reserves for itself the right to cancel the order/ contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of deliveries and other schedules.

25. Warranty:

Wherever required, and so provided in the specifications/ Purchaser Order, the Seller shall ensure that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance.

Unless otherwise specified in SCC, warranty period shall be applicable for a period of 24 months from the date of delivery of goods or 18 months from the date of commissioning of goods, whichever is earlier.

The warranty period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery. Unless otherwise specifically provided in the Purchase Order, Vendor's liability shall be co terminus with the expiration of the applicable warranty period.

26. Limitation of Liability: Vendor's liability towards this contract is limited to a maximum of 100% of the contract value and consequential damages are excluded. However the limits of liability will have no effect in cases of criminal negligence or wilful misconduct.

The total liability of Vendor for all claims arising out of or relating to the performance or breach of the Contract or use of any Products or Services or any order shall not exceed the total Contract price.

27. Liability during warranty: Vendor shall arrange replacement / repair of all the defective materials / services under its obligation during the warranty period. The rejected goods shall be taken away by vendor and replaced / repaired. In the event of the vendor's failure to comply, BHEL may take appropriate action including disposal of rejections and replenishment by any other sources at the cost and risk of the vendor. In case, defects attributable to vendor are detected during Warranty period or where the commissioning call is issued within the warranty period, vendor shall be responsible for replacement/ repair of the goods as required by BHEL at vendor's cost even after expiry of warranty period.

Further if the equipment or any part thereof cannot be used by reason of such defect and/or making good of such defect, the warranty period of the equipment or such part, as the case may be, shall be extended by a period equal to the period during which the equipment or such part cannot be used by BHEL because of any of the aforesaid reasons. Upon correction of the defects in the facilities or any part thereof by repair/replacement, such repair/replacement shall have the warranty period for a period of twelve (12) months from the time such replacement/repair of the equipment or any part thereof has been completed.

28. Liability after warranty period: At the end of the warranty, the Vendor's liability ceases except for latent defects. For the purpose of this clause, latent defects shall be the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the warranty Period, but later. The Contractor's liability for latent defects warranty for the equipment including spares shall be limited to a period of six months from the end of the warranty period of the respective equipment including spares or first time commissioning, whichever is later but not later than one (01) year from the date of expiry of warranty period.

29. Compliance with Laws: Vendor shall, in performing the contract, comply with all applicable laws. The vendor shall make all remittances, give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the laws in relation to the execution and completion of the contract and for remedying of any defects; and the Contractor shall indemnify and hold BHEL harmless against and from the consequences of any failure to do so.
30. Settlement of Disputes: Except as otherwise specifically provided in the Purchase Order, decision of BHEL shall be binding on the vendor with respect to all questions relating to the interpretation or meaning of the terms and conditions and instructions herein before mentioned and as to the completion of supplies/work/services, other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, instructions, orders or these conditions or otherwise concerning the supply or the execution or failure to execute the order, whether arising during the schedule of supply/work or after the completion or abandonment thereof. Any disputes or differences among the parties shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration. Vendor shall continue to perform the contract, pending settlement of dispute(s).
31. Arbitration Clause in case of Contract with vendors other than Public Sector Enterprise (PSE) or a Government Department:

Arbitration & Conciliation:

The parties shall attempt to settle any disputes or difference arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, or in connection with this contract through friendly discussions. In case no amicable settlement can be reached between the parties through such discussions, in respect of any dispute; then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL–EDN. Such Sole Arbitrator appointed, shall conduct the arbitration in English language.

The Arbitrator shall pass a reasoned award and the award of the Arbitration shall be final and binding upon the Parties.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bangalore.

The cost of arbitration shall be borne as decided by the Arbitrator upon him entering the reference.

Subject to the Arbitration Clause as above, the Courts at Bangalore alone shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the parties shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and efficiency in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

Arbitration Clause in case of Contract with a Public Sector Enterprise (PSE) or a Government Department:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either party for Arbitration to the Sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any Party aggrieved by such Award may make further reference for setting aside or revision of the Award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.'

32. Applicable Laws and Jurisdiction of Courts: Prevailing Indian laws both substantive and procedural, including modifications thereto, shall govern the Contract. Subject to the conditions as aforesaid, the competent courts in Bangalore alone shall have jurisdiction to consider over any matters touching upon this contract.
33. General Terms: That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents.

That the headings used in this agreement are for convenience of reference only.

That all notices etc., to be given under the Purchase order shall be in writing, type script or printed and if sent by registered post or by courier service to the address given in this document shall be deemed to have been served on the date when in the ordinary course, they would have been delivered to the addressee.



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CE / PATRATU 3X800MW/ 416 / ETxR

REV 00

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PROJECT:- PATRATU 3X800MW

CUSTOMER: M/s NTPC

**PURCHASE SPECIFICATIONS
FOR
ELECTRONIC TRANSMITTERS**

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REVISION : 00

APPROVED
&
VERIFIED

SAILENDRA KUMAR KISAN

PREPARED

Sandeep

ISSUED

416

DATE

12/08/2022



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CE /PATRATU 3X800MW/ 416 / ETxR

REV 00

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Sl. No.	Description	Reference
1.	Scope of Supply	CE / PATRATU 3X800MW/ 416 / ETxR /SOS, Rev 00 Sheets 03
2.	Technical Requirements	CE / PATRATU 3X800MW/ 416 / ETxR /TR, Rev 00 Sheets 03
3.	Bill of Material	CE PATRATU 3X800MW / 416 / ETxR /BOM ,Rev 00 Sheets 12
4.	Reference Quality Plan	CE / PATRATU 3X800MW/ 416 / ETxR /QP, Rev 00 Sheets 03

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SCOPE OF SUPPLY FOR ELECTRONIC TRANSMITTERS

REVISION : 00

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&
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CE / PATRATU 3X800MW/ 416 / ETxR / SOS

REV 00

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SCOPE OF SUPPLY

- 1.0 **Electronic Transmitters** as per technical Requirements Ref: CE / PATRATU 3X800MW/ 416 / ETxR / TR Rev.00 & BOM Ref: CE / PATRATU 3X800MW/ 416 / ETxR / BOM Rev.00 enclosed.
- 2.0 Against each service, model type with accuracy is to be specified. Then consolidated summary BOM is to be made.
- 3.0 **Mandatory spares shall be as per (a) and (b) indicated below :**

(a) 10% or minimum 01No whichever is more of main quantity (applicable for each type and model of transmitters indicated in the BOM)

Quantity of transmitters as follows.

Sl No	Project	Unit-1 Qty and common qty	Unit-2 qty	Unit-3 qty	Mand. spares	G.Total (No's) *
1	PATRATU 3X800MW	444	416	416	As per above point 3.0 of scope of supply	1276 + spares as per above point 3.0 of scope of supply

3.1 For each transmitter, accessories like required number of SS blind plugs, plug in socket, mounting bracket, U clamp (for 2" NB pipe) and fasteners etc. to be supplied. For each remote seal transmitter, additional accessories like 3" ANSI 300 RF minimum mounting flange (SS) , counter flange (CS) with adequate gaskets & fasteners etc. to be supplied.

* Above qty specified may undergo changes during detailed Engg.

4.0 GENERAL TERMS & CONDITIONS

- 4.1 Considering possibilities of change in requirement, i.e. addition & deletion of quantities at a later date after system design finalisation, the vendor must clearly quote unit price as well as lot price for all items, including mandatory spares for indisputable calculations of lot prices in case of revised quantities later.
- 4.2 In case of quantity change, unit rates shall be applicable. However in case of item change for a project, if the required model is not available in the original offer, the unit price of another model, for the same range but with features having the closest similarity to the required one, quoted elsewhere in another variant or another group, shall be applicable.
- 4.3 Although transmitter are allowed to be indigenously assembled, calibrated & certified, the sensors and electronics should preferably be procured from vendors' own principals.
- 4.4 Transmitters shall be type tested as per IEC60770.
- 4.5 Model selection is sole responsibility of vendor with clear understanding of specification requirement. Any change in basic model & accessories during technical evaluation **shall not be allowed**. In case of any doubt regarding the intent of specification technically, vendor shall interact with the purchaser & get the doubts clarified well before the due date of technical bid submission to **minimize the deviation from spec. & the chances of rejection**.
- 4.6 Offered transmitters shall have at least one year's satisfactory in one power station having unit rating of 200MW or above.

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CE / PATRATU 3X800MW / 416 / ETxR / SOS

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5.0 DOCUMENTS REQUIREMENT

Following documents shall be furnished to BHEL as a minimum, apart from any other documents required to be submitted as called for elsewhere or as deemed necessary. The same shall be for the complete equipment offered including Transmitters other peripherals etc.

5.1 Along with Technical offer ,one (01) set of these documents :

- a) Bill of Material
- b) Data Sheets
- c) Drawings (GA/layout/wiring/interconnection/schematic, etc.)
- d) Technical literatures/Catalogs/Clause-wise compliance/deviation list to Specification(Refer 6.0)

5.2 Within one week from the date of placement of Order for BHEL/CUSTOMER approval, following documents in PDF format as a single file against each purchase order (P.O.):

- a) Bill of Material
- b) Data Sheet
- c) Drawings (GA/layout/wiring/interconnection/schematic, etc.)
- d) Technical literatures/Catalogs
- e) Quality Plan.

5.3 Before inspection of Material ,following documents for BHEL/ CUSTOMER review & acceptance against each purchase order:-

- a) Test Certificates/Reports as per Check list and Approved Quality Plan.
- b) Preliminary Instruction/O&M Manual.

5.4 At the time of Material dispatch ,following documents to BHEL against each purchase order:-

- a) Instruction/O&M Manual
- b) Bill of Material
- c) Data Sheets
- d) Drawings (GA/layout/wiring/interconnection/schematic, etc.)
- e) Technical literatures/Catalogs.

NOTE: These documents shall be in final as-built/approved status. Apart from above one (01) set of Instruction / O&M Manual shall also be sent directly to site along with each system against each purchase order.

5.5 One (01) set soft copy of Final documents as mentioned at clause above shall also be provided to BHEL against each purchase order. The soft copy shall be in PDF format.

6.0 In case no **Clause-wise compliance/deviation list** is furnished & deviation is found during technical evaluation, then the offer is liable for technical rejection on the grounds of not meeting the specification.



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CE / PATRATU 3X800MW / 416 / ETxR / TR

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TECHNICAL REQUIREMENTS FOR ELECTRONIC TRANSMITTERS

REVISION : 00

APPROVED
&
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12/08/2022



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CE / PATRATU 3X800MW / 416 / ETxR / TR

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TECHNICAL REQUIREMENTS

REQUIREMENTS FOR ELECTRONIC TRANSMITTERS

- 1.0 Electronic Transmitters for Pressure, Differential Pressure, Flow and Level measurement shall be furnished complete with all accessories to meet the requirements given below.
- 2.0 Pressure Transmitters and Differential Pressure Transmitters are indicated in the BOM schedule. Transmitters shall be DP type for services where units of calibration range is "mmWC" indicated in BOM.
- 3.0 Electronic transmitters shall meet or exceed the following requirements
- 3.1 Type of Transmitter : Microprocessor based, 2 wire Smart type, HART Protocol compatible, with LCD indicator.
- 3.2 Accuracy : $\pm 0.1\%$ of calibrated span (minimum)
- 3.3 Output signal range : 4-20 mA DC (Analog) and superimposed Digital signal on HART protocol.
- 3.4 Turn-down ratio : (i) 10:1 for vacuum/very low pressure applications (i.e pressures ≤ 200 mmWC)
(ii) 5:1 for very high pressure applications (i.e pressures ≥ 200 Kg/cm²)
(iii) 30:1 for other applications
- 3.5 Stability : (i) $\pm 0.1\%$ of Calibrated span for 6 months for ranges up to and including 70Kg/cm²
(ii) $\pm 0.25\%$ of Calibrated span for 6 months for ranges more than 70Kg/cm²
- 3.6 Zero and Span drift : $\pm 0.015\%$ per deg. C at maximum span and $\pm 0.11\%$ per deg. C at minimum span.
- 3.7 Load Impedance : 500 Ohms minimum.
- 3.8 Electrical Connection : Plug and socket type
- 3.9 Housing : Weather proof, metallic housing with durable corrosion resistant coating. Protection Class shall be IP65.
- 3.10 Overpressure : 150% of maximum operating pressure.
- 3.11 Process Connection : $\frac{1}{2}$ " NPT (F).
- 3.12 Span and zero adjustment: Continuous, tamper proof, remote as well as manual adjustability from instrument with zero suppression and elevation facility is required.
- 3.13 Diagnostics : Self indicating feature.
- 3.14 Power Supply : 24 V dc $\pm 10\%$.
- 3.15 Adjustment/calibration/maintenance : Through centralized PC based System being procured by BHEL separately. Additionally transmitter should be operable through universal hand held HART communicator being procured by BHEL separately.
- 3.16 Drain and Vent plug : Drain and Vent plug shall be provided With transmitter

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3.17 In case of failure & return of power supply to the transmitters, no false signals endangering the system shall be issued.

3.18 **Accessories:** Remote diaphragm seal with SS armoured capillary of **five (05) meters** length for HFO & oil applications suitable to service and operating conditions. Necessary flanges & fasteners both for process end as well as transmitter end shall be provided suitable to service & operating conditions. Flange shall be 3" ANSI 300 RF minimum. The flange at the transmitter end shall be stainless steel. Matching blind counter flanges with nuts, bolts, gaskets etc are to be provided.

Each transmitter shall have SS blind plugs, Mounting bracket, U clamp (for 2" NB pipe) and fasteners etc shall be suitable for mounting in LIE/LIR vertical impulse pipe mounting from Up/down ward.

Notes:

1. The offered make shall be registered in HART foundation, which is mandatory for device operable by universal HART communicator & HMS system.
2. LVDT type transmitter is not technically acceptable.
3. Transmitters shall be DP type for services where units of calibration range is "mmWC" indicated in BOM.



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CE / PATRATU 3X800MW /416 / ETxR / BOM

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BILL OF MATERIAL FOR ELECTRONIC TRANSMITTERS

REVISION : 00

APPROVED
&
VERIFIED

SAILENDRA KUMAR KISAN

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ISSUED

416

DATE

12/08/2022

BOM OF ELECTRONIC TRANSMITTERS FOR PATRATU 3X800MW PROJECT

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
1		10LCL30CF001	20LCL30CF001	30LCL30CF001	COND PMP-A O/L FLOW	FT	COND	3	kg/cm ²	0-3000	mmWC	PEM	DP RANGE = 0-3000 mmWC
2		10LCL30CF002	20LCL30CF002	30LCL30CF002	COND PMP-B O/L FLOW	FT	COND	3	kg/cm ²	0-3000	mmWC	PEM	DP RANGE = 0-3000 mmWC
3		10LAB60CF011	20LAB60CF011	30LAB60CF011	FW FLOW TO ECO	FT	WTR	349	kg/cm ²	0-2850	TPH	PEM	DP RANGE= 4648.1010 mmWC
4		10LAB60CF012	20LAB60CF012	30LAB60CF012	FW FLOW TO ECO	FT	WTR	349	kg/cm ²	0-2850	TPH	PEM	DP RANGE= 4648.1010 mmWC
5		10LAB60CF013	20LAB60CF013	30LAB60CF013	FW FLOW TO ECO	FT	WTR	349	kg/cm ²	0-2850	TPH	PEM	DP RANGE= 4648.1010 mmWC
6		10LAB91CF001	20LAB91CF001	30LAB91CF001	FW I/L FLOW	FT	WTR	338	kg/cm ²	0-3000	TPH	PEM	DP RANGE = 0-6000 mmWC
7		10LAB91CF002	20LAB91CF002	30LAB91CF002	FW I/L FLOW	FT	WTR	338	kg/cm ²	0-3000	TPH	PEM	DP RANGE = 0-6000 mmWC
8		10LAB91CF003	20LAB91CF003	30LAB91CF003	FW I/L FLOW	FT	WTR	338	kg/cm ²	0-3000	TPH	PEM	DP RANGE = 0-6000 mmWC
9		10HAC10CF001	20HAC10CF001	30HAC10CF001	ECON I/L BOILER FW	FT	WTR	338.53	kg/cm ²	0-2600	TPH	PEM	DP RANGE = 0-10000 mmWC
10		10HAC10CF002	20HAC10CF002	30HAC10CF002	ECON I/L BOILER FW	FT	WTR	338.53	kg/cm ²	0-2600	TPH	PEM	DP RANGE = 0-10000 mmWC
11		10HAC10CF003	20HAC10CF003	30HAC10CF003	ECON I/L BOILER FW	FT	WTR	338.53	kg/cm ²	0-2600	TPH	PEM	DP RANGE = 0-10000 mmWC
12		10LAE71CF001	20LAE71CF001	30LAE71CF001	SH / DSH STAGE-I-A SPRY WTR	FT	WTR	339	kg/cm ²	0-100	TPH	PEM	DP RANGE = 0-15000 mmWC
13		10LAE71CF002	20LAE71CF002	30LAE71CF002	SH / DSH STAGE-I-A SPRY WTR	FT	WTR	339	kg/cm ²	0-100	TPH	PEM	DP RANGE = 0-15000 mmWC
14		10LAE72CF001	20LAE72CF001	30LAE72CF001	SH / DSH STAGE-I-B SPRY WTR	FT	WTR	339	kg/cm ²	0-100	TPH	PEM	DP RANGE = 0-15000 mmWC
15		10LAE72CF002	20LAE72CF002	30LAE72CF002	SH / DSH STAGE-I-B SPRY WTR	FT	WTR	339	kg/cm ²	0-100	TPH	PEM	DP RANGE = 0-15000 mmWC
16		10LAE91CF001	20LAE91CF001	30LAE91CF001	SH / DSH STAGE-II-A SPRY WTR	FT	WTR	293	kg/cm ²	0-60	TPH	PEM	DP RANGE = 0-20000 mmWC
17		10LAE91CF002	20LAE91CF002	30LAE91CF002	SH / DSH STAGE-II-A SPRY WTR	FT	WTR	293	kg/cm ²	0-60	TPH	PEM	DP RANGE = 0-20000 mmWC
18		10LAE92CF001	20LAE92CF001	30LAE92CF001	SH / DSH STAGE-II-B SPRY WTR	FT	WTR	293	kg/cm ²	0-60	TPH	PEM	DP RANGE = 0-20000 mmWC
19		10LAE92CF002	20LAE92CF002	30LAE92CF002	SH / DSH STAGE-II-B SPRY WTR	FT	WTR	293	kg/cm ²	0-60	TPH	PEM	DP RANGE = 0-20000 mmWC
20		10LAE21CF001	20LAE21CF001	30LAE21CF001	RH / DSH-A SPRY WTR	FT	WTR	67	kg/cm ²	0-80	TPH	PEM	DP RANGE = 0-20000 mmWC
21		10LAE21CF002	20LAE21CF002	30LAE21CF002	RH / DSH-A SPRY WTR	FT	WTR	67	kg/cm ²	0-80	TPH	PEM	DP RANGE = 0-20000 mmWC
22		10LAE22CF001	20LAE22CF001	30LAE22CF001	RH / DSH-B SPRY WTR	FT	WTR	67	kg/cm ²	0-80	TPH	PEM	DP RANGE = 0-20000 mmWC
23		10LAE22CF002	20LAE22CF002	30LAE22CF002	RH / DSH-B SPRY WTR	FT	WTR	67	kg/cm ²	0-80	TPH	PEM	DP RANGE = 0-20000 mmWC
24		10LBG10CF011	20LBG10CF011	30LBG10CF011	MS FLOW TO APRDS	FT	STEAM	270	kg/cm ²	0-250	TPH	PEM	DP RANGE= 49392 mmWC
25		10LBG10CF012	20LBG10CF012	30LBG10CF012	MS FLOW TO APRDS	FT	STEAM	270	kg/cm ²	0-250	TPH	PEM	DP RANGE= 49392 mmWC
26		10LBG20CF011	20LBG20CF011	30LBG20CF011	CRH STM FLOW TO APRDS	FT	STEAM	66	kg/cm ²	0-50	TPH	PEM	DP RANGE= 9800 mmWC
27		10LBG20CF012	20LBG20CF012	30LBG20CF012	CRH STM FLOW TO APRDS	FT	STEAM	66	kg/cm ²	0-50	TPH	PEM	DP RANGE= 9800 mmWC
28		10LCA01CF011	20LCA01CF011	30LCA01CF011	CEP-A DISCH FLOW	FT	COND	31	kg/cm ²	0-1200	TPH	PEM	DP RANGE= 10000 mmWC
29		10LCA01CF012	20LCA01CF012	30LCA01CF012	CEP-A DISCH FLOW	FT	COND	31	kg/cm ²	0-1200	TPH	PEM	DP RANGE= 10000 mmWC
30		10LCA02CF011	20LCA02CF011	30LCA02CF011	CEP-B DISCH FLOW	FT	COND	31	kg/cm ²	0-1200	TPH	PEM	DP RANGE= 10000 mmWC
31		10LCA02CF012	20LCA02CF012	30LCA02CF012	CEP-B DISCH FLOW	FT	COND	31	kg/cm ²	0-1200	TPH	PEM	DP RANGE= 10000 mmWC
32		10LCA03CF011	20LCA03CF011	30LCA03CF011	CEP-C DISCH FLOW	FT	COND	31	kg/cm ²	0-1200	TPH	PEM	DP RANGE= 10000 mmWC
33		10LCA03CF012	20LCA03CF012	30LCA03CF012	CEP-C DISCH FLOW	FT	COND	31	kg/cm ²	0-1200	TPH	PEM	DP RANGE= 10000 mmWC
34		10LCA20CF011	20LCA20CF011	30LCA20CF011	COND FLOW AT GSC O/L	FT	COND	31	kg/cm ²	0-2200	TPH	PEM	DP RANGE= 9000 mmWC
35		10LCA20CF012	20LCA20CF012	30LCA20CF012	COND FLOW AT GSC O/L	FT	COND	31	kg/cm ²	0-2200	TPH	PEM	DP RANGE= 9000 mmWC
36		10LCA90CF011	20LCA90CF011	30LCA90CF011	COND FLOW TO DEA	FT	COND	31	kg/cm ²	0-2400	TPH	PEM	DP RANGE= 4793.8368 mmWC
37		10LCA90CF012	20LCA90CF012	30LCA90CF012	COND FLOW TO DEA	FT	COND	31	kg/cm ²	0-2400	TPH	PEM	DP RANGE= 4793.8368 mmWC
38		10LCR41CF011	20LCR41CF011	30LCR41CF011	EMER M/U FLOW TO COND TANK	FT	DM WTR	7	kg/cm ²	0-350	TPH	PEM	DP RANGE= 5000 mmWC
39		10LCR41CF012	20LCR41CF012	30LCR41CF012	EMER M/U FLOW TO COND TANK	FT	DM WTR	7	kg/cm ²	0-350	TPH	PEM	DP RANGE= 5000 mmWC
40		10LBQ63CF011	20LBQ63CF011	30LBQ63CF011	EXT STM FLOW TO BFPT-A	FT	STEAM	13	kg/cm ²	0-100	TPH	PEM	DP RANGE= 1730.56 mmWC
41		10LBQ63CF012	20LBQ63CF012	30LBQ63CF012	EXT STM FLOW TO BFPT-A	FT	STEAM	13	kg/cm ²	0-100	TPH	PEM	DP RANGE= 1730.56 mmWC
42		10LBQ64CF011	20LBQ64CF011	30LBQ64CF011	EXT STM FLOW TO BFPT-B	FT	STEAM	13	kg/cm ²	0-100	TPH	PEM	DP RANGE= 1730.56 mmWC
43		10LBQ64CF012	20LBQ64CF012	30LBQ64CF012	EXT STM FLOW TO BFPT-B	FT	STEAM	13	kg/cm ²	0-100	TPH	PEM	DP RANGE= 1730.56 mmWC
44		10LBQ61CF011	20LBQ61CF011	30LBQ61CF011	EXT STM FLOW TO DEA	FT	STEAM	13	kg/cm ²	0-125	TPH	PEM	DP RANGE= 865.28 mmWC

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
45		10LBQ61CF012	20LBQ61CF012	30LBQ61CF012	EXT STM FLOW TO DEA	FT	STEAM	13	kg/cm^2	0-125	TPH	PEM	DP RANGE= 865.28 mmWC
46		10LAB10CF011	20LAB10CF011	30LAB10CF011	TDBFP-A SUCTION FLOW	FT	WTR	25	kg/cm^2	0-1500	TPH	PEM	DP RANGE= 2177.7778 mmWC
47		10LAB10CF012	20LAB10CF012	30LAB10CF012	TDBFP-A SUCTION FLOW	FT	WTR	25	kg/cm^2	0-1500	TPH	PEM	DP RANGE= 2177.7778 mmWC
48		10LAB10CF013	20LAB10CF013	30LAB10CF013	TDBFP-A SUCTION FLOW	FT	WTR	25	kg/cm^2	0-1500	TPH	PEM	DP RANGE= 2177.7778 mmWC
49		10LAB20CF011	20LAB20CF011	30LAB20CF011	TDBFP-B SUCTION FLOW	FT	WTR	25	kg/cm^2	0-1500	TPH	PEM	DP RANGE= 2177.7778 mmWC
50		10LAB20CF012	20LAB20CF012	30LAB20CF012	TDBFP-B SUCTION FLOW	FT	WTR	25	kg/cm^2	0-1500	TPH	PEM	DP RANGE= 2177.7778 mmWC
51		10LAB20CF013	20LAB20CF013	30LAB20CF013	TDBFP-B SUCTION FLOW	FT	WTR	25	kg/cm^2	0-1500	TPH	PEM	DP RANGE= 2177.7778 mmWC
52		10LAB30CF011	20LAB30CF011	30LAB30CF011	MDBFP-C SUC FLOW	FT	WTR	25	kg/cm^2	0-950	TPH	PEM	DP RANGE= 1954.5706 mmWC
53		10LAB30CF012	20LAB30CF012	30LAB30CF012	MDBFP-C SUC FLOW	FT	WTR	25	kg/cm^2	0-950	TPH	PEM	DP RANGE= 1954.5706 mmWC
54		10LAB30CF013	20LAB30CF013	30LAB30CF013	MDBFP-C SUC FLOW	FT	WTR	25	kg/cm^2	0-950	TPH	PEM	DP RANGE= 1954.5706 mmWC
55		10LCH10CF011	20LCH10CF011	30LCH10CF011	HPH-7A DRN FLOW TO DEA	FT	COND	26	kg/cm^2	0-300	TPH	PEM	DP RANGE= 933.12mmWC
56		10LCH10CF012	20LCH10CF012	30LCH10CF012	HPH-7A DRN FLOW TO DEA	FT	COND	26	kg/cm^2	0-300	TPH	PEM	DP RANGE= 933.12mmWC
57		10LCH20CF011	20LCH20CF011	30LCH20CF011	HPH-7B DRN FLOW TO DEA	FT	COND	26	kg/cm^2	0-300	TPH	PEM	DP RANGE= 933.12mmWC
58		10LCH20CF012	20LCH20CF012	30LCH20CF012	HPH-7B DRN FLOW TO DEA	FT	COND	26	kg/cm^2	0-300	TPH	PEM	DP RANGE= 933.12mmWC
59		10LBF10CF011	20LBF10CF011	30LBF10CF011	HPBP-1 STM FLOW	FT	STEAM	270	kg/cm^2	0-900	TPH	PEM	DP RANGE= 128189.6296 mmWC
60		10LBF10CF012	20LBF10CF012	30LBF10CF012	HPBP-1 STM FLOW	FT	STEAM	270	kg/cm^2	0-900	TPH	PEM	DP RANGE= 128189.6296 mmWC
61		10LBF20CF011	20LBF20CF011	30LBF20CF011	HPBP-2 STM FLOW	FT	STEAM	270	kg/cm^2	0-900	TPH	PEM	DP RANGE= 128189.6296 mmWC
62		10LBF20CF012	20LBF20CF012	30LBF20CF012	HPBP-2 STM FLOW	FT	STEAM	270	kg/cm^2	0-900	TPH	PEM	DP RANGE= 128189.6296 mmWC
63		10HFE01CF001	20HFE01CF001	30HFE01CF001	PA FAN-A AIR FLOW	FT	PRIMARY AIR	-14	mmWC	0-600	TPH	PEM	DP RANGE = 0-1500 mmWC
64		10HFE05CF001	20HFE05CF001	30HFE05CF001	PA FAN-B AIR FLOW	FT	PRIMARY AIR	-14	mmWC	0-600	TPH	PEM	DP RANGE = 0-1500 mmWC
65		10HLB10CF001	20HLB10CF001	30HLB10CF001	FD FAN-A AIR FLOW	FT	SECONDARY AIR	-13	mmWC	0-1000	TPH	PEM	DP RANGE = 0-700 mmWC
66		10HLB20CF001	20HLB20CF001	30HLB20CF001	FD FAN-B AIR FLOW	FT	SECONDARY AIR	-13	mmWC	0-1000	TPH	PEM	DP RANGE = 0-700 mmWC
67		10HLA15CF001	20HLA15CF001	30HLA15CF001	HOT SA-A AIR FLOW	FT	SECONDARY AIR	168	mmWC	0-1200	TPH	PEM	DP RANGE = 0-110 mmWC
68		10HLA15CF002	20HLA15CF002	30HLA15CF002	HOT SA-A AIR FLOW	FT	SECONDARY AIR	168	mmWC	0-1200	TPH	PEM	DP RANGE = 0-110 mmWC
69		10HLA25CF002	20HLA25CF002	30HLA25CF002	HOT SA-B AIR FLOW	FT	SECONDARY AIR	168	mmWC	0-1200	TPH	PEM	DP RANGE = 0-110 mmWC
70		10HLA25CF001	20HLA25CF001	30HLA25CF001	HOT SA-B AIR FLOW	FT	SECONDARY AIR	168	mmWC	0-1200	TPH	PEM	DP RANGE = 0-110 mmWC
71		10HNC10CF001	20HNC10CF001	30HNC10CF001	ID FAN-A FG FLOW	FT	FLUE GAS	-489	mmWC	0-1800	TPH	PEM	DP RANGE = 0-1000 mmWC
72		10HNC20CF001	20HNC20CF001	30HNC20CF001	ID FAN-B FG FLOW	FT	FLUE GAS	-489	mmWC	0-1800	TPH	PEM	DP RANGE = 0-1000 mmWC
73		10HFE17CF001	20HFE17CF001	30HFE17CF001	MILL-A PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
74		10HFE17CF002	20HFE17CF002	30HFE17CF002	MILL-A PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
75		10HFE27CF001	20HFE27CF001	30HFE27CF001	MILL-B PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
76		10HFE27CF002	20HFE27CF002	30HFE27CF002	MILL-B PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
77		10HFE37CF001	20HFE37CF001	30HFE37CF001	MILL-C PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
78		10HFE37CF002	20HFE37CF002	30HFE37CF002	MILL-C PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
79		10HFE47CF001	20HFE47CF001	30HFE47CF001	MILL-D PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
80		10HFE47CF002	20HFE47CF002	30HFE47CF002	MILL-D PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
81		10HFE57CF001	20HFE57CF001	30HFE57CF001	MILL-E PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
82		10HFE57CF002	20HFE57CF002	30HFE57CF002	MILL-E PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
83		10HFE67CF001	20HFE67CF001	30HFE67CF001	MILL-F PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
84		10HFE67CF002	20HFE67CF002	30HFE67CF002	MILL-F PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
85		10HFE77CF001	20HFE77CF001	30HFE77CF001	MILL-G PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
86		10HFE77CF002	20HFE77CF002	30HFE77CF002	MILL-G PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
87		10HFE87CF001	20HFE87CF001	30HFE87CF001	MILL-H PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
88		10HFE87CF002	20HFE87CF002	30HFE87CF002	MILL-H PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
89		10HFE97CF001	20HFE97CF001	30HFE97CF001	MILL-J PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
90		10HFE97CF002	20HFE97CF002	30HFE97CF002	MILL-J PA I/L FLOW	FT	HOT PRIMARY AIR	906	mmWC	0-150	TPH	PEM	DP RANGE = 0-120 mmWC
91		10HCB01CF001	20HCB01CF001	30HCB01CF001	SOOTBLOWER STM	FT	STEAM	30	kg/cm^2	0-26.4	TPH	EDN in Trichy	DP RANGE =0-35000 mmWC
92		10HCB02CF001	20HCB02CF001	30HCB02CF001	SOOTBLOWER STM (LRSB LINE-RIGHT)	FT	STEAM	30	kg/cm^2	0-9	TPH	EDN in Trichy	DP RANGE =0-12500 mmWC
93		10HCB04CF001	20HCB04CF001	30HCB04CF001	SOOTBLOWER STM (LRSB LINE-LEFT)	FT	STEAM	30	kg/cm^2	0-9	TPH	EDN in Trichy	DP RANGE =0-12500 mmWC
94		10HCB05CF001	20HCB05CF001	30HCB05CF001	SOOTBLOWER STM (WB LINE-RIGHT & REAR)	FT	STEAM	30	kg/cm^2	0-4	TPH	EDN in Trichy	DP RANGE = 0-6000 mmWC
95		10HCB06CF001	20HCB06CF001	30HCB06CF001	SOOTBLOWER STM (WB LINE-FRONT & LEFT)	FT	STEAM	30	kg/cm^2	0-4	TPH	EDN in Trichy	DP RANGE = 0-6000 mmWC
96		10LCL20CL001	20LCL20CL001	30LCL20CL001	FLASH TNK DRN TNK LVL	LT-DP	WTR	1	kg/cm^2	0-3000	mm	PEM	
97		10LCL20CL002	20LCL20CL002	30LCL20CL002	FLASH TNK DRN TNK LVL	LT-DP	WTR	1	kg/cm^2	0-3000	mm	PEM	
98		10LCL20CL003	20LCL20CL003	30LCL20CL003	FLASH TNK DRN TNK LVL	LT-DP	WTR	1	kg/cm^2	0-3000	mm	PEM	
99		10QHX20 CL001	20QHX20 CL001	30QHX20 CL001	ECW TNK LVL	LT-DP	DMCW	6	kg/cm^2	0-3000	mm	PEM	
100		10HAD81CL001	20HAD81CL001	30HAD81CL001	SEPARATOR STRG TANK-A	LT-DP	WTR	305	kg/cm^2	0-15000	mm	PEM	
101		10HAD81CL002	20HAD81CL002	30HAD81CL002	SEPARATOR STRG TANK-A	LT-DP	WTR	305	kg/cm^2	0-15000	mm	PEM	
102		10HAD81CL003	20HAD81CL003	30HAD81CL003	SEPARATOR STRG TANK-A	LT-DP	WTR	305	kg/cm^2	0-15000	mm	PEM	
103		10HAD82CL001	20HAD82CL001	30HAD82CL001	SEPARATOR STRG TANK-B	LT-DP	WTR	305	kg/cm^2	0-15000	mm	PEM	
104		10HAD82CL002	20HAD82CL002	30HAD82CL002	SEPARATOR STRG TANK-B	LT-DP	WTR	305	kg/cm^2	0-15000	mm	PEM	
105		10HAD82CL003	20HAD82CL003	30HAD82CL003	SEPARATOR STRG TANK-B	LT-DP	WTR	305	kg/cm^2	0-15000	mm	PEM	
106		10HAG11CL001	20HAG11CL001	30HAG11CL001	SEPARATOR STRG TANK-A DNCOMER	LT-DP	WTR	326	kg/cm^2	0-8000	mm	PEM	
107		10HAG12CL001	20HAG12CL001	30HAG12CL001	SEPARATOR STRG TANK-B DNCOMER	LT-DP	WTR	326	kg/cm^2	0-8000	mm	PEM	
108		10LAA01CL011	20LAA01CL011	30LAA01CL011	DEA TNK LVL	LT-DP	COND	12	kg/cm^2	0-4000	mm	PEM	
109		10LAA01CL012	20LAA01CL012	30LAA01CL012	DEA TNK LVL	LT-DP	COND	12	kg/cm^2	0-4000	mm	PEM	
110		10LAA02CL011	20LAA02CL011	30LAA02CL011	DEA TNK LVL	LT-DP	COND	12	kg/cm^2	0-4000	mm	PEM	
111		10LAD11CL011	20LAD11CL011	30LAD11CL011	HPH-7A LVL	LT-DP	COND	26	kg/cm^2	0-1000	mm	PEM	
112		10LAD11CL012	20LAD11CL012	30LAD11CL012	HPH-7A LVL	LT-DP	COND	26	kg/cm^2	0-1000	mm	PEM	
113		10LAD12CL013	20LAD12CL013	30LAD12CL013	HPH-7A LVL	LT-DP	COND	26	kg/cm^2	0-1000	mm	PEM	
114		10LAD21CL011	20LAD21CL011	30LAD21CL011	HPH-7B LVL	LT-DP	COND	26	kg/cm^2	0-1000	mm	PEM	
115		10LAD21CL012	20LAD21CL012	30LAD21CL012	HPH-7B LVL	LT-DP	COND	26	kg/cm^2	0-1000	mm	PEM	
116		10LAD22CL013	20LAD22CL013	30LAD22CL013	HPH-7B LVL	LT-DP	COND	26	kg/cm^2	0-1000	mm	PEM	
117		10LAD31CL011	20LAD31CL011	30LAD31CL011	HPH-8A LVL	LT-DP	COND	62	kg/cm^2	0-1000	mm	PEM	
118		10LAD31CL012	20LAD31CL012	30LAD31CL012	HPH-8A LVL	LT-DP	COND	62	kg/cm^2	0-1000	mm	PEM	
119		10LAD32CL013	20LAD32CL013	30LAD32CL013	HPH-8A LVL	LT-DP	COND	62	kg/cm^2	0-1000	mm	PEM	
120		10LAD41CL011	20LAD41CL011	30LAD41CL011	HPH-8B LVL	LT-DP	COND	62	kg/cm^2	0-1000	mm	PEM	
121		10LAD41CL012	20LAD41CL012	30LAD41CL012	HPH-8B LVL	LT-DP	COND	62	kg/cm^2	0-1000	mm	PEM	
122		10LAD42CL013	20LAD42CL013	30LAD42CL013	HPH-8B LVL	LT-DP	COND	62	kg/cm^2	0-1000	mm	PEM	
123		10LAD51CL011	20LAD51CL011	30LAD51CL011	HPH-9A LVL	LT-DP	COND	91	kg/cm^2	0-1000	mm	PEM	
124		10LAD51CL012	20LAD51CL012	30LAD51CL012	HPH-9A LVL	LT-DP	COND	91	kg/cm^2	0-1000	mm	PEM	
125		10LAD52CL013	20LAD52CL013	30LAD52CL013	HPH-9A LVL	LT-DP	COND	91	kg/cm^2	0-1000	mm	PEM	
126		10LAD61CL011	20LAD61CL011	30LAD61CL011	HPH-9B LVL	LT-DP	COND	91	kg/cm^2	0-1000	mm	PEM	
127		10LAD61CL012	20LAD61CL012	30LAD61CL012	HPH-9B LVL	LT-DP	COND	91	kg/cm^2	0-1000	mm	PEM	
128		10LAD62CL013	20LAD62CL013	30LAD62CL013	HPH-9B LVL	LT-DP	COND	91	kg/cm^2	0-1000	mm	PEM	
129	00MGV10CP011				DP ACRS DIRTY OIL TRF PMP SUC STRNR	DPT	OIL	3	kg/cm^2	0-1.5	kg/cm^2	PEM	
130	00MGV20CP011				DP ACRS CLEAN OIL TRF PMP SUC STRNR	DPT	OIL	3	kg/cm^2	0-1.5	kg/cm^2	PEM	
131	00HJF11CP001				LDO PUMP-A DP ACROSS SUCTION STRAINER	DPT	LDO	-0.35	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	--
132	00HJF12CP001				LDO PUMP-B DP ACROSS SUCTION STRAINER	DPT	LDO	-0.35	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	--
133	00HJF13CP001				LDO PUMP-C DP ACROSS SUCTION STRAINER	DPT	LDO	-0.35	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	--

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
134	00HJF41CP001				HFO PUMP-A DP ACROSS SUCTION STRAINER	DPT	HFO	-0.1	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	
135	00HJF42CP001				HFO PUMP-B DP ACROSS SUCTION STRAINER	DPT	HFO	-0.1	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	
136	00HJF43CP001				HFO PUMP-C DP ACROSS SUCTION STRAINER	DPT	HFO	-0.1	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	
137	00HJF51CP001				DP ACROSS STRAINER	DPT	HFO	29.5	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	
138	00HJF52CP001				DP ACROSS STRAINER	DPT	HFO	29.5	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	
139	00HJF53CP001				DP ACROSS STRAINER	DPT	HFO	29.5	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	
140		10HAG15CP001	20HAG15CP001	30HAG15CP001	STARTUP SYS MIXING PIECE	DPT	WTR	337.7	kg/cm^2	0-1	kg/cm^2	PEM	
141		10HAG25CP001	20HAG25CP001	30HAG25CP001	BLR WTR CIRC PUMP	DPT	WTR	167.4	kg/cm^2	0-20	kg/cm^2	PEM	
142		10HAG25CP002	20HAG25CP002	30HAG25CP002	BLR WTR CIRC PUMP	DPT	WTR	167.4	kg/cm^2	0-20	kg/cm^2	PEM	
143		10HAG25CP003	20HAG25CP003	30HAG25CP003	BLR WTR CIRC PUMP	DPT	WTR	167.4	kg/cm^2	0-20	kg/cm^2	PEM	
144		10LAB40CP011	20LAB40CP011	30LAB40CP011	DP ACRSS FCS	DPT	WTR	349	kg/cm^2	0-25	kg/cm^2	PEM	
145		10LAB40CP012	20LAB40CP012	30LAB40CP012	DP ACRSS FCS	DPT	WTR	349	kg/cm^2	0-25	kg/cm^2	PEM	
146		10LS-MS-34	20LS-MS-34	30LS-MS-34	DP ACRS RH I/L & O/L -L	DPT	STEAM	68	kg/cm^2	0-3	kg/cm^2	PEM	
147		10LS-MS-37	20LS-MS-37	30LS-MS-37	DP ACRS RH I/L & O/L -R	DPT	STEAM	68	kg/cm^2	0-3	kg/cm^2	PEM	
148		10LS-MS-35	20LS-MS-35	30LS-MS-35	DP ACRS RH I/L & O/L -L	DPT	STEAM	68	kg/cm^2	0-3	kg/cm^2	PEM	
149		10LS-MS-38	20LS-MS-38	30LS-MS-38	DP ACRS RH I/L & O/L -R	DPT	STEAM	68	kg/cm^2	0-3	kg/cm^2	PEM	
150		10LS-MS-36	20LS-MS-36	30LS-MS-36	DP ACRS RH I/L & O/L -L	DPT	STEAM	68	kg/cm^2	0-3	kg/cm^2	PEM	
151		10LS-MS-39	20LS-MS-39	30LS-MS-39	DP ACRS RH I/L & O/L -R	DPT	STEAM	68	kg/cm^2	0-3	kg/cm^2	PEM	
152		10HFE03CP002	20HFE03CP002	30HFE03CP002	DP ACRS APH-A COLD TO HOT PA	DPT	PRIMARY AIR	1116 / 1068	mmWC	0-500	mmWC	PEM	
153		10HFE07CP002	20HFE07CP002	30HFE07CP002	DP ACRS APH-B COLD TO HOT PA	DPT	PRIMARY AIR	1116 / 1068	mmWC	0-500	mmWC	PEM	
154		10HFE10CP001	20HFE10CP001	30HFE10CP001	DP ACRS FURN TO HOT PA DUCT	DPT	FG/HOT PA	-5 / 1068	mmWC	0-2000	mmWC	PEM	
155		10HFE10CP002	20HFE10CP002	30HFE10CP002	DP ACRS FURN TO HOT PA DUCT	DPT	FG/HOT PA	-5 / 1068	mmWC	0-2000	mmWC	PEM	
156		10HFE10CP006	20HFE10CP006	30HFE10CP006	DP ACRS FURN TO HOT PA DUCT	DPT	FG/HOT PA	-5 / 1068	mmWC	0-2000	mmWC	PEM	
157		10HLA13CP001	20HLA13CP001	30HLA13CP001	DP ACRS APH-A COLD TO HOT SA	DPT	SECONDARY AIR	262 / 188	mmWC	0-300	mmWC	PEM	
158		10HLA23CP001	20HLA23CP001	30HLA23CP001	DP ACRS APH-B COLD TO HOT SA	DPT	SECONDARY AIR	262 / 188	mmWC	0-300	mmWC	PEM	
159		10HNA31CP002	20HNA31CP002	30HNA31CP002	DP ACRS APH-A I/L & O/L FG	DPT	FLUE GAS	-283 / -381	mmWC	0-500	mmWC	PEM	
160		10HNA41CP002	20HNA41CP002	30HNA41CP002	DP ACRS APH-B I/L & O/L FG	DPT	FLUE GAS	-283 / -381	mmWC	0-500	mmWC	PEM	
161		10HJF80CP002	20HJF80CP002	30HJF80CP002	DP ACRS LIGHT OIL SUPPLY STRNR	DPT	LDO	23	kg/cm^2	0-1	kg/cm^2	PEM	
162		10HJF50CP002	20HJF50CP002	30HJF50CP002	HEAVY OIL SUPPLY DIFF PRESS	DPT	HFO	21	kg/cm^2	0-1	kg/cm^2	PEM	
163		10HJF92CP001	20HJF92CP001	30HJF92CP001	DP ACROSS BF DO STRNR	DPT	OIL	0	kg/cm^2	0-1	kg/cm^2	PEM	
164		10HFE04CP001	20HFE04CP001	30HFE04CP001	DP ACRS DYANAVERN FILTER-A	DPT	SEAL AIR	449	mmWC	-50 - 50	mmWC	PEM	
165		10HFE08CP001	20HFE08CP001	30HFE08CP001	DP ACRS DYANAVERN FILTER-B	DPT	SEAL AIR	449	mmWC	-50 - 50	mmWC	PEM	
166		10HFE10CP003	20HFE10CP003	30HFE10CP003	FURN TO HOT PA DUCT	DPT	FLUE GAS/HOT PY. AIR	-5 / 1068	mmWC	0-2000	mmWC	EDN in Trichy	--
167		10HFE10CP004	20HFE10CP004	30HFE10CP004	FURN TO HOT PA DUCT	DPT	FLUE GAS/HOT PY. AIR	-5 / 1068	mmWC	0-2000	mmWC	EDN in Trichy	--
168		10HFE10CP005	20HFE10CP005	30HFE10CP005	FURN TO HOT PA DUCT	DPT	FLUE GAS/HOT PY. AIR	-5 / 1068	mmWC	0-2000	mmWC	EDN in Trichy	--
169		10HLA18CP001	20HLA18CP001	30HLA18CP001	FURN TO WINDBOX (LEFT SIDE)	DPT	FLUE GAS	-5/100	mmWC	0-200	mmWC	EDN in Trichy	--
170		10HLA28CP001	20HLA28CP001	30HLA28CP001	FURN TO WINDBOX (RIGHT SIDE)	DPT	FLUE GAS	-5/100	mmWC	0-200	mmWC	EDN in Trichy	--
171		10HHS10CP002	20HHS10CP002	30HHS10CP002	SCANNER COOLING AIR/FURN	DPT	SCA. AIR/FLUE GAS	-5 / 551	mmWC	0-800	mmWC	EDN in Trichy	--
172		10HHS10CP001	20HHS10CP001	30HHS10CP001	SCANNER COOLING AIR/FURN	DPT	SCA. AIR/FLUE GAS	-5 / 551	mmWC	0-800	mmWC	EDN in Trichy	--
173		10HFW10CP001	20HFW10CP001	30HFW10CP001	PULV SEAL AIR / COLD PRI AIR	DPT	SEAL AIR	1171 / 953	mmWC	0-600	mmWC	EDN in Trichy	--
174		10HFW10CP002	20HFW10CP002	30HFW10CP002	PULV SEAL AIR / COLD PRI AIR	DPT	SEAL AIR	1171 / 953	mmWC	0-600	mmWC	EDN in Trichy	--
175		10HLA30CP001	20HLA30CP001	30HLA30CP001	SCANNER AIR FILTER	DPT	SECONDARY AIR	301	mmWC	0-25	mmWC	EDN in Trichy	--

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
176		10HFW11CP001	20HFW11CP001	30HFW11CP001	PULV "A" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
177		10HFW11CP002	20HFW11CP002	30HFW11CP002	PULV "A" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
178		10HFW11CP003	20HFW11CP003	30HFW11CP003	PULV "A" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
179		10HFC10CP001	20HFC10CP001	30HFC10CP001	PULV "A" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
180		10HFC10CP002	20HFC10CP002	30HFC10CP002	PULV "A" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
181		10HFW21CP001	20HFW21CP001	30HFW21CP001	PULV "B" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
182		10HFW21CP002	20HFW21CP002	30HFW21CP002	PULV "B" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
183		10HFW21CP003	20HFW21CP003	30HFW21CP003	PULV "B" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
184		10HFC20CP001	20HFC20CP001	30HFC20CP001	PULV "B" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
185		10HFC20CP002	20HFC20CP002	30HFC20CP002	PULV "B" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
186		10HFW31CP001	20HFW31CP001	30HFW31CP001	PULV "C" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
187		10HFW31CP002	20HFW31CP002	30HFW31CP002	PULV "C" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
188		10HFW31CP003	20HFW31CP003	30HFW31CP003	PULV "C" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
189		10HFC30CP001	20HFC30CP001	30HFC30CP001	PULV "C" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
190		10HFC30CP002	20HFC30CP002	30HFC30CP002	PULV "C" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
191		10HFW41CP001	20HFW41CP001	30HFW41CP001	PULV "D" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
192		10HFW41CP002	20HFW41CP002	30HFW41CP002	PULV "D" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
193		10HFW41CP003	20HFW41CP003	30HFW41CP003	PULV "D" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
194		10HFC40CP001	20HFC40CP001	30HFC40CP001	PULV "D" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
195		10HFC40CP002	20HFC40CP002	30HFC40CP002	PULV "D" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
196		10HFW51CP001	20HFW51CP001	30HFW51CP001	PULV "E" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
197		10HFW51CP002	20HFW51CP002	30HFW51CP002	PULV "E" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
198		10HFW51CP003	20HFW51CP003	30HFW51CP003	PULV "E" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
199		10HFC50CP001	20HFC50CP001	30HFC50CP001	PULV "E" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
200		10HFC50CP002	20HFC50CP002	30HFC50CP002	PULV "E" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
201		10HFW61CP001	20HFW61CP001	30HFW61CP001	PULV "F" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
202		10HFW61CP002	20HFW61CP002	30HFW61CP002	PULV "F" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
203		10HFW61CP003	20HFW61CP003	30HFW61CP003	PULV "F" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
204		10HFC60CP001	20HFC60CP001	30HFC60CP001	PULV "F" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
205		10HFC60CP002	20HFC60CP002	30HFC60CP002	PULV "F" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
206		10HFW71CP001	20HFW71CP001	30HFW71CP001	PULV "G" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
207		10HFW71CP002	20HFW71CP002	30HFW71CP002	PULV "G" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
208		10HFW71CP003	20HFW71CP003	30HFW71CP003	PULV "G" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
209		10HFC70CP001	20HFC70CP001	30HFC70CP001	PULV "G" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
210		10HFC70CP002	20HFC70CP002	30HFC70CP002	PULV "G" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
211		10HFW81CP001	20HFW81CP001	30HFW81CP001	PULV "H" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
212		10HFW81CP002	20HFW81CP002	30HFW81CP002	PULV "H" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
213		10HFW81CP003	20HFW81CP003	30HFW81CP003	PULV "H" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
214		10HFC80CP001	20HFC80CP001	30HFC80CP001	PULV "H" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
215		10HFC80CP002	20HFC80CP002	30HFC80CP002	PULV "H" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
216		10HFW91CP001	20HFW91CP001	30HFW91CP001	PULV "J" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
217		10HFW91CP002	20HFW91CP002	30HFW91CP002	PULV "J" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
218		10HFW91CP003	20HFW91CP003	30HFW91CP003	PULV "J" SEAL AIR/UNDER BOWL	DPT	SEAL AIR	1171 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
219		10HFC90CP001	20HFC90CP001	30HFC90CP001	PULV "J" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
220		10HFC90CP002	20HFC90CP002	30HFC90CP002	PULV "J" BOWL	DPT	AIR + COAL	449 / 906	mmWC	0-800	mmWC	EDN in Trichy	--
221	00LCR40CP011				CST PUMPs DISCH HDR PRESS	PT	DM WTR	7	kg/cm^2	0-10	kg/cm^2	PEM	
222	00LCR40CP012				CST PUMPs DISCH HDR PRESS	PT	DM WTR	7	kg/cm^2	0-10	kg/cm^2	PEM	
223	00HJF10CP001				PRESSURE AT SUCTION STRAINER INLET	PT	LDO	0	kg/cm^2	-1 - 1	kg/cm^2	EDN in Trichy	--
224	00HJF11CP002				PRESSURE AT LDO PUMP-A INLET	PT	LDO	-0.35	kg/cm^2	-1 - 1	kg/cm^2	EDN in Trichy	--
225	00HJF12CP002				PRESSURE AT LDO PUMP-B INLET	PT	LDO	-0.35	kg/cm^2	-1 - 1	kg/cm^2	EDN in Trichy	--
226	00HJF13CP002				PRESSURE AT LDO PUMP-C INLET	PT	LDO	-0.35	kg/cm^2	-1 - 1	kg/cm^2	EDN in Trichy	--
227	00HJF20CP001				PRESSURE AT PUMP HOUSE DISCHARGE	PT	LDO	25	kg/cm^2	0-40	kg/cm^2	EDN in Trichy	--
228	00HJF20CP002				PRESSURE AT PUMP HOUSE DISCHARGE	PT	LDO	25	kg/cm^2	0-40	kg/cm^2	EDN in Trichy	--
229	00HJF40CP001				PRESSURE AT SUCTION STRAINER INLET	PT	HFO	0	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	--
230	00HJF40CP002				PRESSURE AT SUCTION STRAINER INLET	PT	HFO	0	kg/cm^2	0-1	kg/cm^2	EDN in Trichy	--
231	00HJF41CP002				PRESSURE AT HFO PUMP-A INLET	PT	HFO	-0.35	kg/cm^2	-0.5 - 0.5	kg/cm^2	EDN in Trichy	
232	00HJF42CP002				PRESSURE AT HFO PUMP-B INLET	PT	HFO	-0.35	kg/cm^2	-0.5 - 0.5	kg/cm^2	EDN in Trichy	
233	00HJF43CP002				PRESSURE AT HFO PUMP-C INLET	PT	HFO	-0.35	kg/cm^2	-0.5 - 0.5	kg/cm^2	EDN in Trichy	
234	00HJF50CP001				PRESSURE AT PUMP HOUSE DISCHARGE	PT	HFO	30	kg/cm^2	0-40	kg/cm^2	EDN in Trichy	
235	00HJF50CP002				PRESSURE AT PUMP HOUSE DISCHARGE	PT	HFO	30	kg/cm^2	0-40	kg/cm^2	EDN in Trichy	
236	00HJF60CP001				PRESSURE AT HFO HEATER SET DISCHARGE	PT	HFO	28	kg/cm^2	0-40	kg/cm^2	EDN in Trichy	
237	00HJF60CP002				PRESSURE AT HFO HEATER SET DISCHARGE	PT	HFO	28	kg/cm^2	0-40	kg/cm^2	EDN in Trichy	
238		10LBG70 CP001	20LBG70 CP001	30LBG70 CP001	AUX STM PRESS AT SCAPH I/L	PT	STEAM	16	kg/cm^2	0-25	kg/cm^2	PEM	
239		10QHX10 CP001	20QHX10 CP001	30QHX10 CP001	CW SUPPLY PRESS	PT	WTR	6	kg/cm^2	0-16	kg/cm^2	PEM	
240		10QHX20 CP001	20QHX20 CP001	30QHX20 CP001	ECW TNK FILL PMP DISCH PRESS	PT	DM WTR	8	kg/cm^2	0-16	kg/cm^2	PEM	
241		10QHX11 CP001	20QHX11 CP001	30QHX11 CP001	CW RET PRESS	PT	WTR	6	kg/cm^2	0-16	kg/cm^2	PEM	
242		10SGA11 CP001	20SGA11 CP001	30SGA11 CP001	PRESS AT AIR HTR WTR WASH LINE	PT	AIR	7	kg/cm^2	0-16	kg/cm^2	PEM	
243		10QFA10 CP101	20QFA10 CP101	30QFA10 CP101	IA HDR PRESS	PT	INSTRUMENT AIR	9	kg/cm^2	0-16	kg/cm^2	PEM	
244		10QFA10 CP102	20QFA10 CP102	30QFA10 CP102	IA HDR PRESS	PT	INSTRUMENT AIR	9	kg/cm^2	0-16	kg/cm^2	PEM	
245		10QFA10 CP103	20QFA10 CP103	30QFA10 CP103	IA HDR PRESS	PT	INSTRUMENT AIR	9	kg/cm^2	0-16	kg/cm^2	PEM	
246		10QFB10 CP001	20QFB10 CP001	30QFB10 CP001	SA PRESS AT T.P	PT	SERVICE AIR	8	kg/cm^2	0-16	kg/cm^2	PEM	
247		10LBG12CP001	20LBG12CP001	30LBG12CP001	AUX STM PRESS FOR MILLS (A-J) INERTING	PT	STEAM	16	kg/cm^2	0-25	kg/cm^2	PEM	
248		10SGA51 CP001	20SGA51 CP001	30SGA51 CP001	SER WTR FOR MILLS (A,B,C&D) FIRE FIGHTING	PT	WTR	7	kg/cm^2	0-16	kg/cm^2	PEM	
249		10SGA51 CP002	20SGA51 CP002	30SGA51 CP002	SER WTR FOR MILLS (E,F,G,H &J) FIRE FIGHTING	PT	WTR	7	kg/cm^2	0-16	kg/cm^2	PEM	
250		10LBA11CP011	20LBA11CP011	30LBA11CP011	FINAL SH OUTLET PRESSURE - LEFT	PT	STEAM	278	kg/cm^2	0-500	kg/cm^2	PEM	
251		10LBA11CP012	20LBA11CP012	30LBA11CP012	FINAL SH OUTLET PRESSURE - LEFT	PT	STEAM	278	kg/cm^2	0-500	kg/cm^2	PEM	
252		10LBA11CP013	20LBA11CP013	30LBA11CP013	FINAL SH OUTLET PRESSURE - LEFT	PT	STEAM	278	kg/cm^2	0-500	kg/cm^2	PEM	

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
253		10LBA12CP011	20LBA12CP011	30LBA12CP011	FINAL SH OUTLET PRESSURE - RIGHT	PT	STEAM	278	kg/cm^2	0-500	kg/cm^2	PEM	
254		10LBA12CP012	20LBA12CP012	30LBA12CP012	FINAL SH OUTLET PRESSURE - RIGHT	PT	STEAM	278	kg/cm^2	0-500	kg/cm^2	PEM	
255		10LBA12CP013	20LBA12CP013	30LBA12CP013	FINAL SH OUTLET PRESSURE - RIGHT	PT	STEAM	278	kg/cm^2	0-500	kg/cm^2	PEM	
256		10HAC10CP001	20HAC10CP001	30HAC10CP001	ECON I/L BOILER FW	PT	WTR	338.53	kg/cm^2	0-500	kg/cm^2	PEM	
257		10HAH01CP001	20HAH01CP001	30HAH01CP001	WTR SEPARATOR-A O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
258		10HAH01CP002	20HAH01CP002	30HAH01CP002	WTR SEPARATOR-A O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
259		10HAH02CP001	20HAH02CP001	30HAH02CP001	WTR SEPARATOR-B O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
260		10HAH02CP002	20HAH02CP002	30HAH02CP002	WTR SEPARATOR-B O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
261		10HAH03CP001	20HAH03CP001	30HAH03CP001	WTR SEPARATOR-C O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
262		10HAH03CP002	20HAH03CP002	30HAH03CP002	WTR SEPARATOR-C O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
263		10HAH04CP001	20HAH04CP001	30HAH04CP001	WTR SEPARATOR-D O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
264		10HAH04CP002	20HAH04CP002	30HAH04CP002	WTR SEPARATOR-D O/L	PT	STEAM	305	kg/cm^2	0-500	kg/cm^2	PEM	
265		10HAD81CP001	20HAD81CP001	30HAD81CP001	SEPARATOR STRG TANK-A	PT	WTR	305	kg/cm^2	0-500	kg/cm^2	PEM	
266		10HAD81CP002	20HAD81CP002	30HAD81CP002	SEPARATOR STRG TANK-A	PT	WTR	305	kg/cm^2	0-500	kg/cm^2	PEM	
267		10HAD82CP001	20HAD82CP001	30HAD82CP001	SEPARATOR STRG TANK-B	PT	WTR	305	kg/cm^2	0-500	kg/cm^2	PEM	
268		10HAD82CP002	20HAD82CP002	30HAD82CP002	SEPARATOR STRG TANK-B	PT	WTR	305	kg/cm^2	0-500	kg/cm^2	PEM	
269		10HAG15CP002	20HAG15CP002	30HAG15CP002	SEPA STRG TNK DRN	PT	WTR	326	kg/cm^2	0-500	kg/cm^2	PEM	
270		10HAH71CP001	20HAH71CP001	30HAH71CP001	SH / DSH STAGE-I-A O/L	PT	STEAM	295	kg/cm^2	0-500	kg/cm^2	PEM	
271		10HAH72CP001	20HAH72CP001	30HAH72CP001	SH / DSH STAGE-I-B O/L	PT	STEAM	295	kg/cm^2	0-500	kg/cm^2	PEM	
272		10HAH91CP001	20HAH91CP001	30HAH91CP001	SH / DSH STAGE-II-A O/L	PT	STEAM	286	kg/cm^2	0-500	kg/cm^2	PEM	
273		10HAH92CP001	20HAH92CP001	30HAH92CP001	SH / DSH STAGE-II-B O/L	PT	STEAM	286	kg/cm^2	0-500	kg/cm^2	PEM	
274		10HAJ21CP001	20HAJ21CP001	30HAJ21CP001	RH / DSH-A O/L	PT	STEAM	62	kg/cm^2	0-100	kg/cm^2	PEM	
275		10HAJ22CP001	20HAJ22CP001	30HAJ22CP001	RH / DSH-B O/L	PT	STEAM	62	kg/cm^2	0-100	kg/cm^2	PEM	
276		10LBG10CP011	20LBG10CP011	30LBG10CP011	MS PRESS TO APRDS	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
277		10LBG20CP011	20LBG20CP011	30LBG20CP011	CRH STM PRESS TO APRDS	PT	STEAM	66	kg/cm^2	0-100	kg/cm^2	PEM	
278		10LBG30CP011	20LBG30CP011	30LBG30CP011	AUX STM HDR PRESS	PT	STEAM	16	kg/cm^2	0-25	kg/cm^2	PEM	
279		10LBG30CP012	20LBG30CP012	30LBG30CP012	AUX STM HDR PRESS	PT	STEAM	16	kg/cm^2	0-25	kg/cm^2	PEM	
280		10LCA20CP011	20LCA20CP011	30LCA20CP011	CEP DISCH HDR PRESS	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
281		10LCA20CP012	20LCA20CP012	30LCA20CP012	CEP DISCH HDR PRESS	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
282		10LCA20CP013	20LCA20CP013	30LCA20CP013	CEP DISCH HDR PRESS	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
283		10LCA33CP011	20LCA33CP011	30LCA33CP011	VAC GLAND SEAL COND PRESS	PT	COND	30	kg/cm^2	0-50	kg/cm^2	PEM	
284		10LCA33CP012	20LCA33CP012	30LCA33CP012	VAC GLAND SEAL COND PRESS	PT	COND	30	kg/cm^2	0-50	kg/cm^2	PEM	
285		10LCA62CP012	20LCA62CP012	30LCA62CP012	COND PRESS AT LPH-1 I/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
286		10LCA62CP013	20LCA62CP013	30LCA62CP013	COND PRESS AT LPH-1 O/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
287		10LCA72CP011	20LCA72CP011	30LCA72CP011	COND PRESS AT LPH-2 O/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
288		10LCA82CP011	20LCA82CP011	30LCA82CP011	COND PRESS AT LPH-3 O/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
289		10LCA90CP012	20LCA90CP012	30LCA90CP012	COND PRESS AT DEA I/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
290		10LCA90CP011	20LCA90CP011	30LCA90CP011	COND PRESS AT LPH-5 O/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
291		10LCA92CP011	20LCA92CP011	30LCA92CP011	COND PRESS AT LPH-4 O/L	PT	COND	31	kg/cm^2	0-50	kg/cm^2	PEM	
292		10LCJ30CP011	20LCJ30CP011	30LCJ30CP011	DRIP PMP DISCH HDR PRESS	PT	COND	22	kg/cm^2	0-30	kg/cm^2	PEM	
293		10LBQ62CP001	20LBQ62CP001	30LBQ62CP001	CRH STM TO BFPT A/B PRESS	PT	STEAM	12	kg/cm^2	0-25	kg/cm^2	PEM	
294		10LBQ62CP002	20LBQ62CP002	30LBQ62CP002	CRH STM TO BFPT A/B PRESS	PT	STEAM	12	kg/cm^2	0-25	kg/cm^2	PEM	
295		10LAA01CP011	20LAA01CP011	30LAA01CP011	DEA PRESS	PT	STEAM	13	kg/cm^2	0-16	kg/cm^2	PEM	
296		10LAA01CP012	20LAA01CP012	30LAA01CP012	DEA PRESS	PT	STEAM	13	kg/cm^2	0-16	kg/cm^2	PEM	
297		10LBQ10CP011	20LBQ10CP011	30LBQ10CP011	CRH STM PRESS TO D/A PEGG	PT	STEAM	38	kg/cm^2	0-60	kg/cm^2	PEM	

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
298		10LBQ71CP011	20LBQ71CP011	30LBQ71CP011	EXT PRESS FRM IPT TO HPH-7A DES HTR	PT	STEAM	26	kg/cm^2	0-40	kg/cm^2	PEM	
299		10LBQ72CP011	20LBQ72CP011	30LBQ72CP011	EXT PRESS FRM IPT TO HPH-7B DES HTR	PT	STEAM	26	kg/cm^2	0-40	kg/cm^2	PEM	
300		10LBQ91CP011	20LBQ91CP011	30LBQ91CP011	EXT STM PRESS AT HPH-9A I/L	PT	STEAM	79	kg/cm^2	0-100	kg/cm^2	PEM	
301		10LBQ92CP011	20LBQ92CP011	30LBQ92CP011	EXT STM PRESS AT HPH-9B I/L	PT	STEAM	79	kg/cm^2	0-100	kg/cm^2	PEM	
302		10LBQ81CP011	20LBQ81CP011	30LBQ81CP011	EXT STM PRESS AT HPH-8A I/L	PT	STEAM	65	kg/cm^2	0-100	kg/cm^2	PEM	
303		10LBQ82CP011	20LBQ82CP011	30LBQ82CP011	EXT STM PRESS AT HPH-8B I/L	PT	STEAM	65	kg/cm^2	0-100	kg/cm^2	PEM	
304		10LBS10CP001	20LBS10CP001	30LBS10CP001	EXT STM PRESS TO LPH-1	PT	STEAM	3.0/VAC	kg/cm^2	0-1	kg/cm^2	PEM	
305		10LBS21CP011	20LBS21CP011	30LBS21CP011	EXT STM PRESS AT LPH-2 I/L	PT	STEAM	1	kg/cm^2	0-4	kg/cm^2	PEM	
306		10LBS31CP011	20LBS31CP011	30LBS31CP011	EXT STM PRESS AT LPH-3 I/L	PT	STEAM	3	kg/cm^2	0-4	kg/cm^2	PEM	
307		10LBS41CP011	20LBS41CP011	30LBS41CP011	EXT STM PRESS AT LPH-4 I/L	PT	STEAM	4	kg/cm^2	0-10	kg/cm^2	PEM	
308		10LBS51CP011	20LBS51CP011	30LBS51CP011	EXT STM PRESS AT LPH-5 I/L	PT	STEAM	7	kg/cm^2	0-10	kg/cm^2	PEM	
309		10LBQ60CP001	20LBQ60CP001	30LBQ60CP001	EXT STM PRESS TO DEA (U/S OF NRV)	PT	STEAM	13	kg/cm^2	0-20	kg/cm^2	PEM	
310		10LBS61CP011	20LBS61CP011	30LBS61CP011	EXT STM PRESS TO DEA	PT	STEAM	13	kg/cm^2	0-20	kg/cm^2	PEM	
311		10LBQ74CP011	20LBQ74CP011	30LBQ74CP011	EXT STM PRESS AT HPH-7B I/L	PT	STEAM	26	kg/cm^2	0-40	kg/cm^2	PEM	
312		10LBQ73CP011	20LBQ73CP011	30LBQ73CP011	EXT STM PRESS AT HPH-7A I/L	PT	STEAM	26	kg/cm^2	0-40	kg/cm^2	PEM	
313		10LAB10CP011	20LAB10CP011	30LAB10CP011	TDBFP-A BP SUC PRESS	PT	WTR	13	kg/cm^2	0-25	kg/cm^2	PEM	
314		10LAB20CP011	20LAB20CP011	30LAB20CP011	TDBFP BP-B SUC PRESS	PT	WTR	13	kg/cm^2	0-25	kg/cm^2	PEM	
315		10LAB24CP101	20LAB24CP101	30LAB24CP101	BFP INT STG TO RH SPRY PRESS	PT	WTR	195	kg/cm^2	0-250	kg/cm^2	PEM	
316		10LAB30CP011	20LAB30CP011	30LAB30CP011	MDBFP BP-C SUC PRESS	PT	WTR	13	kg/cm^2	0-25	kg/cm^2	PEM	
317		10LAB40CP014	20LAB40CP014	30LAB40CP014	BFP DISCH HDR PRESS	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
318		10LAB40CP015	20LAB40CP015	30LAB40CP015	BFP DISCH HDR PRESS	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
319		10LAB41CP011	20LAB41CP011	30LAB41CP011	FW PRESS AT HPH-7A I/L	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
320		10LAB42CP011	20LAB42CP011	30LAB42CP011	FW PRESS AT HPH-8A I/L	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
321		10LAB43CP011	20LAB43CP011	30LAB43CP011	FW PRESS AT HPH-9A I/L	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
322		10LAB44CP011	20LAB44CP011	30LAB44CP011	FW PRESS BEF HPH-7A DES HTR	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
323		10LAB45CP011	20LAB45CP011	30LAB45CP011	FW PRESS AFT HPH-7A DES HTR	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
324		10LAB46CP011	20LAB46CP011	30LAB46CP011	FW PRESS AT HPH-7B I/L	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
325		10LAB47CP011	20LAB47CP011	30LAB47CP011	FW PRESS AT HPH-8B I/L	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
326		10LAB48CP011	20LAB48CP011	30LAB48CP011	FW PRESS AT HPH-9B I/L	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
327		10LAB49CP011	20LAB49CP011	30LAB49CP011	FW PRESS BEF HPH-7B DES HTR	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
328		10LAB50CP011	20LAB50CP011	30LAB50CP011	FW PRESS AFT HPH-7B DES HTR	PT	WTR	349	kg/cm^2	0-500	kg/cm^2	PEM	
329		10LS-HP-02	20LS-HP-02	30LS-HP-02	MS TO HPBP-1 PRESS BEF FE	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
330		10LS-HP-01	20LS-HP-01	30LS-HP-01	MS TO HPBP-2 PRESS BEF FE	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
331		10QFA10CP011	20QFA10CP012	30QFA10CP013	IA HDR PRESS	PT	INSTRUMENT AIR	8	kg/cm^2	0-16	kg/cm^2	PEM	
332		10LBA10CP011	20LBA10CP011	30LBA10CP011	MS HDR PRESS (HPBP PRESS CTRL)	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
333		10LBA10CP012	20LBA10CP012	30LBA10CP012	MS HDR PRESS (HPBP PRESS CTRL)	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
334		10LBA10CP013	20LBA10CP013	30LBA10CP013	MS HDR PRESS (HPBP PRESS CTRL)	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
335		10LBA10CP014	20LBA10CP014	30LBA10CP014	MS HDR PRESS (BOP READY - COMBUSION CTRL)	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
336		10LBA10CP015	20LBA10CP015	30LBA10CP015	MS HDR PRESS (BOP READY - COMBUSION CTRL)	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
337		10LBA10CP016	20LBA10CP016	30LBA10CP016	MS HDR PRESS (BOP READY - COMBUSION CTRL)	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
338		10LBB01CP011	20LBB01CP011	30LBB01CP011	HRH STM PRESS AT RH O/L - L	PT	STEAM	63	kg/cm^2	0-100	kg/cm^2	PEM	
339		10LBB02CP011	20LBB02CP011	30LBB02CP011	HRH STM PRESS AT RH O/L - R	PT	STEAM	63	kg/cm^2	0-100	kg/cm^2	PEM	
340		10LBC01CP011	20LBC01CP011	30LBC01CP011	CRH STM PRESS AT RH I/L-L	PT	STEAM	66	kg/cm^2	0-100	kg/cm^2	PEM	
341		10LBC02CP011	20LBC02CP011	30LBC02CP011	CRH STM PRESS AT RH I/L-R	PT	STEAM	66	kg/cm^2	0-100	kg/cm^2	PEM	
342		10LBB21CP011	20LBB21CP011	30LBB21CP011	HRH EQUALISING LINE PRESS	PT	STEAM	61	kg/cm^2	0-100	kg/cm^2	PEM	

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
343		10LBC10CP011	20LBC10CP011	30LBC10CP011	CRH STM HDR PRESS AFT NRV	PT	STEAM	66	kg/cm^2	0-100	kg/cm^2	PEM	
344		10MAA50CP003	20MAA50CP003	30MAA50CP003	1ST STG TURBINE PRESS	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
345		10MAA50CP004	20MAA50CP004	30MAA50CP004	1ST STG TURBINE PRESS	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
346		10MAA50CP005	20MAA50CP005	30MAA50CP005	1ST STG TURBINE PRESS	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
347		10LS-MS-05	20LS-MS-05	30LS-MS-05	MS PRESS AT SH O/L-R	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
348		10LS-MS-32	20LS-MS-32	30LS-MS-32	HPT O/L PRESS-R	PT	STEAM	298	kg/cm^2	0-350	kg/cm^2	PEM	
349		10LS-MS-06	20LS-MS-06	30LS-MS-06	MS PRESS AT SH O/L-R	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
350		10LS-MS-07	20LS-MS-07	30LS-MS-07	MS PRESS AT SH O/L-R	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
351		10LBA12CP013	20LBA12CP013	30LBA12CP013	MS PRESS AT SH O/L-L	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
352		10LBA12CP012	20LBA12CP012	30LBA12CP012	MS PRESS AT SH O/L-L	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
353		10LBA12CP011	20LBA12CP011	30LBA12CP011	MS PRESS AT SH O/L-L	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
354		10LBA11CP013	20LBA11CP013	30LBA11CP013	MS PRESS AT SH O/L-R	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
355		10LBA11CP012	20LBA11CP012	30LBA11CP012	MS PRESS AT SH O/L-R	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
356		10LBA11CP011	20LBA11CP011	30LBA11CP011	MS PRESS AT SH O/L-R	PT	STEAM	270	kg/cm^2	0-350	kg/cm^2	PEM	
357		10QFB10CP011	20QFB10CP012	30QFB10CP013	SA HDR PRESS	PT	SERVICE AIR	8	kg/cm^2	0-16	kg/cm^2	PEM	
358		10HFE01CP003	20HFE01CP003	30HFE01CP003	PA FAN-A I/L AIR PRESS	PT	PRIMARY AIR	-14	mmWC	-60-0	mmWC	PEM	
359		10HFE05CP003	20HFE05CP003	30HFE05CP003	PA FAN-B I/L AIR PRESS	PT	PRIMARY AIR	-14	mmWC	-60-0	mmWC	PEM	
360		10HFE01CP001	20HFE01CP001	30HFE01CP001	PA FAN-A O/L AIR PRESS	PT	PRIMARY AIR	1138	mmWC	0-1800	mmWC	PEM	
361		10HFE05CP001	20HFE05CP001	30HFE05CP001	PA FAN-B O/L AIR PRESS	PT	PRIMARY AIR	1138	mmWC	0-1800	mmWC	PEM	
362		10HFE03CP001	20HFE03CP001	30HFE03CP001	APH-A I/L COLD PA PRESS	PT	PRIMARY AIR	1116	mmWC	0-1800	mmWC	PEM	
363		10HFE07CP001	20HFE07CP001	30HFE07CP001	APH-B I/L COLD PA PRESS	PT	PRIMARY AIR	1116	mmWC	0-1800	mmWC	PEM	
364		10HFE04CP002	20HFE04CP002	30HFE04CP002	APH-A HOT PA PRESS	PT	PRIMARY AIR	1068	mmWC	0-1500	mmWC	PEM	
365		10HFE08CP002	20HFE08CP002	30HFE08CP002	APH-B HOT PA PRESS	PT	PRIMARY AIR	1068	mmWC	0-1500	mmWC	PEM	
366		10HLA11CP001	20HLA11CP001	30HLA11CP001	FD FAN-A I/L AIR PRESS	PT	SECONDARY AIR	-13	mmWC	-60-0	mmWC	PEM	
367		10HLA21CP001	20HLA21CP001	30HLA21CP001	FD FAN-B I/L AIR PRESS	PT	SECONDARY AIR	-13	mmWC	-60-0	mmWC	PEM	
368		10HLA12CP001	20HLA12CP001	30HLA12CP001	FD FAN-A O/L AIR PRESS	PT	SECONDARY AIR	285	mmWC	0-600	mmWC	PEM	
369		10HLA22CP001	20HLA22CP001	30HLA22CP001	FD FAN-B O/L AIR PRESS	PT	SECONDARY AIR	285	mmWC	0-600	mmWC	PEM	
370		10HLA13CP005	20HLA13CP005	30HLA13CP005	APH-A I/L COLD SA PRESS	PT	SECONDARY AIR	262	mmWC	0-600	mmWC	PEM	
371		10HLA23CP005	20HLA23CP005	30HLA23CP005	APH-B I/L COLD SA PRESS	PT	SECONDARY AIR	262	mmWC	0-600	mmWC	PEM	
372		10HLA14CP003	20HLA14CP003	30HLA14CP003	APH-A O/L HOT SA PRESS	PT	SECONDARY AIR	188	mmWC	0-500	mmWC	PEM	
373		10HLA24CP003	20HLA24CP003	30HLA24CP003	APH-B O/L HOT SA PRESS	PT	SECONDARY AIR	188	mmWC	0-500	mmWC	PEM	
374		10HLA20CP001	20HLA20CP001	30HLA20CP001	HOT SA CROSSOVER DUCT PRESS	PT	SECONDARY AIR	188	mmWC	0-500	mmWC	PEM	
375		10HBK10CP002	20HBK10CP002	30HBK10CP002	FURNACE PRESS	PT	FLUE GAS	-5	mmWC	-250-250	mmWC	PEM	
376		10HBK10CP004	20HBK10CP004	30HBK10CP004	FURNACE PRESS	PT	FLUE GAS	-5	mmWC	-250-250	mmWC	PEM	
377		10HBK30CP002	20HBK30CP002	30HBK30CP002	FURNACE PRESS	PT	FLUE GAS	-5	mmWC	-250-250	mmWC	PEM	
378		10HBK30CP003	20HBK30CP003	30HBK30CP003	FURNACE PRESS	PT	FLUE GAS	-5	mmWC	-250-250	mmWC	PEM	
379		10HBK30CP004	20HBK30CP004	30HBK30CP004	FURNACE PRESS	PT	FLUE GAS	-5	mmWC	-250-250	mmWC	PEM	
380		10HLA18CP002	20HLA18CP002	30HLA18CP002	WINDBOX PRESS (LEFT SIDE)	PT	SECONDARY AIR	100	mmWC	0-200	mmWC	PEM	
381		10HLA28CP002	20HLA28CP002	30HLA28CP002	WINDBOX PRESS (RIGHT SIDE)	PT	SECONDARY AIR	100	mmWC	0-200	mmWC	PEM	
382		10HBK10CP005	20HBK10CP005	30HBK10CP005	BEF RER PLTN SH FG PRESS	PT	FLUE GAS	-5	mmWC	-100-100	mmWC	PEM	
383		10HBK30CP005	20HBK30CP005	30HBK30CP005	BEF RER PLTN SH FG PRESS	PT	FLUE GAS	-5	mmWC	-100-100	mmWC	PEM	
384		10HBK10CP006	20HBK10CP006	30HBK10CP006	FINISH RH GAS I/L PRESS	PT	FLUE GAS	-7	mmWC	-100-100	mmWC	PEM	
385		10HBK30CP006	20HBK30CP006	30HBK30CP006	FINISH RH GAS I/L PRESS	PT	FLUE GAS	-7	mmWC	-100-100	mmWC	PEM	
386		10HBK10CP007	20HBK10CP007	30HBK10CP007	FINISH SH I/L FG PRESS	PT	FLUE GAS	-9	mmWC	-100-100	mmWC	PEM	
387		10HBK30CP007	20HBK30CP007	30HBK30CP007	FINISH SH I/L FG PRESS	PT	FLUE GAS	-9	mmWC	-100-100	mmWC	PEM	

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
388		10HBK10CP008	20HBK10CP008	30HBK10CP008	LTRH I/L FG PRESS	PT	FLUE GAS	-22	mmWC	-150-100	mmWC	PEM	
389		10HBK30CP008	20HBK30CP008	30HBK30CP008	LTRH I/L FG PRESS	PT	FLUE GAS	-22	mmWC	-100-100	mmWC	PEM	
390		10HBK10CP009	20HBK10CP009	30HBK10CP009	ECON I/L FG PRESS	PT	FLUE GAS	-55	mmWC	-150-100	mmWC	PEM	
391		10HBK30CP009	20HBK30CP009	30HBK30CP009	ECON I/L FG PRESS	PT	FLUE GAS	-55	mmWC	-150-100	mmWC	PEM	
392		10HBK10CP010	20HBK10CP010	30HBK10CP010	ECON INTERMEDIATE BANK FLUE GAS	PT	FLUE GAS	-105	mmWC	-200-100	mmWC	PEM	
393		10HBK30CP010	20HBK30CP010	30HBK30CP010	ECON INTERMEDIATE BANK FLUE GAS	PT	FLUE GAS	-105	mmWC	-200-100	mmWC	PEM	
394		10HBK10CP011	20HBK10CP011	30HBK10CP011	ECON O/L FG PRESS	PT	FLUE GAS	-105	mmWC	-200-100	mmWC	PEM	
395		10HBK30CP011	20HBK30CP011	30HBK30CP011	ECON O/L FG PRESS	PT	FLUE GAS	-105	mmWC	-200-100	mmWC	PEM	
396		10HNA31CP001	20HNA31CP001	30HNA31CP001	APH-A FG I/L PRESS	PT	FLUE GAS	-283	mmWC	-900-0	mmWC	PEM	
397		10HNA41CP001	20HNA41CP001	30HNA41CP001	APH-B FG I/L PRESS	PT	FLUE GAS	-283	mmWC	-900-0	mmWC	PEM	
398		10HNA32CP001	20HNA32CP001	30HNA32CP001	APH-A FG O/L PRESS	PT	FLUE GAS	-381	mmWC	-900-0	mmWC	PEM	
399		10HNA42CP001	20HNA42CP001	30HNA42CP001	APH-B FG O/L PRESS	PT	FLUE GAS	-381	mmWC	-900-0	mmWC	PEM	
400		10HNC11CP001	20HNC11CP001	30HNC11CP001	ID FAN-A COLD FG I/L PRESS	PT	FLUE GAS	-489	mmWC	-900-0	mmWC	PEM	
401		10HNC21CP001	20HNC21CP001	30HNC21CP001	ID FAN-B COLD FG I/L PRESS	PT	FLUE GAS	-489	mmWC	-900-0	mmWC	PEM	
402		10HNC12CP001	20HNC12CP001	30HNC12CP001	ID FAN-A COLD FG O/L PRESS	PT	FLUE GAS	216	mmWC	0-300	mmWC	PEM	
403		10HNC22CP001	20HNC22CP001	30HNC22CP001	ID FAN-B COLD FG O/L PRESS	PT	FLUE GAS	216	mmWC	0-300	mmWC	PEM	
404		10HJF80CP003	20HJF80CP003	30HJF80CP003	LDO HDR SUPPLY PRESS	PT	LDO	16	kg/cm^2	0-30	kg/cm^2	PEM	
405		10HJF80CP004	20HJF80CP004	30HJF80CP004	LDO HDR SUPPLY PRESS	PT	LDO	16	kg/cm^2	0-30	kg/cm^2	PEM	
406		10HJF50CP006	20HJF50CP006	30HJF50CP006	HEAVY OIL SUPPLY PRESS	PT	HFO	14	kg/cm^2	0-20	kg/cm^2	PEM	
407		10HJF50CP007	20HJF50CP007	30HJF50CP007	HEAVY OIL SUPPLY PRESS	PT	HFO	14	kg/cm^2	0-20	kg/cm^2	PEM	
408		10HJM20CP001	20HJM20CP001	30HJM20CP001	ATOM. STEAM HDR PRESS	PT	STEAM	8	kg/cm^2	0-20	kg/cm^2	PEM	
409		10HJM20CP002	20HJM20CP002	30HJM20CP002	ATOM. STEAM HDR PRESS	PT	STEAM	8	kg/cm^2	0-20	kg/cm^2	PEM	
410		10HFE15CP001	20HFE15CP001	30HFE15CP001	COLD PA TO PULV PRESS	PT	PRIMARY AIR	1116	mmWC	0-1800	mmWC	PEM	
411		10HFE17CP001	20HFE17CP001	30HFE17CP001	MILL-A PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
412		10HFE27CP001	20HFE27CP001	30HFE27CP001	MILL-B PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
413		10HFE37CP001	20HFE37CP001	30HFE37CP001	MILL-C PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
414		10HFE47CP001	20HFE47CP001	30HFE47CP001	MILL-D PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
415		10HFE57CP001	20HFE57CP001	30HFE57CP001	MILL-E PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
416		10HFE67CP001	20HFE67CP001	30HFE67CP001	MILL-F PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
417		10HFE77CP001	20HFE77CP001	30HFE77CP001	MILL-G PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
418		10HFE87CP001	20HFE87CP001	30HFE87CP001	MILL-H PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
419		10HFE97CP001	20HFE97CP001	30HFE97CP001	MILL-J PA I/L PRESS	PT	HOT PRIMARY AIR	906	mmWC	0-1500	mmWC	PEM	
420		10HBK10CP001	20HBK10CP001	30HBK10CP001	FURNACE	PT	FLUE GAS	-5	mmWC	-250 - 250	mmWC	EDN in Trichy	--
421		10HBK10CP003	20HBK10CP003	30HBK10CP003	FURNACE	PT	FLUE GAS	-5	mmWC	-250 - 250	mmWC	EDN in Trichy	--
422		10HBK30CP001	20HBK30CP001	30HBK30CP001	FURNACE	PT	FLUE GAS	-5	mmWC	-250 - 250	mmWC	EDN in Trichy	--
423		10HFW10CP003	20HFW10CP003	30HFW10CP003	PULV SEAL AIR DISCHARGE	PT	SEAL AIR	1171	mmWC	0-1800	mmWC	EDN in Trichy	--
424		10HHS01CP001	20HHS01CP001	30HHS01CP001	SCANNER AIR FAN OUTLET PRESS	PT	SCA. AIR/FLUE GAS	551	mmWC	0-1000	mmWC	EDN in Trichy	--
425		10HCB01CP001	20HCB01CP001	30HCB01CP001	SB STM (AFTER PRV)	PT	STEAM	30	kg/cm^2	0-60	kg/cm^2	EDN in Trichy	--
426		10HCB01CP002	20HCB01CP002	30HCB01CP002	SB STM (AFTER PRV)	PT	STEAM	30	kg/cm^2	0-60	kg/cm^2	EDN in Trichy	--
427		10HCB03CP001	20HCB03CP001	30HCB03CP001	APH "A" SB STM (COLD END)	PT	STEAM	30	kg/cm^2	0-60	kg/cm^2	EDN in Trichy	--
428		10HCB03CP002	20HCB03CP002	30HCB03CP002	APH "A" SB STM (HOT END)	PT	STEAM	30	kg/cm^2	0-60	kg/cm^2	EDN in Trichy	--
429		10HCB03CP003	20HCB03CP003	30HCB03CP003	APH "B" SB STM (COLD END)	PT	STEAM	30	kg/cm^2	0-60	kg/cm^2	EDN in Trichy	--
430		10HCB03CP004	20HCB03CP004	30HCB03CP004	APH "B" SB STM (HOT END)	PT	STEAM	30	kg/cm^2	0-60	kg/cm^2	EDN in Trichy	--
431		10HJF80CP001	20HJF80CP001	30HJF80CP001	LIGHT OIL SUPPLY PRESS	PT	LDO	22.5	kg/cm^2	0-25	kg/cm^2	EDN in Trichy	--

SL NO	COMMON TAG	UNIT-1 TAG	UNIT-2TAG	UNIT-3TAG	DESCRIPTION	SNSR TYPE	MEDIUM	OPRTG PRESS	UNIT OF PRESS	RANGE	RANGE UNIT	SCOPE	INST REMARKS
432		10HJF80CP005	20HJF80CP005	30HJF80CP005	LIGHT OIL HDR SUPPLY PRESS	PT	LDO	16.1	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
433		10HJF80CP006	20HJF80CP006	30HJF80CP006	LIGHT OIL HDR SUPPLY PRESS	PT	LDO	16.1	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
434		10HJF80CP007	20HJF80CP007	30HJF80CP007	LIGHT OIL HDR SUPPLY PRESS	PT	LDO	16.1	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
435		10HJN10CP001	20HJN10CP001	30HJN10CP001	ATOM AIR HDR	PT	ATOM. AIR	6	kg/cm ²	0-10	kg/cm ²	EDN in Trichy	--
436		10HJN10CP002	20HJN10CP002	30HJN10CP002	ATOM AIR HDR	PT	ATOM. AIR	6	kg/cm ²	0-10	kg/cm ²	EDN in Trichy	--
437		10HJN10CP003	20HJN10CP003	30HJN10CP003	ATOM AIR HDR	PT	ATOM. AIR	6	kg/cm ²	0-10	kg/cm ²	EDN in Trichy	--
438		10HJF50CP001	20HJF50CP001	30HJF50CP001	HEAVY OIL SUPPLY PRESS	PT	HFO	21.0	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
439		10HJF50CP003	20HJF50CP003	30HJF50CP003	HEAVY OIL SUPPLY HEADER PRESS	PT	HFO	14.0	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
440		10HJF50CP004	20HJF50CP004	30HJF50CP004	HEAVY OIL SUPPLY HEADER PRESS	PT	HFO	14.0	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
441		10HJF50CP005	20HJF50CP005	30HJF50CP005	HEAVY OIL SUPPLY HEADER PRESS	PT	HFO	14.0	kg/cm ²	0-30	kg/cm ²	EDN in Trichy	--
442		10HJM20CP003	20HJM20CP003	30HJM20CP003	ATOM. STEAM HDR PRESS	PT	STEAM	7.5	kg/cm ²	0-20	kg/cm ²	EDN in Trichy	--
443		10HJM20CP004	20HJM20CP004	30HJM20CP004	ATOM. STEAM HDR PRESS	PT	STEAM	7.5	kg/cm ²	0-20	kg/cm ²	EDN in Trichy	--
444		10HJM20CP005	20HJM20CP005	30HJM20CP005	ATOM. STEAM HDR PRESS	PT	STEAM	7.5	kg/cm ²	0-20	kg/cm ²	EDN in Trichy	--



A4-10

CE / PATRATU 3X800MW /416 / ETxR / QP

REV 00

PAGE 01 OF 03

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REFERENCE QUALITY PLAN FOR ELECTRONIC TRANSMITTERS

REVISION : 00

APPROVED
&
VERIFIED

SAILENDRA KUMAR KISAN

PREPARED


Sandeep


ISSUED

416

DATE

12/08/2022

		Manufacturer's Name & Address:-		MANUFACTURING QUALITY PLAN				Project:						
				ITEM				DOC NO:						
				Confirming to code: BS 6447 & IEC 60770				Customer: Consultant: End User :						
Sl.No	Components & Operations	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Record		Agency			Remarks
					M	C/N				D*	M	C	N	
1	2	3	4	5	6a	6b	7	8	9		10			11
1.00	Raw Materials													
1.01	Raw Materials & Components (Diaphragm, Sensing, Material, Housing, Electronic & other components)	a) Material properties, Size, Rating, Make, Type/Model No.	Major	Internal Test/ Checks	As per Manufacturer's Standard	-	Purchase Order Specification / Manufacturers Catalogues / Mfr Drawing	Purchase Order Specification / Manufacturers Catalogues / Mfr Drawing	Internal Records	-	P	-	-	
2.00	In Process Inspection													
2.01	Assembly & Fitting	a) Soundness of Fitting, Connections & Terminals Marking	Major	Verification	100%	-	Purchase Order Specification / Manufacturers Catalogues / Drawing	Purchase Order Specification / Manufacturers Catalogues / Drawing	Internal Records	-	P	-	-	
		b) Insulation Resistance & Dielectric strength	Major	Measurement / Visual	100%	-	-	"	-	-	P	-	-	
3.00	Final Inspection													
3.01	Routine Test	a) Dimensional details & Visual checking (Size, Rating, Make, Type/ Model No., Serial No./ Tag)	Major	Measurement / Visual	100%	10%	Purchase Order Specification / Approved Drawing / Approved Datasheet	Purchase Order Specification / Approved Drawing / Approved Datasheet	TC	✓	P	V	V	
		b) Process connection / Electric Connection	Major	Measurement / Visual	100%	10%	"	"	"	✓	P	V	V	
		c) Accuracy, repeatability, hydro test, leak test, Calibration & Over range test	Major	Measurement	100%	10%	Purchase Order Specification / Approved Drawing / Approved Datasheet / Mfrs Catalogues / BS 6447 / IEC-60770	Purchase Order Specification / Approved Drawing / Approved Datasheet / Mfrs Catalogues / BS 6447 / IEC-60770	"	✓	P	V	V	Communication for HART Protocol shall be checked during Calibration
4.00	Packing & Dispatch	d) Effect of output load	Major	Measurement	One of Each Type	One of Each Type	Purchase Order Specification / Approved Drawing / Approved Datasheet / Mfrs Catalogues / BS 6447 / IEC-60770	Purchase Order Specification / Approved Drawing / Approved Datasheet / Mfrs Catalogues / BS 6447 / IEC-60770	TC	✓	P	V	V	

		Manufacturer's Name & Address:-		MANUFACTURING QUALITY PLAN			Project:							
				ITEM			DOC NO:							
				Confirming to code: BS 6447 & IEC 60770			Customer: Consultant: End User :							
Sl.No	Components & Operations	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Record		Agency			Remarks
					M	C/N				D*	M	C	N	
1	2	3	4	5	6a	6b	7	8	9		10	11		
		a) Completeness of TC's, COC's, Inspection Reports.	Major	Verification	100%	100%	Ord Specn & QP	Ord Specn & QP	Documents	-	P	V	V	
		b) Identification Marking / Tagging of each instrument	Major	Verification	100%	100%	Ord Specn	Ord Specn	Internal Records	-	P	V	-	
		c) Soundness of Packing against Transit Damage	Major	Verification	100%	-	Ord Specn	Ord Specn	Internal Records	-	P	-	-	
Note :		1) Manufacturer to maintain calibrated instrument having better accuracy than the item under the test. Inspection Engineer shall check the same.												
		2) Since the transmitter are imported, calibration test reports/certificates and COC will be provided for review and dispatch clearance												
Manufacturer/ Sub contractor:		Contractor: M/s. BHEL-EDN,		LEGEND: * Records identified ✓ with shall be essentially included by the contractor in QA documentation. M: Manufacturer / Sub contractor, C: Contractor /Nominated inspection agency, N: Customer Indicate " P " - Perform, " W " - Witness & " V " - Verification				For Customer use:-						
		Signature & Date						Reviewed By						
								Name & Sign of approving authority & Seal						

i.	Item/Scope of Sub-contracting उप-संविदा(अनुबंध) का मद/ दायरा	
ii.	Address of the registered office पंजीकृत कार्यालय का पता	Details of Contact Person संपर्क व्यक्ति का विवरण (Name, Designation, Mobile, Email) (नाम, पदनाम, मोबाइल, ईमेल)
iii.	Name and Address of the proposed Sub-vendor's works where item is being manufactured प्रस्तावित उप-विक्रेता के कार्यों का नाम और पता, जहां मद का निर्माण किया जा रहा है	Details of Contact Person: संपर्क व्यक्ति का विवरण (Name, Designation, Mobile, Email) (नाम, पदनाम, मोबाइल, ईमेल)
iv.	Annual Production Capacity for proposed item/scope of sub-contracting उप-संविदा(अनुबंध) के प्रस्तावित मद / दायरे के लिए वार्षिक उत्पादन क्षमता	
v.	Annual production for last 3 years for proposed item/scope of sub-contracting उप-संविदा(अनुबंध) के प्रस्तावित मद / दायरे के लिए पिछले 3 वर्षों का वार्षिक उत्पादन	
vi.	Details of proposed works प्रस्तावित कार्यों का विवरण	
1.	Year of establishment of present works वर्तमान फैक्टरी की स्थापना का वर्ष	
2.	Year of commencement of manufacturing at above works उपरोक्त फैक्टरी में निर्माण कार्य शुरू होने का वर्ष	
3.	Details of change in Works address in past (if any) पूर्व में फैक्टरी स्थल में परिवर्तन का विवरण (यदि कोई हो)	
4.	Total Area कुल क्षेत्र	
	Covered Area शामिल क्षेत्र	
5.	Factory Registration Certificate फैक्टरी पंजीकरण प्रमाण पत्र	Details attached at Annexure – F2.1 विवरण अनुलग्नक- एफ 2.1 पर संलग्न है
6.	Design/ Research & development set-up डिजाइन / अनुसंधान और विकास सेटअप (No. of manpower, their qualification, machines & tools employed etc.) (श्रमिकों की संख्या, उनकी योग्यता, मशीन और उपलब्ध उपकरण आदि)	Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design Details attached at Annexure – F2.2 (if applicable) लागू / लागू नहीं, अगर विनिर्माण मुख्य संविदाकार / खरीददार के डिजाइन के अनुसार है) विवरण अनुलग्नक –एफ 2.2 पर संलग्न है। (यदि लागू हो)
7.	Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc) मैनपावर विवरण के साथ समग्र संगठन का चार्ट (डिजाइन / विनिर्माण / गुणवत्ता आदि)	Details attached at Annexure – F2.3 विवरण अनुलग्नक – F2.3 में संलग्न है।
8.	After sales service set up in India, in case of foreign sub-vendor(Location, Contact Person, Contact details etc.) भारत	Applicable / Not applicable लागू / लागू नहीं

	में विक्री सेवा की स्थापना के बाद, विदेशी उप-विक्रेता के मामले में(स्थल , संपर्क व्यक्ति, संपर्क विवरण आदि)	<i>Details attached at Annexure – F2.4</i> विवरण अनुलग्नक -2.4 पर संलग्न है।			
9.	<i>Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any</i> फ्लोचार्ट सहित विनिर्माण प्रक्रिया निष्पादन योजना , जिसमें आउटसोर्स प्रक्रिया, यदि कोई हो, सहित कच्चे माल से तैयार उत्पाद तक विनिर्माण के विभिन्न चरणों को दर्शाया गया हो,	<i>Details attached at Annexure – F2.5</i> विवरण अनुलग्नक - F2.5में संलग्न है।			
10.	<i>Sources of Raw Material/Major Bought Out Item</i> कच्चे माल के स्रोत / खरीदे हुए मुख्य मद	<i>Details attached at Annexure – F2.6</i> विवरण अनुलग्नक - F2.6में संलग्न है।			
11.	<i>Quality Control exercised during receipt of raw material/BOI, in-process , Final Testing, packing</i> कच्चे माल / खरीदे हुए मद, प्रक्रियाबद्ध, अंतिम परीक्षण, पैकिंग करते समय गुणवत्ता नियंत्रण	<i>Details attached at Annexure – F2.7</i> विवरण अनुलग्नक - F2.7 पर संलग्न है			
12.	<i>Manufacturing facilities (List of machines, special process facilities, material handling etc.)</i> विनिर्माण सुविधा(मशीनों की सूची , विशेष प्रक्रिया सुविधाएं, सामग्री रख-रखाव आदि)	<i>Details attached at Annexure – F2.8</i> विवरण अनुलग्नक - F2.8में संलग्न है।			
13.	<i>Testing facilities (List of testing equipment)</i> परीक्षण सुविधाएं(परीक्षण उपकरण की सूची)	<i>Details attached at Annexure – F2.9</i> विवरण अनुलग्नक – F2. 9 में संलग्न है।			
14.	<i>If manufacturing process involves fabrication then-</i> यदि निर्माण प्रक्रिया में फेब्रिकेशन की गई है तो- <i>List of qualified Welders</i> पात्र वेल्डर की सूची <i>List of qualified NDT personnel with area of specialization</i> विशेषज्ञता के क्षेत्र सहित पात्र एनडीटी कार्मिकों की सूची	<i>Applicable / Not applicable</i> लागू / लागू नहीं <i>Details attached at Annexure – F2.10</i> विवरण अनुलग्नक - F2.10में संलग्न है। <i>(if applicable)</i> लागू / लागू नहीं			
15.	<i>List of out-sourced manufacturing processes with Sub-Vendors’ names & addresses</i> सब-वेंडर द्वारा बाह्य स्रोतों (उनके नाम और पते सहित)से करवाएं गए निर्माण प्रक्रियाओं की सूची	<i>Applicable / Not applicable</i> लागू / लागू नहीं <i>Details attached at Annexure. –F2.11</i> विवरण अनुलग्नक - F2.10में संलग्न है। <i>(if applicable)</i> (यदि लागू हो)			
16.	<i>Supply reference list including recent supplies</i> नवीनतम आपूर्ति सहित आपूर्ति संदर्भ सूची	<i>Details attached at Annexure – F2.12</i> विवरण अनुलग्नक - F2.12 में संलग्न है। <i>(as per format given below)</i> (नीचे दिए गए प्रारूप के अनुसार)			
<i>Project/ package परियोजना /पैकेज</i>	<i>Customer Name</i> ग्राहक का नाम	<i>Supplied Item (Type/Rating/Model /Capacity/Size etc)</i> आपूर्ति की गई वस्तु (प्रकार / रेटिंग / मॉडल / क्षमता / आकार आदि)	<i>PO ref no/date</i> पीओ संदर्भ सं. / तिथि	<i>Supplied Quantity</i> आपूर्ति की मात्रा	<i>Date of Supply</i> आपूर्ति की तारीख
17.	<i>Product satisfactory performance feedback letter/certificates/End User Feedback</i> उत्पाद के संतोषजनक प्रदर्शन संबंधी फीडबैक पत्र / प्रमाण पत्र / अंतिम उपयोगकर्ता फीडबैक			<i>Attached at annexure - F2.13</i> अनुलग्नक F2. 3पर संलग्न है	
18.	<i>Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product</i>			<i>Applicable / Not applicable</i> लागू / लागू नहीं	

**CORPORATE QUALITY ASSURANCE/ कॉर्पोरेट गुणवत्ता आश्वासन****SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली**

	<i>(similar or higher rating)</i> प्रस्तावित उत्पाद (एक समान या उच्च रेटिंग वाले) के लिए टाइप टेस्ट रिपोर्ट (टाइप टेस्ट विवरण, रिपोर्ट संख्या, एजेंसी, जांच की तारीख) का सारांश नोट: - रिपोर्ट प्रस्तुत करने की आवश्यकता नहीं है Note:- Reports need not to be submitted	Details attached at Annexure – F2.14 विवरण अनुलग्नक - F2.1 4में संलग्न है (if applicable) (यदि लागू हो)	
19.	Statutory / mandatory certification for the proposed product प्रस्तावित उत्पाद के लिए वैधानिक / अनिवार्य प्रमाणीकरण	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.15 (if applicable) (यदि लागू हो)	
20.	Copy of ISO 9001 certificate आईएसओ 9001 प्रमाण पत्र की प्रति (if available) (यदि उपलब्ध हो)	Attached at Annexure – F2.16 अनुलग्नक में संलग्न - F2.1 6 है	
21.	Product technical catalogues for proposed item (if available) प्रस्तावित मद के लिए उत्पाद तकनीकी कैटलॉग (यदि उपलब्ध हो)	Details attached at Annexure – F2.17 विवरण अनुलग्नक - F2.1 7 में संलग्न है	
Name: नाम:	Desig: पद:	Sign: हस्ता क्षर:	Date: तिथि:

Company's Seal/Stamp:- कंपनी की मुहर / मोहर: -