

S NO	TERMS & CONDITIONS	BHEL REQUIREMENT			VENDOR 'S CONFIRMATION		
I	TECHNICAL TERMS	ı					
		Material Code	Description	No. of Tubes per Set	No. of Sets	Total No. of Tubes	
	DESCRIPTION, SIZE &	HE9718583653	SS WLD U TUBES (OD 19.05 X 9600 LL)	917	2	1834	
1	QUANTITY QUANTITY	HE9718583661	SS WLD U TUBES (OD 19.05 X 10700 LL)	917	2	1834	
		HE9718583670	SS WLD U TUBES (OD 19.05 X 9300 LL)	917	2	1834	
		HEPA85697003	SS PLAIN TUBE 3/4"X20BWG MIN, L-4000	675	2	1350	
2	SPECIFICATION	HE51103 Rev.					
3	MATERIAL	A 2019 Edition Rev.19.	confirm to SA688 TP304 a, with Carbon max. 0.05	5% as pe	r HE51		
4	DRAWING	For SS Welded	<u>U Tubes</u> : 3-162-22-005	97 Rev.	00		
		Rev.00 shall be For SS Welded	U Tubes: 9915-371-110 followed. Straight Tubes: 9915-37 shall be followed.				
5	QUALITY PLAN	Note: L1 vendor shall submit Quality Plan for NTPC approval within 7 days from the date of PO (same shall be applicable for each revision). Within 21 days of submission of QAP, commented/approved QAP shall be furnished to vendor.					
6	PACKING & MARKING	For SS Welded U Tubes: As per BHEL Standard AA0490003 Rev:02. For SS Welded Straight Tubes: As per BHEL Standard AA0490002 Rev:02.					
7	INSPECTION & CERTIFICATION	Note: (a) Vendors are (www.cqir.bhe working days p (b) For NTPC days shall be pr	A and NTPC as per Qual e advised to raise Inspect l.in) with Purchasing U prior to the proposed date inspection, advance in rovided.	ion Call init as 'I	in CQI HPEP' &	at least 3	
		For Foreign B By Lloyd's/TU Customer as pe	JV/BV/DNV (Overseas	Inspec	tion A	gency) /	
II	COMMERCIAL TERMS						
1	TERMS OF DELIVERY		Puram for Indian vendo	ors			
1A	FOR BHEL Price / Delivery implies	a) Freight & In inclusive of F&b) C-Note date is later shall b	or Date of submission e considered as delivery	of docur	ments w	hichever	
		are not submi- material.	tted within 10 days fr	om the	dispatc	h of the	



		a) As per Incoterm.	
	CIP Mumbai price / delivery	b) IGM date in Bill of Entry issued by customs shall be delivery	
		date for the purpose of penalty.	
1B		c) Exchange rate for Foreign Currency to INR shall be as per	
12	implies (for Foreign suppliers)	SBI Exchange rate (TT Selling rate) as on Technical Bid	
		Opening date. If the relevant day happens to be a bank holiday,	
		then the forex rate as on the previous bank (SBI) working day	
		shall be taken.	
2	PACKING &	P & F charges shall be inclusive in price.	
	FORWARDING		
3	FRIEGHT & INSURANCE	By supplier up to delivery point.	
		For Indian Bidders: By BHEL and vendor's offer will be	
4	Third Party Inspection &	loaded by appropriate percentage for evaluation of offers.	
+	Certification Charges	Currently it is 0.26%.	
		For Foreign Bidders: Shall be inclusive in quoted price.	
		(i) 1 Set each of Item No.1,2,3,4 - Within 4 Months from PO	
		date.	
		(ii) 1 Set each of Item No.1,2,3,4 - Within 7 Months from PO	
		date.	
5	DELIVERY	Note: For any deviation in delivery period for each item and	
		schedule as indicated above, quoted price shall be loaded by	
		0.5% per week for evaluation of offer. However, BHEL	
		reserves the right to reject the offers with delivery period not	
		meeting the project requirement.	
		"MSE suppliers can avail the intended benefits only if they	
		submit along with the offer, Udyam Registration Certificate.	
		Non submission of such documents will lead to consideration of	
		their bid at par with other bidders. No benefit shall be	
6	MSE CLAUSE	applicable for this enquiry if any deficiency in the above	
	WSE CEAUSE	required documents are not submitted before price bid opening.	
		If the tender is to be submitted through E-Procurement portal,	
		then the above required documents are to be uploaded on the	
		portal. Documents should be notarized or attested by a Gazetted	
		Officer."	
		Offer shall be submitted in two part bid system thru' EPS. Part-I	
7	TWO-PART BID	shall consists of Techno-Commercial bid with all required	
		documents and Price shall be fed in Part-II.	
		Techno-Commercial Bid shall essentially consist of:	
		(i) Duly filled in signed and stamped Special Contract Conditions	
		(SCC). (ii) Duly filled in signed and stamped Instructions to Bidder (ITB).	
		(iii) Duly filled in signed and stamped Pre-Qualification Criteria	
		(PQC) along with its Annexure and supporting documents for	
		qualification.	
	TECHNIC COMMEDCIAL	(iv) Udyam Registration Certificate for MSE vendors	
7A	TECHNO-COMMERCIAL	(v) Local Content Certificate (Annexure-III), if applicable.	
	BID	(vi) Documents/declarations in compliance with Annexure-A,B (if	
		applicable)	
		(vii) Details as per Annexure-IV, if applicable	
		(viii) Duly filled in Annexure-II (Non-Disclosure agreement)	
		Note:	
		Bid shall be complete in all respects including all the	
		documents / information required for techno-commercial evaluation. Incomplete offers shall be liable to rejection.	
<u> </u>		-	
7B	PRICE BID	Quoted price shall be on firm basis. Vendor shall quote on Rate / Set basis for each item.	
		/ Set basis for each heif.	



		The offers will be evaluated on individual item wise L_1 basis.	
8	EVALUATION OF OFFERS	The vendor shall quote Rate per Set basis for every item (details of set were mentioned at S.No. I (1) above).	
		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.	
	GUIDELINES REGARDING DEALINGS WITH INDIAN AGENTS OF FOREIGN SUPPLIERS	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.	
9		The "Guidelines for Indian Agents of Foreign Suppliers" enclosed at annexure – 'A' shall apply in all such cases.	
	SOTTERES	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, 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.	
		As per directives of CENTRAL VIGILANCE COMMISSION, GOVERNMENT OF INDIA, one agent can not represent two or more suppliers or quote on their behalf in a particular tender. If so found at any stage, BHEL Hyderabad is likely to cancel Enquiries / POs to such suppliers. Further, such Indian Agent is likely to be de-listed (Black listed for business from BHEL).	



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10	REVERSE AUCTION	BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for 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.	
		RA representative details like Name, e-mail, Phone No. etc.	
11	END CUSTOMER APPROVAL	Bidders have to submit their credentials as per end customer formats enclosed as "Sub supplier questionnaire". Credentials of techno-commercially qualified bidders will be forwarded to end customer for their review and approval. Price bids of techno-commercially qualified bidders will be opened, subjected to approval of customer.	
12	GUARANTEE	Guarantee on the supplies for a period of 18 months from the date of dispatch or 12 months from the date of commissioning whichever is earlier.	
13	EARNEST MONEY DEPOSIT (EMD)	EMD charges not applicable for quoting against this tender.	
14	FINANCIAL STANDING	Indian Bidders: Vendor to submit annual Financial Turnover during the Past 3 Years along with copy of 3 years Audited Balance Sheet. Foreign Bidders: Vendor to submit copy of latest D&B Report.	
15	SOURCING OF SS STRIPS	As indicated in S.No. 5 of Pre-Qualification Criteria, vendor may suggest sources of SS Strips different from standard sources mentioned in the list. BHEL may or may not accept new sources suggested by vendor. However, there is no provision for revising the price for acceptance or non-acceptance of new sources after opening of Part-I Bid.	
16	TERMS & CONDITIONS	Vendor is requested to furnish all details of the offer in this format. In case of any discrepancy between information furnished here and those furnished elsewhere in the bid, the information furnished in this document only shall be considered, and those furnished else where shall be ignored.	



(Attachment to Enquiry No. D3A1U96805 Due on Date 12.10.2021 for submission by 11.00 hrs to open from 14:00 hrs.)	
INSTRUCTIONS TO DIDDED (ITP)	

NOTE: Bidder to confirm in affirmative by typing "YES" or "Applicable Data" in the response column. Deviations, if any shall be recorded in deviations/comments column (Separate sheet can be attached if needed). Non-Deviatable clauses are indicated as "Non-Deviatable".

S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS COMMENT
1	SCOPE OF SUPPLY:	,	
	Signed & Sealed offers are invited for the Scope of Supply of goods and Services or both as detailed enclosures/supporting documents / catalogue, if any shall be enclosed to the technical offer. Biddle email at their own risk. The offer is to be submitted in two parts. Technical offer to be submitted to technicalbid_hyd@bhel.in, and price bid to be submitted to mail ID pricebid_hyd@bhel.in as an a information in the mails may lead to rejection of the offer. Supplier shall have no claim on e-mail of In case of e-mail offers, the mail subject should contain Enquiry No. Due date and Supplier name, Section of the mail. Without these details offer is liable for rejection of the mail.	er can also submit mail ID ttachment only. In ffers sent on any of Supplier address in	offer through nterchanging the other e-mail ID.
2	GENERAL INSTRUCTIONS:	T	
A	The quotation should be neatly typed and free from over writing/ erasures. Any correction or addition must be authenticated. The offer including annexures and brochures should be submitted in English / Hindi. All Pages of Techno Commercial Bids (Main Pages), ITB should be signed and Stamped. If there is a conflict in case of bilingual submission, the submission in English will be final.		Non- Deviatable
В	In case of Single-Part bid Tender, the complete bid shall be submitted in a single sealed cover super subscribing the Tender number and due date. Incomplete offers are liable for rejection. E mail bids shall be sent to mail ID pricebid_hyd@bhel.in as an attachment only.		Non- Deviatable
C	Bidders to please note that the Terms & conditions contained in this document and Special conditions, if any, are to be read fully before submission of quotations.		Non- Deviatable
D	Vendors are advised to comply with specific conditions of the enquiry, Should there be any deviations (where deviations are permitted), it shall be entered in the deviation column. BHEL reserves the right to reject such offers or load the bid suitably for evaluation.		Non- Deviatable
E	Offers shall be submitted directly, only by the vendor or by their authorized representative / agent and the offer should be in line with the regulatory guidelines (i.e A valid Agency agreement between principal vendor and agent / representative shall be attached and the agreement shall cover the scope of services rendered by Agent, Agency Commission and any other information called for as per the regulatory guidelines). OEM / Mill details shall be provided if supplier is not a manufacturer. Bid envelops shall bear the name of Supplier. In case of submission through authorized representative/agent, the name of representative/agent should also be mentioned apart from supplier name.		Non- Deviatable
F	Offer received after the specified time and date of submission shall be rejected. No further correspondence shall be entertained.		Non- Deviatable
G	Unsolicited offers shall not be considered.		Non- Deviatable
3	OTHER PARTICULARS (Please indicate applicable data)		
A	Name of the Bid currency (freely tradable foreign currency for imports and Indian Rupees for indigenous purchase).		
В	Name of the Port of loading and Port of Discharge (applicable to imports).		
4	BID SUBMISSION PROCEDURE:	T	1
A.	For Single Part Bids: Offers addressed to DGM/CMM, Vendor Complex, BHEL, Hyderabad must be sent in a sealed cover on which tender enquiry number and the due date shall be super subscribed and sent by appropriate mode to above address or dropped in tender box located at vendor complex on or before the specified time and date of submission of offers, preferably in the bidder's envelope. For e-mail offers please follow the procedure mentioned in 2 (B).		Non- Deviatable



S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS COMMENT
B.	For two-Part Bids:	, ,	
i	Two part bid consisting of i) Techno-commercial Bid - (Part-I), with all technical specification & scope including bill of material etc., EMD (where applicable) and unpriced bid with all applicable Commercial Terms and Conditions, rates of agency commission, duties, taxes and other charges, except the price, super scribing enquiry No. (Techno-Commercial Bid) and due date Signed and Stamped ITB and special conditions of contract, if any is required to be attached along with Techno-commercial Bid - (Part-1) AND ii) Price Bid (Part-II), containing ONLY the price (including agency commission, if any) and the applicable duties/taxes/other charges shall be kept in a separate sealed cover super subscribing Enquiry no. (Price bid) & due date. Both these covers shall be kept in a Third cover super		Non- Deviatable
	subscribing Enquiry no. & due date. All techno commercial terms & conditions mutually agreed prior to price bid opening shall prevail and supersede any terms and conditions specified otherwise in price bid.		
ii	Techno-commercial Bid will be opened on the assigned date .Only the price bids of vendors whose techno commercial bids are accepted will be opened later on a specified date.		Non- Deviatable
iii	The bidders whose bids are techno commercially not accepted will be informed & EMD (Earnest Money Deposit) shall be returned wherever submitted.		
iv	Bidders will be allowed to submit the impact on their quoted prices due to changes in technical scope, specifications, and commercial terms/conditions as specified in NIT which in the opinion of BHEL warrant changes in prices.		Non- Deviatable
v	Bids shall be opened on due time and date in the presence of bidders who may like to be present. Only one representative of each bidder shall be permitted to attend the bid opening.		Non- Deviatable
5	Delivery Instructions		-
A	Indigenous Purchase		
	Goods shall be delivered on FOR Destination basis to the named destination(s) or as specified in the enquiry, Insurance in the scope of supplier.		
B.	Imports The goods shall be delivered on CIP-basis to port of discharge as mentioned in the purchase order.		
6	Documentation:		
A	Indigenous Purchase		
	Seller shall arrange to send to BHEL, Hyderabad along with all the required documents as detailed in Purchase Order, such as, Tax Invoice (Original for Recipient, Duplicate for Transporter), consignee copy of LR, Packing list, Pre-dispatch Inspection report, Test/ Guarantee/ Warranty certificate/ O&M manuals (as applicable) etc. immediately on dispatch of the goods. Any addition/ exclusion to such documents shall be as specified in the Purchase Order. In case of dispatches from vendor works to site, material receipt certified by site office / Customer shall be provided. Softcopies of the above documents shall be uploaded in Pradan portal https://web.bhelhyd.co.in/mm/ immediately after dispatch of the material.		Non- Deviatable
В	Imports		_1
	i) Seller shall inform the purchaser the readiness of material along with packing details well in 30 days advance from the date of delivery. Seller shall also upload soft copy of the dispatch documents consisting of BL / AWB, Invoice, Shipping list & Test certificates and other documents as specifically indicated in the Purchase Order in PRADAN Portal (https://web.bhelhyd.co.in/mm/) within 3 days from the B/L date for sea shipment and 1 day from AWB date for Air shipment. ii) In case of CIP shipments, seller shall also inform purchaser the information about discharge		



	(Attach	ment to Enquiry No. I	O3A1U96805 Due on Date 1	12.10.2021 for submis		rs to open from	14:00 hrs.)
S. No.		D	ETAILED TERMS & COND	`)	VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT
	Lading 1. Port 2. Place	should clearly spell out of discharge "Nhavas ee of Delivery / Final De		u".			
	BHEL.						
	a). Dim b).Weig If any p	nension of the cargo(OD) ght of the cargo >3.5 Moackage dimension or we sion Cargo (ODC) or Ov	following dimensions of sing C) > 125" x 88" x 63" MT. eight crosses the above set linger Weight Cargo and seller site to enable BHEL to finalize	nits, it will be treated a	s Over		
	Seller s NIT. If BHE Ground Order/I 1. EUR A. For	L incurs any charges such that etc., due to non-conference Document/Letter COPE/USA/Black Sea/FEX-WORKS/FCA/FA	cubmission of documents: red documents to BHEL as putch as Penalty, demurrage, core compliance / non - submission of credit, the same shall be a far East/Middle East/South EAS / FOB Sea Consignments gotiation of documents beyond	ntainer detention, whar n of documents prescri recovered from the sell- ast sector	f age, storage, bed in Purchase er as under:		
	Sl. No	Period (From Date of	Recoverable Charges	Recoverable Charge			
		Bill of Lading)	LCL per week/ Break bulk cargo per day	20FT Container	40FT Container		
	i	Upto 14th day	Nil	Nil	Nil		
	For CII free per In case per the In case 10 per o	riod at the time of offer i of late presentation of d rates quoted by the Ven of Break bulk cargo and day and storage charges	USD 10 Sea Shipments: Shipments, Vendor shall protestelf in case of engagement of ocuments to the bank recover dor at the time of offer in this LCL Demurrage/storage charate of USD 10 per week responses	f 20FT Container and a ry will be effected from a regard. arges shall be recovered	40FT category. In the Vendor as If at rate of USD		
	(vi) Do descrip related Any oth the sell-	tion. Vendors shall ens numbers. BHEL PAN A her additional document er on priority basis.	nvoice, packing list, BL / A ure that invoice shall contain AACB4146P and BHEL TA is sought by the statutory authors age details including number	n PAN nos. of both s AN HYDB00086C. norities, the same shall	be produced by		
	a) No I (or) b) (i) (ii (ii c) In ca Perman	Business Connection in No Permanent Establish the format specified. Tax Residence Certific Form 10F issued by the set the seller has a Businent Establishment in India	iness Connection in India as lia as per Article 5 of Double eller shall provide a withho	the seller as per the found by the seller as per authorities. The per Section 9 of Incomments of Taxation Avoidance	ormat specified. r ome Tax Act or Agreement India		



S. No.	INSTRUCTIONS TO BIDDER (ITB) DETAILED TERMS & CONDITIONS	VENDOR RESPONSE	DEVIATIONS COMMENT
		(YES/NO)	
7	Delivery Schedule		1
A	The tendered goods shall be delivered within the period stipulated in PO . Delivery at BHEL can be accepted at the earliest, 30 days prior to delivery date as mentioned in the Purchase order. Delivery earlier than 30 days of contractual delivery date may be accepted with the written permission of BHEL -Purchase department. Goods arriving after the delivery date will be accepted only with the prior written permission of BHEL otherwise they will not be allowed inside the factory. BHEL reserves the right to reject the material, if not delivered by scheduled Purchase Order Delivery Date. (In case of imports , the final entry date of Import General Manifest (IGM) will be reckoned as delivery completion date)		Non- Deviatable
В	Documents such as TC,GCs Inspection reports are to be submitted within 10 days of dispatch of these materials. C note date or Date of submission of documents whichever is later shall be considered as delivery date incase documents are not submitted within 10 days from the dispatch of the material. Supply of plant/ equipment/ stores shall not be considered complete until they have been inspected and accepted at the place and destination specified for delivery by the time stipulated under the terms & conditions of the Order/ Contract. Mere payment by itself shall not constitute acceptance of the goods or materials in any manner, whatsoever. Pricing Terms		
8	Prices once quoted shall remain firm and valid during the execution of PO. Offers with PVC will be rejected outright except in cases where specifically called for in the NIT.		Non- Deviatable
9	PRICE VALIDITY: Unless otherwise specified, offer shall be valid for a period of 90 days from the date of bid opening (Technical bid /part-I in case of two part bid). However the prices quoted for spare parts of the Main equipment shall be kept valid for a period of 1 year from the date of Placement of PO for the main equipment.		
10	Taxes & Duties (RATE TO BE INDICATED by the bidder against the space provided)		
A	Indigenous Purchase		
А	The Taxes as applicable shall be quoted in the following manner.		
i	Vendor to indicate HSN of Goods or SAC of Services.		
ii	IGST/CGST/SGST/UTGST: Rate of Tax to be quoted as extra in %		
	NOTE: Bidders to ensure correct applicability of IGST/CGST/SGST/UTGST based on the Inter / Intra state movement of goods. Taxes prevalent on the contractual delivery date or the actual delivery date (in case of delay) which ever is lower shall be applicable paid. In case Bidder has opted for GST Composition Scheme, the same may be stated explicitly both in their technical and price bids.		
iii	Any other taxes & duties not covered anywhere above may be indicated separately.		1
iv	Taxes deducted at source: TDS as per the extant statute shall be recovered. In case vendor does not provide PAN details/concessional certificates, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.		Non- Deviatable
B.	Foreign Purchase (Imports)		
i	The offered price shall be inclusive of all the Taxes and duties as applicable in country of bidder / country of dispatch for the quoted CIP price.		Non- Deviatable
ii	Taxes deducted at source: TDS as per the extant statute shall be recovered. In case vendor does not provide PAN details/concessional certificates, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.		Non- Deviatable



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S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT
11	Payment Terms: Unless otherwise specified in Special Conditions, following shall be the term	s of Payment.	
A	Indigenous: 100% payment along with taxes, freight & insurance will be made within 75 days from the date of receipt of complete documentation as per PO. However payment would be done only after receipt of original documents, including site/ Customer acknowledgement on LR (MRC - Material Receipt Certificate at site) / GR clearance at BHEL Stores. For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL, this period will be 45 days* as prescribed in the relevant act. Adherence to the above time schedule of payment is contingent upon Vendor complying with GST provisions and availment of Input Tax Credit by BHEL before the date of payment. *The taxes that are reimbursed would be the ones applicable as on the contractual Purchase Order delivery date or the amount actually paid whichever is less. 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 reason not attributable to BHEL, GST amount shall be recoverable from Vendor along with interest levied/ leviable on BHEL.		
В	Imports:- i) 100% payment (less Indian Agency Commission, if any) shall be paid through "Usance Letter of Credit / Cash Against Documents (CAD) / Wire Transfer" with a credit period of 60 days ii) LC will be opened after successful completion of pre dispatch inspection prior to the scheduled / agreed delivery date LC will be opened within 7 working days from the date of request.		
C	Note: 1) No advance payment is acceptable. However, in exceptional/rare cases, BHEL at its discretion, may consider advance payment against Bank Guarantee valid up to receipt of material at BHEL for 110% of advance amount issued / confirmed by any of the BHEL consortium banks. 2) Wherever EMD (Earnest Money Deposit) is applicable, it may be noted that no interest will be paid on EMD and the EMD will be paid back to unsuccessful bidders within fifteen days after award of the contract. Successful bidder's EMD will be converted to SD (Security Deposit). Tender Cost wherever applicable is not refundable.		Non- Deviatable
D	No interest shall be payable by BHEL on earnest money or security deposit or any money due to the contractor by BHEL.		
12	Penalty clause: In the event of delay in supply of goods, penalty of 0.5% per week or part there of shall be levied on the undelivered portion subject to a maximum of 10% of the order value. Penalty amount so determined along with applicable GST thereon shall be recovered.		
13	Excess materials supplied beyond tolerance limit as specified in PO, will not be accounted for.		Non- Deviatable
14	Rejected materials , if any, shall be collected by the vendor within 90 days of such communication to the vendor .Beyond 90 days a ground rent of 0.25 % of the value of the material per week will be levied for a maximum period of two weeks Beyond this period the supplier forfeits their right to the materials.		Non- Deviatable
15	Guarantee / Warranty Period: (Deviation to this clause is not acceptable.) Wherever required, and so provided in the specifications/Purchase Order, the seller shall guarantee that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance. If within the guarantee period, the delivery is found to be non-complaint, the seller shall on his own account, replace repair, or re-execute the delivery at Purchaser's discretion on the purchaser's first request or within the mutually agreed period, without prejudice to Purchaser's other legal rights. If the seller continues to default on their obligations, purchaser has the right to proceed to replace, repair or re- execute the order at the seller's expense, with or without help from third parties. Purchaser shall notify the seller of the exercise of this right in advance where ever possible Unless otherwise specified, guarantee period shall be 12 months from the date of commissioning or 18 months from the date of supply/replacement whichever is earlier. For bought out packages which are intended to be incorporated in installations or systems the guarantee period shall not start until the time the installations or systems are commissioned, provided always that the period ends not later than 30 months after the date of supply of the goods. The guarantee period shall be extended by the period during which the goods are not in compliance. A guarantee period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery.		Non- Deviatable



(Attachment to Enquiry No. D3A1U96805 Due on Date 12.10.2021 for submission by 11.00 hrs to open from 14:00 hrs.) INSTRUCTIONS TO BIDDER (ITB)

NOTE: Deviations (Commercial as well as Technical) from the tender specifications and conditions are generally not acceptable. However, deviation if any, shall be brought out clearly with proper justification in the offer. The deviation, if considered by BHEL, shall be loaded for comparison, while evaluating the offer. If a bidder unconditionally withdraws any deviation before price bid opening, the same shall not be loaded. Loading criteria in respect of major commercial conditions where deviations if any are accepted shall be as per clause No.16.

The V	endors may specifically note the following.
16	Evaluation and Loading Criteria:
A	Evaluation of prices shall be done item-wise unless otherwise specified in the enquiry. Evaluation shall be on the basis of delivered cost, i.e. "total cost to BHEL" w.r.t the finalized technical scope and commercial conditions (after considering incidence of applicable taxes and duties and loading). For evaluation, exchange rate (TT selling rate of State Bank of India) as on the date of bid opening (Part-I, in case of two-part bids) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken.
В	In case of foreign bidders, the quoted CIP price shall be loaded by the following factors to arrive at the Delivered Cost:
i	- Import duty as applicable at the time of Technical/ Part-I bid opening.
ii	- Port handling/ clearing charges & inland freight and insurance: @ 5% of CIP value (10% for plates, pipes & structurals).
iii	In other cases subject to acceptance by BHEL, loading for various factors (in addition to above) as the case may be will be done as follows: 0.5% for unloading at Port of Destination Marine Freight 4% and Marine Insurance 1% (9% and 1% towards Freight and Insurance respectively for Plates, Pipes, Rounds & Structurals)
C	Incase of Indigenous Bidders, Ex-works offers received (as against FOR Destination mentioned in enquiry) shall be loaded by 4% of
	Ex-works value (9% for plates, pipes, rounds & structurals) unless otherwise mentioned in enquiry.
D	Deviated Penalty: Any loading on penalty clause shall be 10% or to the extent to which the vendor has opted for deviation.
E	Deviated Payment Terms: In case BHEL considers any deviation in payment terms, the bids shall be loaded with 18% interest per annum to the extent of deviation.
17	Procurement directly from the manufacturers/ suppliers shall be preferred. However, no agent shall 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. In case bids are received from both from the manufacturer/ supplier and the agent, bid received from the agent shall be ignored.
18	RIGHT OF REJECTION /NON- PLACEMENT OF PO: BHEL reserves the right to accept or reject any or all bid/s in full or part without assigning any reason whatsoever.
19	INTEGRITY PACT Vendors shall have to enter into Integrity Pact with BHEL as per attachment - for order value of rupees five crores and above and shall be signed by the competent authority before the issue of purchase order, failing which vendor's offer will be rejected.
20	Public Procurement
A	Make in India 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), Oct 2017 dated 04.06.2020 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 Part—II bids against this NIT.
	Proforma for self certification for minimum local content and auditor's certification is given in Annexure III.
В	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 competent authority . https://www.mea.gov.in/ to be referred for latest details of competent authority and exemptions. Proforma for self certification for compliance is given in Annexure IV
21	Benefits earmarked for Purchase from Micro & Small Enterprises (MSEs) – Indigenous Purchase
21A	All Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy are exempt from Paying earnest money deposit. NSIC registered unit bidders shall submit NSIC Certificate along with bid documents. Date to be reckoned for determining the deemed validity will be the last date of Technical bid submission. Non- submission of such document will lead to consideration of their bid, at par with other bidders and MSE status of such bidders shall be shifted to Non- MSE Category till the supplier submits these documents
21B	In tender, if MSEs quoting price within price band of L1+15% shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a MSE and such MSE shall be allowed to supply up to 25% of total tendered value. In case of more than one such MSE, the supply shall be shared proportionately. Out of these 25% minimum 3% shall be earmarked for MSEs owned by women and 6.25% for MSEs owned by SC/STs who submit the bid along with relevant documents. This is applicable in case of item-level evaluation tenders and divisible tenders .



(Attachment to Enquiry No. D3A1U96805 Due on Date 12.10.2021 for submission by 11.00 hrs to open from 14:00 hrs.)
	INSTRUCTIONS TO BIDDER (ITB) If an enterprise falling under MSME category as defined in the Act, graduates to a higher category from its original category or
21C	beyond the purview of the Act, it shall continue to avail all non-tax benefits of its original category notified by the Ministry of Micro Small and Medium Enterprise for a period of three years from the date of such graduation to the higher category.
21D	BHEL HPEP is registered with RXIL (TReDS) platform. MSE bidders are requested to get registered with RXIL (TReDS) platform to avail the facility as per the GOI guidelines
22	Startups: For Startups Medium Enterprises, Condition of prior turnover and prior experience in Public Procurement may be relaxed subject to meeting of Quality and Technical Specifications. Startups are exempt from paying earnest money deposit.
23	For Claiming Payments for goods received at BHEL works / Site from Vendors' Works) a) Original of Invoice marked as ORIGINAL FOR RECIPIENT b) Duplicate of Invoice marked as DUPLICATE FOR TRANSPORTER c) Packing List - clearly showing number of packages, gross weight and net weight. d) Warranty/Guarantee certificates (If applicable as per PO terms) e) Insurance certificate f) Third Party Inspection Certificates. g) LR Copy signed & stamped by Site incharge / Customer for site deliveries) (For material received at BHEL payment will be made against GR for accepted quantity)
24	Inspection Measuring and Test Equipment (IMTE) whether used by the Seller/ Contractor or sub-contractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE maintained in sound condition during usage.
25	ISO-9001, ISO14001 and OHSAS 18001 shall be complied
26	Applicable Conditions: These General conditions of Contract for Purchase apply to all enquiries, tenders, request for quotations, orders and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliverables") to Bharat Heavy Electricals Limited, Ramachandrapuram, Hyderabad (hereinafter referred to as "BHEL" or the Purchaser) or its projects/customers. Any deviations from or additions to these General conditions of contract for Purchase' require Purchaser's express written consent. The general terms of business or sale of the Seller shall not apply to Purchaser. Orders, agreements and amendments thereto shall be binding if made or confirmed by the Purchaser in writing. Only the Purchasing department of the Purchaser is authorized to issue the Purchase order or any amendment thereof.
27	Being PMD Vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list. Vendor shall ensure that PAN details are available/updated with BHEL, else Vendor shall attach PAN details with enquiry failing which offer shall be liable for rejection.
28	Kindly quote your prices in figures and words both. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 Status
29	Any discount / revised offer / bids submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.
30	The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned after finalization of contract. EMD shall be forfeited in the event of bidder opting out after tender opening.
31	In case of abnormal delays (beyond the maximum late delivery period as per Penalty clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / equivalent market price at the risk and cost of the supplier. BHEI will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. Nonperformance of contract attracts penal provisions inline with BHEL's Suspension of Business dealings.
32	Any other terms and conditions of the bidder attached / referred against the tender enquiry will not be considered.
33	All drawings as also all patterns and tool supplied by BHEL or made at BHEL's expense are BHEL's property. These cannot be use or referred to any other party and must only be used in the execution of BHEL's orders.
34	Any amount payable by the consignor / supplier under any of the condition of this contract shall be liable to be adjusted against any amount payable to the consignor / supplier under any other work / contract awarded to him. This is without prejudice to any other action as may be deemed fit by BHEL.
35	The bids of the bidders who are on the banned list and also the bids of the bidders, who engage the services of the banned firms, sha be rejected. The list of firms banned by BHEL is available on BHEL web site www.bhel.com
	Definitions

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	(Attachment to Enquiry No. D3A1U96805 Due on Date 12.10.2021 for submission by 11.00 hrs to open from 14:00 hrs.)
	INSTRUCTIONS TO BIDDER (ITB)
	Purchaser' means BHEL-HPEP, Ramachandrapuram, Hyderabad-502 032 of Bharat Heavy Electricals Limited (A Govt. of India
36A	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 seller' means the persons, firm, company or organization on whom the Purchase order is placed and shall be deemed to include
36 B	the seller's successors, representatives, heirs, executors and administrator as the case may be. It may also be referred to as
	Contractor, supplier or vendor.
	'Contract' shall mean and include the Purchase order incorporating various documents viz., tender/offer, letter of intent/acceptance,
	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 are to be provided by the Purchaser or his authorized nominee and the samples or
36C	patterns if any to be provided under the provision of the contract.
300	In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order,
	LOI/LOA followed by specific conditions, special conditions of contract and general conditions of contract for commercial
	conditions; and specific agreement on technical conditions, special technical conditions and general technical conditions, tender/
	offer.
37	'Parties to the contract' shall mean the seller and the purchaser as named in the main body of the Purchase Order.
38	Ordering and confirmation of order
	The seller shall send the order acceptance in Toto within one week from the date of LOI/Purchase order or such other period as
	specified/agreed by the Purchaser. Purchaser reserves the right to revoke the order placed if the order confirmation differs from the
	original order placed. Purchaser shall only be legally bound if agreed explicitly in writing to be in agreement with the deviation. The
	acceptance of deliverables or supplies by Purchaser as well as payments made in this regard shall not imply acceptance of any
	deviations.
	The Purchaser 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 the Purchaser) from the date of P.O.
	Purchaser, is at liberty to send signed P.O. through electronic media such as e-mail and the receipt of which shall be treated as receipt
	of order.
39	Execution
	The whole contract is to be executed in the most workman like manner, substantial and approved as per the contracted terms.
40	Progress Report
	The seller shall render such report as to the progress of work and in such form as may be called for by the Purchaser from time to
	time. The submission and acceptance of such reports shall not prejudice the rights of the purchaser in any manner. Seller shall
	communicate to BHEL immediately, change of address, ownership, contact person(s), the mobile numbers and e-mail of the dealing
	person concerned.
	Milestones shall be periodically updated by vendor/subcontractor through PRADAN Portal (https://web.bhelhyd.co.in/mm/). Non
	updation will adversely affect service rating of vendor performance.
41	Product information, Drawings and documents / Non-disclosure and Information Obligations
	Drawings, technical documents or other technical information received by one party 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 submitting 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 confidential and binding only to the extent that they are by
	reference expressly included in the contract.
	The seller shall, as per agreed date/s but not later than the date of delivery, provide free of charge any information and/or drawings
	which are necessary to permit the Purchaser to erect, commission, operate and maintain the product. Such information and drawings
	shall be supplied in the number of copies agreed upon or at least three copies of each.
	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 submitting party.
	The seller shall provide Purchaser with all information pertaining to the delivery in so far as it could be of importance to Purchaser.
	The seller shall not reveal confidential information to its own employees not involved with the tender/contract and its execution and
	delivery or to third parties, unless Purchaser has agreed to this in writing beforehand. The seller shall not be entitled to use the
	Purchaser's name in advertisements and other commercial publications including website without prior written permission from
	If dichaser's name in advertisements and other commercial bubileations meriding website without thror written bernission from
	Purchaser.
	Purchaser.



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10	INSTRUCTIONS TO BIDDER (ITB)							
42	Inspection and Testing							
42 A	The goods and stores shall be manufactured by approved quality system and each part/component may be inspected and tested by the Purchaser prior to shipment and shall fully comply with relevant requirements of Purchaser. Purchaser has the right to inspect at any stage during manufacture/ delivery. In the event of rejection, Purchaser shall inform the seller accordingly and Purchaser shall be entitled to replacement or repair at his discretion or may proceed to terminate or cancel the agreement. All this, does not affect Purchaser's right to recover compensation.							
42 B	Purchaser or his authorized representative shall be entitled at all reasonable times during execution to inspect, examine and test at the seller's premises the material and workmanship of all stores to be supplied under the contract, and if the part of the stores are being manufactured at other premises, the seller shall obtain for purchaser or his authorized representative permission to inspect, examine and test as if the said stores are being manufactured at the seller's premises. Such inspection, examination and testing, if made shall not release the seller from any obligation under the contract. For indigenous suppliers all costs related to first inspection request shall be borne by the purchaser and the cost of subsequent inspections due to non-readiness of material/rework/ rejections shall be borne by the seller. In case of imports all inspection charges including third party inspections if any shall be borne by the seller. The cost of inspection staff/third party specified by the Purchaser shall be borne by seller unless otherwise specifically agreed. Whether the contract provides for tests on the premises of the seller or any of his sub-contractor/s, seller shall be responsible to provide such assistance, labor, 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 the seller unless otherwise specifically agreed in the contract. The Seller shall give the authorized representative of the purchaser reasonable notice in writing of the date on and the place at which any stores will be ready for inspection/ testing as provided in the Contract. Annexure - I may be strictly be complied with for the time lines. Any delay in submission of the documents by the vendor will not alter the delivery date.							
43	Quality and Condition of the Deliverables							
	The seller shall be responsible for compliance with applicable technical, safety, quality, environmental requirements and other regulations in relation to his products, packaging and raw and ancillary materials.							
44	Packaging and Dispatch							
	The seller shall package the deliverables 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 or tropical salt laden atmosphere. The packages shall be provided with fixtures/hooks and sling marks as may be required for easy and safe handling by mechanical means. Special packaging conditions/environmental conditions as defined in the enquiry shall be fully complied. Each package must be marked with consignee name, P.O. number Package No. gross weight & net weight, dimensions (LxBxH) and seller's name. The packing shall allow for easy removal and checking of goods on receipt and comply with carrier's conditions of packing or established trade practices. Packing list of goods inside each package with P.O. item No. & quantity must also be fixed securely outside the box to indicate the contents. 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 confirm to relevant regulations.							
45	Delivery:							
46	Except as otherwise indicated in the Purchase order, delivery shall be FOR (Destination) for indigenous orders and CIP for imported orders. The delivery date (s) or delivery period (s) as stipulated in the agreement shall be firm and binding and shall apply to the entire delivery for each P.O. item. Partial shipments may however, be permitted by the purchaser on prior intimation from the Seller. Unless specifically agreed otherwise, transit insurance coverage will only be within India for imported consignments by BHEL. Accordingly, the seller shall send an intimation to the Purchase officer/Manager giving Purchase Order No., shipping particulars, Invoice value etc., immediately on dispatch of goods. Penalty							
40	The time or period of delivery as stipulated in the schedule of delivery shall be deemed to be the essence of the contract. Should							
	circumstances arise whereby the deadline for an agreed delivery date(s) or period(s) is expected to be exceeded, the seller shall inform Purchaser hereof without delay. If delay in delivery is caused by any of the circumstances mentioned in clause 54 (Force Majeure) or which are caused exclusively by the acts of Purchaser, the Purchaser shall extend the time for delivery by a period which is reasonable having regard to all the circumstances in the case. If the Seller delays beyond any agreed delivery date(s) or period(s), Purchaser shall levy penalty for such delay @ 0.5% per week (7 days) or part thereof on delayed portion of the order value subject to a maximum of 10% of the value of the Purchase Order. However, penalty for delayed delivery will be calculated on 100% of the purchase order value if the material supplied cannot be put to intended use. The penalty will be charged on the value of the purchase order excluding statutory levies, freight and insurance wherever not included in the price. Penalty amount so determined along with applicable GST thereon shall be recovered. Imposition, recovery or settlement of this penalty shall not affect Purchaser's right to performance, compensation and termination of the agreement.							
47	For delay analysis, period referred in Annexure-I will be considered as standard time lines for various major activities. Transfer of Ownership and Risk							
4/	The risk for the delivery remains with the seller until the goods are delivered at the agreed place. However ownership shall get							
	transferred as per terms of purchase order in line with INCOTERMS.							



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INSTRUCTIONS TO BIDDER (ITB)

48 Price, invoicing and payment

The agreed prices are fixed prices in the currency as specified in the Purchase Order. They shall include packing, forwarding, loading and carriage to the place specified by the purchaser and are exclusive of all applicable taxes, duties etc., except for those specifically agreed by the Purchaser. Invoices shall be submitted bearing the Purchase Order number & date, item number/s and supporting documents as called for in the Purchaser order.

The direct payments (including LC/documents through Bank on collection basis), shall be made by E-payment mode and not by cheque /bank drafts except in special circumstances. Vendors shall furnish the E-payment particulars in the prescribed formats duly authenticated by their respective Bankers, If not got registered earlier with the Buyer.

Invoice has to be raised quoting HSN Code of Goods or Accounting Code of Services. Invoice should mention BHEL-HPEPHYDERABAD GSTIN: 36AAACB4146P1ZG or GSTIN of BHEL Nodal Agency as mentioned in PO.

Indian Agency commission if payable and so specified in the Purchase order shall be paid in Indian Rupees, considering the SBI TT selling exchange rate prevailing on the date of tender opening (part 1 in case of two part bid), after successful completion of the contract.

If so stipulated in the order, the seller shall furnish, on receipt of the Purchase Order or along with order acknowledgement, the billing break-up of prices (BBU) for approval by the purchaser in respect of the major items/components going into the equipment. This BBU is required by the Purchaser for admitting the claims of the seller if part shipments are contemplated and also to facilitate custom clearance after payment of duties in case of imports.

In case of delay in receipt of supporting document details, consequential demurrage/wharf age /detention charges shall be to the account of the seller.

Payment does not imply in any respect whatsoever a waiver of Purchaser's right to performance of the agreement. Purchaser is entitled to set off claimable debts against claimable liabilities with the seller by means of a setoff Note.

49 Contract variations; Increase or decrease in the scope of supply

Purchaser may vary the contracted scope during execution due to exigencies of project requirement.

If the seller is of the opinion that the variation has an effect on the agreed price or delivery period, Purchaser shall be informed of this immediately in writing along with technical details, and in the event of additional work, submit a quotation with regards to the price and period involved, as well as the effect this additional work will have on the other work to be performed by the seller. Provided, that if unit rates are available in the contract, the same shall be applied to such additional work. The seller shall not perform additional work before purchaser has issued written instructions/amendment to the purchase order to that effect. The work which the seller should have or could have anticipated in terms of delivering the service (s) and functionality (ies) as described in this agreement should be executed by the vendor without any price implication.

50 Short shipments/ warranty/guarantee replacements

In case of any short shipment during initial supply which is subsequently dispatched by the seller or any guarantee / warranty replacements shall be dispatched on "DDP-Delivered duty paid BHEL stores" basis for imported items and "FOR-BHEL Stores/designated destination" basis for indigenous items. Taxes, if any paid by indigenous vendor for short supply, guarantee /warrantee replacement, repair activity shall be to vendor's account only. Vendor has to raise a credit note for short supplied quantity as per GST provisions.

51 Rejection/Replacement

The seller shall arrange replacement / repair under its obligation under the contract within one month from the date of intimation or mutually agreed period. The rejected goods shall be taken away by the seller and replaced on DDP/FOR-BHEL Stores/designated destination basis within such period. In the event of the seller's failure to comply. Purchaser may take appropriate action including disposal of rejections, at the cost and risk of the seller. Vendor has to raise a credit note for rejected quantity as per GST provisions.

In case defects attributable to seller are detected during processing of the goods at purchaser's / his subcontractor works, the seller shall be responsible for replacement /repair of the goods as required by the purchaser at seller's cost.

52 Export Administration Regulations

If a delivery includes such technology and / or supply that is subjected to the export regulations the seller shall obtain due permissions, approvals, license etc.

53 Cancellation / Termination of contract and risk purchase

Purchaser shall have the right to completely or partially terminate the agreement by means of written notice to that effect without prejudicing their other rights in the event that:

- The seller is declared bankrupt, its business has been shut down or liquidated, a substantial part of its assets have been attached/destroyed, or the business has been transferred to a third party.
- Any misrepresentation or hiding of material fact if detected at a later stage.
- The delivery is rejected after inspection or re-inspection.
- In the event of termination, the risk of the items already delivered but not of use to Purchaser, as determined by purchaser, remains with the seller. The items shall then be at the seller's disposal and they are to be collected by the seller. The seller shall refund any payments made by purchaser in terms of the terminated agreement immediately, not later than 30 days,
- In the event of Cancellation/ termination of contract, BHEL reserves the right to procure the items which are not delivered as per PO and charge the excess cost from the defaulting seller. Incase the excess cost is not repaid by or recovered from the defaulting seller within 30 days, apart from legal recourse for effecting such recoveries, Penal action in line with BHEL's Suspension of Business dealings will be taken.



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	INSTRUCTIONS TO BIDDER (ITB)
54	Force Majeure The supplier shall not be considered in default if delay occurs due to causes beyond their control such as Acts of God, Natural
	calamities, Fire, Frost, Flood, Civil War, civil commotion, riot, Government Restrictions.
	Only those causes that have duration of more than seven days shall be considered cause of force majeure. Notification to this effect
	duly certified by local chamber of commerce/statutory authorities with supporting documents shall be given by the supplier to BHEL
	by registered letter/courier service immediately without loss of time.
	In the event of delay due to such causes the delivery schedule shall be extended for a length of time equal to the period of Force
	Majeure or at the option of BHEL the order may be cancelled. Such cancellation would be without any liability whatsoever on the
	part of BHEL.
	In the event of such cancellation the supplier shall refund any amount advanced or paid to the supplier by BHEL and deliver back
	any material issued to him by BHEL and release facilities, if any provided by BHEL.
55	Non-waiver of Defaults
	If any individual provision of the contract is invalid, the other provisions shall not be affected.
56	Settlement of Disputes
	(i) Except as otherwise specifically provided in the contract, all disputes concerning questions of the facts arising under the contract,
	shall be decided by the Purchaser, subject to written appeal by the seller to the purchaser, whose decision shall be final.
	(ii) Any disputes of differences shall to the extent possible be settled amicably between the parties thereto, failing which the disputed
	issues shall be settled through arbitration.
	(iii) The seller shall continue to perform the contract, pending settlement of disputes(s).
57	Conciliation clause
31	CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION
	SCHEME, 2018: The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any
	Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with
	construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding,
	penalty deduction, time extension), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred
	by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of
	BHEL from the BHEL Panel of Conciliators.
	The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory
	modification thereof and as provided in Procedure in http://www.bhel.com/index.php/story_details?story=2454 . The Procedure
	together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this
	ITB.
	ARBITRATION (WITH SOLE ARBITRATOR)
	Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any
	dispute or difference; arising out of the formation, breach, termination, penalty deduction, validity or execution of the Contract; time
	extension, 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, then, either Party may, by a notice in writing to the other Party refer such dispute or
	difference to the sole arbitration . Sole arbitrator to be appointed by Head of the Unit - BHEL , HPEP .
	The Arbitrator shall pass a reasoned award and the award of the Arbitrator 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 Sangareddy / Hyderabad, Telangana. The language of arbitration shall be English and the documents
	shall be submitted in English.
	The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in
	the award of the Arbitrator.
	Subject to the arbitration in terms of clause 57, the courts at Sangareddy, Telangana State 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 Contractor shall proceed with and
	continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional
	manner except where the Contract has been terminated by either Party in terms of this Contract.
	ARBITRATION FOR CONTRACT WITH 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 commercial contract(s)
	between Central Public Sector Enterprises (CPSEs/ Port Trusts inter se and also between CPSEs and Government
	Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or
	difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE 0M No 4(1)/2013-DPE(GM/FTS
	1835 dated 22-05-2018
58	Applicable Laws and jurisdiction of Courts
20	This agreement shall be construed and interpreted in accordance with the laws of India and shall have exclusive jurisdiction of
	Sangareddy/Hyderabad courts, Telangana, India.



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	INSTRUCTIONS TO BIDDER (ITB)					
59	BHEL-Fraud prevention policy shall be adhered to.					
	The Bidder along with its associate/ Collaborators/ Sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere					
	to BHEL Fraud Prevention policy displayed on BHEL Website http://www.bhel.com and shall immediately bring to the notice of					
	BHEL management about any fraud or suspected fraud as soon as it comes to their notice.					
	Fraud prevention policy and list of nodal officers is hosted on BHEL Hyderabad website web.bhelhyd.co.in					
60	Suspected Cartel Formation					
	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					
	nonsubmission 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.					

This format is applicable only to Indian Suppliers/ Agents supplying indigenous portion of Foreign Purchases.

* In all other cases, extant guidelines of SEARP, 2010 are to be followed.

SEARP (SRF)	Detail					
Clause No						
	Name & address of the firm					
1.0	Products/ Systems / Services being considered for					
2.0	General Information					
2.2	Name of Chief Executive					
2.3	Details of authorized signatory					
3.0	Ownership Information					
3.1	Type of firm					
3.2	Nature of Business					
	Attach authorization letter and agency agreement from Principal (from whom capital equipment is procured)					
	 Attach copy of declaration from Foreign Principal for total guarantee/ warranty of indigenous supplies 					
3.3	Year of establishment					
3.4	Year of commencement of business					
4.0	Registration particulars					
4.1	Permanent Account No.					
4.2 / 4.3	Sales Tax / TIN no					
4.6	Service tax no. (in case of E&C)					
5.0	Organisational strength					
6.0	Other particulars					
6.1	If the company is already registered with other units					
6.2	Directors/ Partners, if related to any BHEL Employee					
6.9	If any Ex BHEL Personnel employed by the Company					
6.12	Details of pending legal issues with BHEL					
6.13	Bank Account information					
9.0	Financial information					
9.6	Sales/ Turnover details of last 3 years (or from the date of incorporation					
	whichever is less)					

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.

(To be executed on Non- Judicial Stamp Paper for an appropriate value. To be stamped as an agreement)

(For Suppliers on Unit's / Division's PMD) **ANNEXURE-II**

Framework Confide	entiality Agreement Cum Un	dertaking
This Agreement made on this the Date") by and between M/s. BHARAT "BHEL House", Siri Fort, New Delhi – 11 may be referred to as "BHEL" or "the o	HEAVY ELECTRICALS LIMITED 10049 (India), acting through it	, having registered office at
A	And	
M/s. represented by authorized represent referred to as the "Supplier").		
The supplier and the company may, collectively referred to as "Parties" or s		se requires, hereinafter be
RECITALS		
Whereas, BHEL is engaged in the de commissioning and servicing of a wid sectors of the economy, viz. Power, Tr	le range of products, system	s and services for the core

Oil & Gas and Defence and providing associated services to varied customers in relation to which BHEL / its affiliates own valuable information of a secret and confidential nature. Whereas the Company may, in connection with contract(s) (as defined hereunder) placed or to

be placed upon the supplier, or otherwise, from time to time, make available, Technical Information as is defined hereunder.

And Whereas BHEL is willing to provide such Technical Information to the Supplier from time to time and the Supplier understands and acknowledges that such Technical Information is valuable for the Company and as such is willing to protect confidentiality of such information, subject to the terms and conditions set out hereunder.

Now therefore, in view of the foregoing premises and in consideration of the mutual covenants and agreements hereinafter set forth, the parties agree as under:

1. Definitions:

Unless the context so requires, in this Agreement, the following terms will bear the meaning ascribed to the said term in this clause.

- A. "Contract" means the contract entered into with a supplier and includes a Purchase Order, or a Work Order for procurement of any goods or for provision of any services.
- B. **"Effective Date"** means the date of this Agreement as mentioned in the preamble of this Agreement.
- C. **"Supplier"** includes a Contractor or a Vendor of the Company whether for supplying of goods or for providing any services under a Contract or both.
- D. "Technical Information" includes Drawings, and / or Product Standards and / or Specifications and / or Corporate / Plant Specifications and / or Technological Process Sheets and / or Technical Data Sheets and / or Jigs & Fixtures and / or Pattern & Dies and / or Special Gauges and / or Tools etc. Belonging to or wherein the Company has acquired from a third party a right of user and includes any improvement thereto from time to time whether carried out by the Company or by the Suppliers.
- E. **"Intended Purpose"** means the purpose for which the Technical Information is provided to the supplier under or in connection with a contract.
- F. "Improvement" includes any modification made to, or adaptation of, the Technical Information which enhances or is calculated to enhance the performance (Whether in terms of effectiveness or in terms of efficiency or both) of the product and / or the service to be provided by the Supplier under a Contract.
- 2. This Agreement shall come into force / deemed to have come into force, as the case may be, on the Effective Date; or, on the first date when the Technical Information or any part thereof is provided by BHEL to the supplier; whichever is earlier.
- 3. Agreement deemed to be incorporated in each contract: Unless and to the extent otherwise stipulated in the Contract, the conditions of this Agreement are deemed to be incorporated in all Contracts which may be entered into between the Company and the Supplier. Further, unless otherwise stipulated, the obligations under this Agreement are and will be independent of the obligations under the Contracts and such obligations of the Supplier hereunder will remain of full effect and validity notwithstanding that the period of validity of the Contract has expired by efflux of time stipulated therein; or, the contract has been discharged by performance or breach; or, the termination of the Contracts for any reason whatsoever.

4. Ownership:

- 4.1 The Company may, from time to time, make available to the Supplier, Technical Information on a non-exclusive basis by way of loan.
- 4.2 The Supplier acknowledges and agrees that all Technical Information and copies thereof that are or may be provided by the Company to the Supplier, are and shall remain the property of

BHEL or that of the concerned entity from whom BHEL has obtained the Technical Information and such Technical Information are and shall constitute trade secrets of the BHEL. Nothing in this Agreement or in any disclosures made hereunder by or on behalf of the Company shall be construed as granting upon the Supplier any patent, copyright or design or any other intellectual property rights of whatsoever description that subsists or may hereinafter exist in the Technical Information. Furthermore, nothing in this Agreement or in any disclosures made hereunder by or on behalf of the Company shall be construed as granting upon the supplier any license or right of use of such patent, copyright or design or any other intellectual property rights of whatsoever description which may now or hereafter exist in the Technical Information except for use of the Technical Information strictly in accordance with this Agreement and the contract and / or as directed in writing by the Company, solely for the Intended Purpose under the Contract.

- 4.3 Neither party is obligated by or under this Agreement to purchase from or provide to the other party any service or product and that any such purchase / sale of any product and / or service by one party to the other party will be governed by the Contract if any, that may be entered into by and between the Company and the Supplier.
- 4.4 The Supplier is / has been made well aware and acknowledges that the Technical Information being / which may be shared with it by the Company has been either generated by the Company by incurring huge investment and cost or obtained from foreign collaborators under Technical Collaboration Agreement (TCA) with stringent confidentiality conditions.
- 4.5 The supplier agrees and undertakes to adhere to confidentiality requirements as applicable to BHEL under a TCA and also ensure that the confidentiality requirements are adhered to by all its concerned employees or sub-contractors /suppliers (where permitted to be engaged by BHEL). Any damages, losses, expenses of any description whatsoever, arising out of or in connection with a breach of the confidentiality requirements under a TCA owing to any act or omission on the part of the supplier or its employees or sub-contractors / suppliers that is claimed by a foreign collaborator from the Company shall be wholly borne by the Supplier and it shall keep BHEL fully indemnified in this behalf. The demand by the Company shall be conclusive upon the Supplier who shall thereupon forthwith pay to the Company without demur, dispute or delay the amount as demanded without demanding any further proof thereof.
- 4.6 The Supplier agrees and undertakes that unless so decided and advised by the Company in writing all rights / title to any Improvement to the Technical Information shall vest in the Company. The Supplier undertakes and agrees to inform forthwith to the Company of any such Improvement made to the Technical Information and transfer all drawings / documents or other materials connected with such Improvement to the Company and also agrees to fully cooperate with the Company for protecting the Company's interests in such Improvements

in the Technical Information including but not limited to obtaining necessary protection for the intellectual property rights in such improvement, if so desired by the Company. If a question arises whether a modification amounts to improvement to the Technical Information, the same shall be decided by the Company and such decision shall be final and binding upon the supplier.

5. <u>Use and Non – Disclosure:</u>

- 5.1 Unless otherwise stipulated by the Company, all Technical Information made available to the supplier, by the Company shall be treated as Confidential irrespective of whether the same is marked or otherwise denoted to be Confidential or not.
- 5.2 The Supplier undertakes and agrees that the Technical Information in its possession shall be held in strict confidence and will be used strictly in accordance with this Agreement and solely for the Intended Purpose under the Contract. Use of the Technical Information for any other purpose other than Intended Purpose is prohibited.
- 5.3 In particular, the Supplier shall not use Technical Information or any Improvement in its possession for the manufacture or procurement of the product(s) or components or parts thereof or use the Technical Information or any portion thereof or any modification or adaptation thereof in any form to provide any product and / or service to any third party, without the prior written consent of the Company.
- 5.4 The Supplier shall not disclose any of such Technical Information to any third party without the prior written consent of the Company. The Supplier agrees that without prior written consent of the Company, the supplier shall not disclose to a third party about the existence of this Agreement, or of the fact that it is / was in possession of or has experience in the use of any Technical Information nor shall the Supplier share in any manner whatsoever, with a third party, the name or details of any Contract(s) awarded by the Company to it or performed by the Supplier or the scope of work thereof or share any document or correspondence by and between the Company and the supplier in or in connection with this Agreement or such Contract(s). Notwithstanding what is stated elsewhere, the overall responsibility of any breach of the confidentiality provisions under this Agreement shall rest with the Supplier.
- 5.5 This Supplier undertakes and agrees not to make copies or extracts of and not to disclose to other any or all of the Technical Information in its possession, except as follows:
- (a) The Supplier may disclose the Technical Information to such of its officers and employees strictly to the extent as is necessary for such officer or employee for the Intended Purpose, provided that the Confidential Information (or copies thereof) disclosed shall be marked

clearly as the confidential and proprietary information of Company and that such officers and employees shall similarly be bound by undertakings of confidence, restricted use and non-disclosure in respect of the Technical Information. The Supplier shall be responsible for any breach of such confidentiality provisions by such officers and employees.

- (b) With the prior written consent of Company, the supplier may disclose for the Intended Purpose such Technical Information as is provided for in such consent to such of its professional advisers: consultants, insurers and subcontractors who shall be similarly bound by undertakings of confidence, restricted use and non-disclosure in respect of such Technical Information.
- (c) The Supplier shall not be prevented to make any disclosure required by (i) order of a court of competent jurisdiction or (ii) any competent regulatory authority or agency where such disclosure is required by law, provided that where the supplier intends to make such disclosure, it shall first consult Company and take all reasonable steps requested by it to minimize the extent of the Technical Information disclosed and to make such disclosure in confidence and also shall cooperate with the Company in seeking any protective order or any other remedy from proper authority in this matter.

6. Exceptions:

The Obligations of the Supplier pursuant to the provisions of this agreement shall not apply to any Confidential Information that:

- a) was / is known to, or in the possession of the Supplier prior to disclosure thereof by the Company;
- b) is or becomes publicly known, otherwise than as a result of a breach of this agreement by the Supplier.
- c) is developed independently of the Disclosing party by the Supplier in circumstances that do not amount to a breach of the provisions of this Agreement or the Contract;
- d) is received from a third party in circumstances that do not result in a breach of the provisions of this Agreement.
- 7. The Obligation of maintaining confidentiality of the Technical Information on each occasion, shall subsist for the entire duration during which the Technical Information / equipment is in possession of the Supplier and shall thereafter subsist for a further period of ______ years from the date when the complete Technical Information has been returned in portions on different dates, the period of _____ years will be reckoned from the date when the last portion of the Technical Information has been returned. Notwithstanding the expiry of the confidentiality obligation, the obligation of the Supplier under clause 5.4 shall continue to subsist for a further period of _____ years.

8. Warranties & Undertakings:

- a) The Supplier undertakes to ensure the due observance of the undertakings of confidence, restricted use and non-disclosure by its persons to whom it discloses or releases copies or extracts of the Technical Information.
- b) The Supplier shall keep the Technical Information or improvement made therein properly segregated and not mix up the same with any other material / documents belongings to him / it or to any other third party.
- c) The Supplier further undertakes that he / it shall not hypothecate or give on lease or otherwise alienate or do away with any of the Technical Information and / or equipment of the Company, made available to him / it, and undertakes that he / it shall hold the same as a trustee, in capacity of custodian thereof and use / utilise the same solely for the purpose of executing the contract awarded by the Company.
- d) The Supplier further undertakes that he / it shall return all the equipment and / or Technical Information as far as practicable in the same condition in which the same was made available to him / it by the Company together with any Improvement thereon and the documents connected with such Improvement, to the Company forthwith upon completion of the scope of work or contract for which such Technical Information was provided by the Company to it or as directed by the Company together with a confirmation by way of an affidavit or in such manner as directed by the Company that it has not retained any equipment and / or Technical Information / improvement thereof. In case any such equipment and / or Technical Information or thereof shall remain in his possession or is not capable of being returned, the retention and use of such Technical Information or improvement thereto shall continue to be governed by this Agreement.
- e) The Supplier undertakes to indemnify the Company for all the direct, indirect and / or consequential losses, damages, expenses whatsoever including any consequential loss of business, profits suffered by the Company owing to breach by the Supplier of its obligations under this Agreement and / or the confidentiality requirements, if any, contained in the Contract and that the Supplier hereby agrees that the decision of the Company in all such or any such matter/s shall be final and binding on the Supplier. On mere written demand of the Company, the Supplier shall forthwith and without demur or delay pay to the Company any such sum as determined by the Company as the amount of loss or damage or expense which has been suffered by the Company. The Supplier agrees that the Company shall be entitled to withhold and appropriate any amount payable to the Supplier under any Contract then existing between the Company and the Supplier, in case the Supplier fails to make payment, in terms of the written demand, within 7 days thereof. Without prejudice to the forgoing actions, in respect to any breach of this Agreement, the Company shall be entitled to take

any other action against the Supplier as per applicable laws, the Contract, Company's applicable policies, guidelines rules, procedures, etc.

9. Without prejudice to any other mode of recovery as may be available to the Company for recovery of the amount determined as due as per Clause 9 (f) hereinabove, the Company shall have a right to withhold, recovery and appropriate the amount due towards such losses, damages, expenses, from any amount due to the Supplier in respect of any other Contract (s) placed on him / it by any department / office / unit/ division of the said Company.

10. Arbitration & Conciliation:

1. Except as provided elsewhere in this contract, in case amicable settlement is not reached between the parties, in respect of any dispute 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, 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 unit issuing the contract.

The Arbitrator shall pass a reasoned award and the award of the Arbitrator 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 at Hyderabad.

The cost of arbitration shall be borne as per the award of the Arbitrator.

Subject to the arbitration in terms of clause 55, the courts at Sangareddy, Telangana State 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 contractor shall proceed with and continue without hindrance the performance of its obligations under this contract with due diligence and expedition in a professional manner except where the contract has been terminated by either party in terms of this contract.

In case of contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

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.

2. INTEREST CLAUSE:

In order to bring uniformity in all the contracts / agreements entered between BHEL and its contractors / vendors / suppliers / service providers etc., it is hereby advised to incorporate the following clause in all tenders and agreements.

"No interest shall be payable by BHEL on earnest money or security deposit or any money due to the contractor by BHEL."

11. Governing Law & Jurisdiction:

This agreement shall be construed and interpreted in accordance with the laws of India and shall have exclusive jurisdiction of Sangareddy/Hyderabad courts, Telangana, India.

SIGNATURE
WITNESSES

1
Name:
Address:
2
Name:
Address:

Annexure - III

<u>Proforma for self-certification by Supplier for minimum local content on their letter head for tender value less than Rs 10 Crore</u>

"We	(Name of Manufacturer)	undertake that we meet the mandatory
minimum Local Cor	ntent (LC) requirement i.e	(to be filled as notified in the policy) for
claiming Purchase F	reference linked with Local C	Contents under the Govt. policy against tender
no		

Annexure - IV

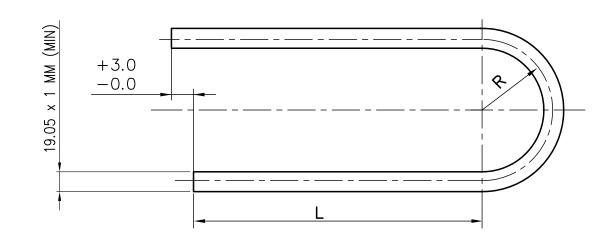
Proforma for self-certification by Supplier for Compliance to Clause No 20 (B)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and I certify that M/s... (Name of firm) is **not from such a country/is from such a country (**delete whichever is NOT applicable) and has been duly registered with the Competent authority (delete if NOT applicable) . I hereby certify M/s... fulfills all requirements in this regard and is eligible to be considered . (where applicable , valid registration by the competent authority shall be attached)

Sd/-Authorised Signatory with Stamp DRG. NO. 3-162-22-00597

	L.P.HEATER No.3	L.P.HEATER No.4	L.P.HEATER No.5
LENGTH "L"	9600-U TUBE	10700-U TUBE	9300-U TUBE
QUANTITY	917	917	917
MATL. CODE	HE9718583653	HE9718583661	HE9718583670

ROW RADIUS		LPH-3,4&5	LPH-3	LPH-4	LPH-5
No	"R"	QUANTITY	JANTITY DEV LENGTH DEV LENGTH		DEV LENGTH
1	38.1	34	19320	21520	18720
2	58.7	42	19384	21584	18784
3	79.3	42	19449	21649	18849
4	100.0	44	19514	21714	18914
5	120.6	43	19579	21779	18979
6	141.2	44	19644	21844	19044
7	161.8	43	19708	21908	19108
8	182.4	44	19773	21973	19173
9	203.1	45	19838	22038	19238
10	223.7	44	19903	22103	19303
11	244.3	43	19967	22167	19367
12	264.9	42	20032	22232	19432
13	285.5	41	20097	22297	19497
14	306.2	40	20162	22362	19562
15	326.8	39	20227	22427	19627
16	347.4	38	20291	22491	19691
17	368.0	33	20356	22556	19756
18	388.6	32	20421	22621	19821
19	409.3	33	20486	22686	19886
20	429.9	32	20551	22751	19951
21	450.5	29	20615	22815	20015
22	471.1	28	20680	22880	20080
23	491.7	25	20745	22945	20145
24	512.4	20	20810	23010	20210
25	533.0	17	20874	23074	20274
NO. OF TUBES		917	917	917	917
TOTAL DEVELOPED LENGTH FOR THE TUBE BUNDLE IN METERS			18354.35	20371.75	17804.15
	ATED WEIGHT OF JBE BUNDLE IN KGS		8904.07	9885.26	8638.14
AVERAGE WEIGHT PER TUBE IN KGS		_	9.71	10.78	9.42



NOTES: -

- 1. MATERIAL: -SA688 TP 304 AS PER ASME SEC-II PART-A YEAR OF EDITION AS PER P.O/INDENT WITH CARBON MAX. 0.05%
- 2. TECHINICAL REQUIREMENTS AS PER PRODUCT STD. HE 5 1103 REV.(LATEST AS PER P.O./INDENT) AND AS PER MATERIAL SPECIFICATION.
- 3. QUALITY REQUIREMENTS INSPECTION & CERTIFICATION AS PER QUALITY PLAN: -HY/HE/004/U-TUBES REV. (LATEST AS PER P.O./INDENT)
- 4. INSPECTION & CERTIFICATION: AS PER P.O./INDENT.
- 5. HYDRO TEST PRESSURE ON EACH TUBE = 75 Kg/Sq cm(g).
- 6. MIN.WALL THICKNESS = +20%

H	TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT											
Ŝ	Abya s	В П/		AVY ELECTRIC DERABAD	ALS L1		DRN. CHD. APPD.	NAME RAJESH M A.K.SAHOO K KISHORE KUMAR	SIGN. M. RAJESH AKS KKK	29.0 29.0	ATE 01.21 01.21 01.21	NO.OF VAR. NA
^	DEPT. HEE CODE	GRADE OF TOL.DIM. C/M/F		SCALE	WEIGH	т (к		REF. TO ASSY			ITEM	NO.OF ITEMS NA
	TITLE (U – FOR L.P.H	- TUBI IEATERS -	=S - 3,4 &5)			ARD DDE	DRAWING N 3-162-2		SHEE		REV. 00

INVENTORY NO

CHECKED APPD

ALTERED

REV.

ZONE

DATE



CORPORATE STANDARD

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PRESERVATION, PACKING AND MARKING OF HEAT EXCHANGER TUBES

1.0 SCOPE:

This standard stipulates the requirements of preservation, packing and marking of ferrous and non ferrous heat exchanger tubes.

2.0 PRESERVATION:

2.1 End Caps/Guides:

All the tubes shall be provided with plastic end caps of conical shape on both sides, in order to avoid ingress of water and other foreign matter and to serve as a guide for tube insertion through the support plates during assembly of the Heat exchangers.

A typical figure of the plastic guide is shown in the fig 2 for guidance.

2.2 Rust prevention:

All carbon steel tubes shall be applied with suitable temporary rust preventive on the outer surface of the tubes and required quantity of rust inhibitive powder shall be inserted inside the tubes before end capping.

3.0 PACKING:

3.1 The tubes shall be wrapped with polythene sheet in order to avoid movements and rubbing and packed in wooden cases (as an alternate bubble sheet and thermocol also acceptable) with suitable cushioning materials. The bottom of the case shall be rigid to enable the tubes to maintain straightness. Special lifting tackles, including beams, wherever necessary shall be provided with each case to avoid damage during transit. The case shall be fastened with corner metal plates and nailed at all cleats. The reinforcing bolts shall be bound with band steel.

A suitable amount of desiccant such as silica gel shall be placed in each packing box.

- Each package shall be of convenient weight for ease in handling. The weights shall not exceed 2000 kg (Gross) when tubes longer than 7000 mm are ordered.
- 3.3 The recommended packing case design and the method of packing is illustrated in Fig. No.1 Any alternate method of packing shall be submitted to BHEL for approval.

Revisions : Cl. 18.11.01 of MRC – NFCW+HE			APPROVED: INTERPLANT MATERIAL RATIONALIZATION COMMITTEE-MRC (NFCW+HE)			
Rev. No. 02	Amd.No.	Reaffirmed	Prepared	Issued	Dt. of 1st Issue	
Dt: 15.02.2004	Dt:	Year:	HARDWAR	Corp. R&D	APRIL, 1985	

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Rev. No. 02

CORPORATE STANDARD



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4.0 MARKING:

- **4.1** Each tube shall be stenciled with the following information:
 - a) BHEL order number:
 - b) BHEL Specification No.
 - c) Melt/Heat No:
 - d) Size of tube:
 - e) Supplier 's mark
- **4.2** A metal label shall be securely attached to each packing case, punched with the following details:
 - a) BHEL order number:
 - b) BHEL Specification No.
 - c) Consignment or Identification No.
 - d) Size of the tubes and Total weight
 - e) Supplier's Name
- **4.3** The packing case shall be marked with the following symbols in order to avoid damage during transit:
 - a) A mark indicating UP-DOWN position of the case.
 - b) A mark indicating that the case shall not be given any impact.
 - c) A mark indicating that the case shall be kept free from contact with moisture.
 - d) A mark showing the slinging position.

5.0 HANDLING AT PORT, SITE, SHOP, ETC., 9INCLUDING TRANSPORTATION):

5.1 Procedure:

If the tube length is more than 7000 mm invariably beams are ordered by BHEL, two in numbers which are supplied with first consignment by the vendor.

On receipt of consignment at port, boxes and lifting beams shall be inspected. If boxes are found broken, inspection of tubes shall be carried out. Broken box shall be suitably repaired before sending to site. Boxes shall be inspected before loading on the truck/trailer at supplier's works. Repair shall be carried out if required.

Invariably lifting beam shall be used for handling of boxes.

Boxes shall be placed on the floor on supports (at least 300 mm above the floor). Distance between supports shall not be more than 500 mm. While handling /stacking, vertical direction as marked on the box shall be followed.

Boxes shall be stacked on each other in such a way that are upright, straight and not projecting outside the lower box. Normally not more than 3 boxes shall be kept on each other.



CORPORATE STANDARD

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5.2 Loading of boxes on trailers/trucks:

Preferably trailer shall be of flat floor and its length shall not less than the box. However, in case it is not feasible, following is recommended:

Box length max. in metres 20 18.5 15 10 9.5 8 Floor length not less than in metres

In case, the floor of trailer/truck is not flat, following procedure shall be adopted:

- a) Packers of suitable strength shall be placed on the floor such that when boxes are placed, the packer's bottom of the boxes is horizontal.
- b) Packers shall be placed such that at the driver end, the box projects maximum 300 mm from the support and on the opposite end, it is 300 mm less than end of the floor such that total projection from last support shall not be more than as specified above.
- c) Boxes shall be placed on each other as specified in clause 5.1. The each vertical row shall the secured tight using ropes /wires and tightened with each other and secured with the trailer floor suitably. The gap between the tightening rope/wire shall not be more than 2 metres.
- d) Out of two lifting beams, one number shall be sent with first consignment and the second lifting beam with the last consignment.
- e) Boxes shall be covered with tarpaulin and tightened suitably so as to prevent seepage of water.

5.3 Receipt at site:

The boxes shall be again inspected at the site for any breakage, if found shall be reported back to concerned unit.

The boxes from trailer/truck shall be lifted using lifting beam only supplied with the first and last consignment and stacked in the store in line with clause 5.1.

The boxes shall be covered with tarpaulin to prevent water seeping in the boxes.

6.0 REFERRED STANDARDS (LATEST PUBLICATIONS INCLUDING AMENDMENTS):

NIL

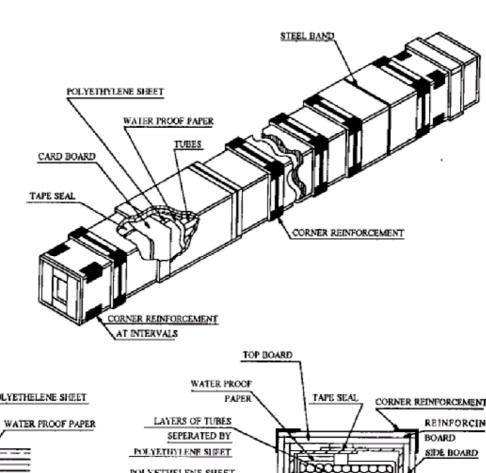
AA 049 00 02

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CORPORATE STANDARD



PAGE 4 OF 4



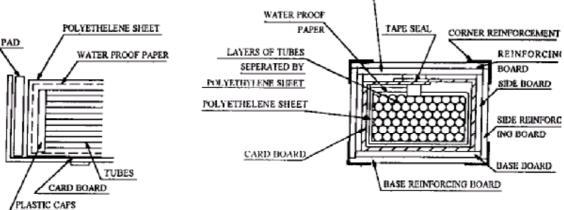


FIG. 1 TYPICAL PACKING OF HEAT EXCHANGER TUBES

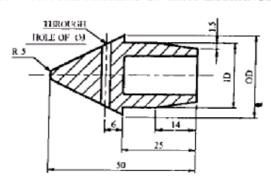


FIG. 2 TYPICAL DRAWING OF CAP FOR TUBE END

(All dimensions are in mm)



CORPORATE STANDARD

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PRESERVATION, PACKING AND MARKING OF U-BENT HEAT EXCHANGER TUBES

1.0 SCOPE:

This standard stipulates the requirements preservation, packing and marking of ferrous and non ferrous U-Bent heat exchanger tubes.

2.0 PRESERVATION:

2.1 End Caps/Guides:

All the tubes shall be provided with plastic end caps of conical shape on both ends, in order to avoid ingress of water and other foreign matter.

A typical figure of the plastic cap is shown in the fig 3 for guidance.

2.2 Rust prevention:

All carbon steel tubes shall be applied with suitable temporary rust preventive on the outer surface of the tubes, and required quantity of rust inhibitive powder shall be inserted inside the tubes before end capping.

3.0 PACKING:

3.1 All tubes shall be packed and blocked in such a manner as to prevent damage in ordinary handling and transportation.

The boxes shall be constructed in such a manner that no nails, staples, screws or similar fasteners are required to close and secure the box after the tubes have been placed in the box. The box shall be lined with plastic sheet or vapour barrier materials so as to prevent chloride contamination of the tubes during handling, transportation and storage. The bottom of the case shall be rigid to enable the tubes to maintain straightness. Special lifting tackles, including beams, wherever necessary shall be provided with each case to avoid damage during transit. The U- bent tubes shall be arranged in boxes so that the smaller radius bends may be removed without disturbing larger radius bends. Tubes for each heat exchanger shall be boxed together.

A suitable amount of desiccant such as silica gel shall be placed in each packing box.

- Each package shall be of convenient weight for ease in handling. The weights shall not exceed 2000 Kg (Gross).
- 3.3 Plastic/ nylon support guides as shown in fig.2 shall be placed in between the tubes in order to prevent rubbing of tube to tube and internal movement.

Revisions: Cl. 18.11.01 of MRC – NFCW+HE			APPROVED: INTERPLANT MATERIAL RATIONALIZATION COMMITTEE-MRC (NFCW+HE)		
Rev. No. 02	Amd.No.	Reaffirmed	Prepared	Issued	Dt. of 1st Issue
Dt: 15.02.2004	Dt:	Year:	HYDERABAD	Corp. R&D	DECEMBER, 1986

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Rev. No. 02

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- 3.4 The U-bent tubes of different radii shall be inserted into the slots of the wooden supports which are firmly fixed in the box as shown in Fig. 1
- 3.5 The recommended packing case design and the method of packing is illustrated in fig 1. Any alternate method of packing shall be submitted to BHEL with full particulars and drawings along with the offer for approval.

4.0 MARKING:

- **4.1** Each tube shall be stenciled with the following information:
 - a) BHEL order number:
 - b) BHEL Specification No.
 - c) Melt/Heat No:
 - d) Size of tube:
 - e) Supplier 's mark
- **4.2** A metal label shall be securely attached to each packing case, punched with the following details:
 - a) BHEL order number:
 - b) BHEL Specification No.
 - c) Consignment or Identification No.
 - d) Size of the tubes & Total weight
 - e) Supplier's Name
- **4.3** The packing case shall be marked with the following symbols in order to avoid damage during transit:
 - a) A mark indicating UP-DOWN position of the case.
 - b) A mark indicating that the case shall not be given any impact.
 - c) A mark indicating that the case shall be kept free from contact with moisture.
 - d) A mark showing the slinging position.

5.0 HANDLING AT PORT, SITE, SHOP, ETC., 9INCLUDING TRANSPORTATION):

5.1 Procedure:

If the tube length is more than 7000 mm invariably beams are ordered by BHEL, two in numbers which are supplied with first consignment by the vendor.

On receipt of consignment at port, boxes and lifting beams shall be inspected. If boxes are found broken, inspection of tubes shall be carried out. Broken box shall be suitably repaired before sending to site. Boxes shall be inspected before loading on the truck/trailer at supplier's works. Repair shall be carried out if required.

Invariably lifting beam shall be used for handling of boxes.

Boxes shall be placed on the floor on supports (at least 300 mm above the floor). Distance between supports shall not be more than 500 mm. While handling /stacking, vertical direction as marked on the box shall be followed.

Boxes shall be stacked on each other in such a way that are upright, straight and not projecting outside the lower box. Normally not more than 3 boxes shall be kept on each other.



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5.2 Loading of boxes on trailers/trucks:

Preferably trailer shall be of flat floor and its length shall not less than the box. However, in case it is not feasible, following is recommended:

Box length max. in metres	Floor length not less than in metres		
20	18.5		
15	14		
10	9.5		
8	7.6		

In case, the floor of trailer/truck is not flat, following procedure shall be adopted:

- a) Packers of suitable strength shall be placed on the floor such that when boxes are placed, the packer's bottom of the boxes is horizontal.
- b) Packers shall be placed such that at the driver end, the box projects maximum 300 mm from the support and on the opposite end, it is 300 mm less than end of the floor such that total projection from last support shall not be more than as specified above.
- c) Boxes shall be placed on each other as specified in clause 5.1. The each vertical row shall the secured tight using ropes /wires and tightened with each other and secured with the trailer floor suitably. The gap between the tightening rope/wire shall not be more than 2 metres.
- d) Out of two lifting beams, one number shall be sent with first consignment and the second lifting beam with the last consignment.
- e) Boxes shall be covered with tarpaulin and tightened suitably so as to prevent seepage of water.

5.3 Receipt at site:

The boxes shall be again inspected at the site for any breakage, if found shall be reported back to concerned unit.

The boxes from trailer/truck shall be lifted using lifting beam only supplied with the first and last consignment and stacked in the store in line with clause 5.1.

The boxes shall be covered with tarpaulin to prevent water seeping in the boxes.

6.0 REFERRED STANDARDS (LATEST PUBLICATIONS INCLUDING AMENDMENTS):

NIL

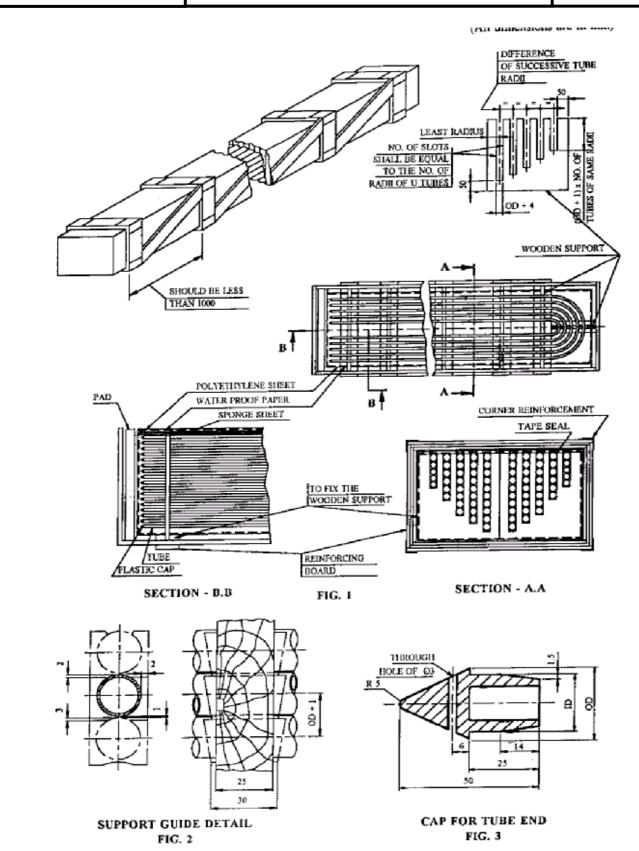
AA 049 00 03

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CORPORATE STANDARD



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		PRE-QUALIFICATION CRITERIA	(PQC)		
		S.S. Welded Straight Tubes for Heat E		1	T
.No.		BHEL Requirement	Vendor's Confirmation		Remarks
1		ne suppliers need to submit this document i.e. titled pre-qualification criteria and fu	· · · · · · · · · · · · · · · · · · ·	nformation	along with offer.
2	a)	Name, address, e-mail id, contact no.etc. of manufacturing mill for SS Welded Straight Tubes.			
	b)	Name, address, e-mail id, contact no.etc. of authourised agency / trading house quoting on behalf of manufacturing mill.			
		In case offer is received from authourised agency / trading house, the following requirements shall be full filled.			
		i) Valid letter of authorisation and copy of agreement to be enclosed with offer.			
		 ii) The offer shall be either from the authorised agency or from the manufacturer directly. In case of BHEL receiving offer from both, then offer from manufaturer will only be considered. 			
		Offer from an unauthorised agency / entity on behalf of any vendor shall be			
		summarily rejected. iii) Name, address, e-mail id, contact no.etc. of entity on whom order to be			
		released in case of L1 shall be clearly indicated.			
3		olier to confirm/provide the following criteria/documents for evaluation of offer.	ı		
	Stair	he supplier shall have the proven experience in manufacturing and supply of less Steel Welded Straight Tubes for Heat Exchangers supplied in power plant / ess Industries / Refinery applications as mentioned below.			
		Material : SA 249 TP 304 /SA 249 TP 304 L/ SA 249 TP 316 /SA 249 TP 316 L/ SA			
		688 TP 304 /SA 688 TP 304 L/ SA 688 TP 304N / SA 688 TP 304LN/SA 688 TP 316 /SA 688 TP 316 L / SA 688 TP 316N / SA 688 TP 316LN			
		Tube O.D.: 15.875 mm (5/8 inch) and above.			
	iii) iv)				
	v)				
	vi)				
	,	At least one year in in service ending lastday of month previous to the one in which enquiry floated.			
	vii)	The supplier shall be an original Tube manufacturer. All the facilities required for manufacturing tubes from SS strips, shall be readily available with the vendor.			
		Ex: Bright annealing facility, online or offline eddy current testing facility, Ultrasonic test facility, Hydrostatic testing facility. (Hydrostatic test pressure: 75			
		kg/sq.cm (g) minimum)			
		ne above criteria 3(a) (i) to 3(a) (vii) must be combinedly met by the vendor against gle supply reference of Straight Tubes.			
		olier's having experience in applications other than shell and tube heat exchangers not be treated as a proven experience.			
		he supplier meeting all the above criteria as 3 (a) (i) to 3 (a) (vii) shall furnish details of such supplies only as indicated above (sl no 3 (a))			
	i	ncluding heat exchanger manufacturer's Name, plant name(where the heat anger is installed), date of supply (in DDMMYY format), No of years the exchanger			
	is in	service, Size, Quantity and full contact details of heat exchanger manufacturer & t. (including Mobile no and e-Mail ID).			
		OR leat exchanger manufacturer's certificate (in English) containing the supply			
	d	etails as above both 3(a) & 3 (b), Contact details [E-Mail ID, Land line/Mobile Io.] and complete address of heat exchanger manufacturer may be furnished.			
		dors who have already supplied SS Welded Straight Tubes to BHEL-Hyd are			
	exen	npted from furnishing the above documents if their supply records are available BHEL. However such supplies have to meet all other requirements of this PQC.			
		e : Suppliers shall furnish maximum upto 6 number of latest customer reference			
	form	ils as indicated above in the attached annexure-II. Details furnished in any other nat shall not be considered.			
		ne documents shall be furnished only in English. Documents furnished in other auges will not be considered for further evaluation.			

S.S. W	elded Straight Tubes (contd)		
	(c) BHEL reserves the right to cross verify with the above such customers and satisfy itself with reference to the claims of the supplier. If the information furnished by the supplier is not found satisfactory, the offer will be technically rejected.		
4	Offers without the requirement as above 3(a) & 3(b) will not be technically evaluated by BHEL. Further, no correspondence in this matter will be entertained.		
5	For making S.S. Welded tubes, stainless steel strips may be directly procured as raw material.		
	Stainless steel strips shall be sourced from the following vendors. i) Jindal Stainless Ltd., India ii) SAIL, Salem Steel Plant, India		
	If the tube manufacturer desires to source SS strips from any other reputed source, they may give full details of the facilities, like manufacturing and testing facilities, size ranges and the customers to whom they are supplying. BHEL reviews the credentials of such supplier, and may accept the proposal if it is satisfied technically. The decision of BHEL is final in this regard.		
	The vendors shall furnish the detailed process of manufacturing and testing procedures along with the offer.		
	List of BHEL qualified bidders may be forwarded to BHEL's End Customer for their review and approval. The list finalized by BHEL's End Customer shall be final and binding.		
	BHEL team may carry out vendor evaluation/assesment(incase of a new vendor)by a visit to vendor works for qualifying /rejecting the technical bid based on the findings of the visit.		
9	Vendors to submit their bid in 2- part system, i.e. Part-I shall consists of Pre- Qualification Criteria along with the required documnets and Techno-commercial bids and Part-II shall consists of Price Bid. Offers failing to meet prequalification part will not be considered for further evaluation.		

													Annexure-
	Material	l	<u> </u>	<u> </u>		Heat I	S.S. Welded Str Exchanger manufac	atight Tubes for Heat Ex turersdetails	changers		End custome	r details	
Ref project S.no	SA 249 TP 304 /SA 249 TP 304 L/ SA 249 TP 316 /SA 249 TP 316 L/SA 688 TP 304 /SA 688 TP 304 N / SA 688 TP 304L/ SA 688 TP 304LN/ SA 688 TP 316 /SA 688 TP 316 N / SA 688 TP 316L/ SA 688 TP 316LN	OD mm 15.875 mm (5/8 inch) and above.	(min	Supply date DDMMYYYY	Application (Yes/No)	Supplied to (heat exchangers manufacturer's name)	Contact person	E-Mail id &Phone no	Name of the organisation(End user)	Project Details Name: MW Rating: Location		Contact person	E-Mail id&Phone no:
1													
2													
3													
4													
5													
6													

Note:

a) Reference list shall be submitted in the above format only.

b) wherever details are not available, vendor to mention as "NA"

- Vendors are requested to fill the above and submit along with PreQualification Criteria (PQC). Details mentioned above only are considered for PQC evaluation.
- Reference project Tube material shall be SA 249 TP 304 /SA 249 TP 304 L/ SA 249 TP 316 L/SA 688 TP 304 L/ SA 688 TP 304 N / SA 688 TP 304L/ SA 688 TP 304LN/ SA 688 TP 316 N / SA 688 TP 316 N /
- c) TP 316LN Other tube material shall be considered as INVALID Reference.
- d) Reference project Tube OD shall be 15.875 mm (5/8 inch) and above.
- e) Reference project Tube thickness shall be 0.889 mm minimum.
- f) clause no 3(a) (i) to 3(a) (viii) of PQC must be combinedly met by the vendor against a single supply reference of Tubes. Maximum of 06 such reference shall be mentioned in the above table. (for ease of evaluation).

		PRE-QUALIFICATION CRITERIA S.S. Welded U Tubes for LP Hea			
No.		BHEL Requirement	Vendor's Confirmation	Deviation if Any	Remarks
1	All th	he suppliers need to submit this document i.e. titled pre-qualification criteria and fu		•	along with offer.
2	a)	Name, address, e-mail id, contact no.etc. of manufacturing mill for SS Welded U Tubes.			
	b)	Name, address, e-mail id, contact no.etc. of authourised agency / trading house quoting on behalf of manufacturing mill.			
		In case offer is received from authourised agency / trading house, the following requirements shall be full filled.			
		i) Valid letter of authorisation and copy of agreement to be enclosed with offer.ii) The offer shall be either from the authorised agency or from the manufacturer			
		directly. In case of BHEL receiving offer from both, then offer from manufaturer will only be considered.			
		Offer from an unauthorised agency / entity on behalf of any vendor shall be summarily rejected.			
		iii) Name, address, e-mail id, contact no.etc. of entity on whom order to be released in case of L1 shall be clearly indicated.			
3	Supp	I blier to confirm/provide the following criteria/documents for evaluation of offer.	<u> </u>		
		he supplier shall have the proven experience in manufacturing and supply of			
		nless Steel Welded U tubes for Heat Exchangers supplied in power plant / Process stries / Refinery applications as mentioned below.			
	i)	Material : SA 688 TP 304 /SA 688 TP 304 L/ SA 688 TP 304N / SA 688 TP 304LN/SA 688 TP 316 /SA 688 TP 316 L / SA 688 TP 316N / SA 688 TP 316LN			
	ii)	Tube O.D.: 15.875 mm (5/8 inch) and above.			
		Tube Thickness: 0.889 mm minimum or thicker			
		Application: Shell and Tube Heat Exchangers			
	_	Service: Power plant / Process Industries / Refinery applications			
	Vi)	Satisfactory Working of equipment: At least one year in in service ending lastday of month previous to the one in which enquiry floated.			
	vii)	The supplier shall be an original U-Tube manufacturer. All the facilities required for manufacturing U-tubes from SS strips, shall be readily available with the vendor.			
		Ex: Bright annealing facility, online or offline eddy current testing facility, Ultrasonic test facility, Hydrostatic testing facility. (Hydrostatic test pressure: 75 kg/sq.cm (g) minimum), U-bend stress relieving facility etc.			
		he above criteria 3(a) (i) to 3(a) (vii) must be combinedly met by the vendor against agle supply reference of U tubes.			
		olier's having experience in applications other than shell and tube heat exchangers not be treated as a proven experience.			
		the supplier meeting all the above criteria as 3 (a) (i) to 3 (a) (vii) shall furnish details of such supplies only as indicated above (sl no 3 (a))			
	exch is in plan	including heat exchanger manufacturer's Name, plant name(where the heat nanger is installed), date of supply (in DDMMYY format), No of years the exchanger service, Size, Quantity and full contact details of heat exchanger manufacturer & t. (including Mobile no and e-Mail ID).			
	H d	Heat exchanger manufacturer's certificate (in English) containing the supply letails as above both 3(a) & 3 (b), Contact details [E-Mail ID, Land line/Mobile No.] and complete address of heat exchanger manufacturer may be furnished.			
	from	dors who have already supplied SS Welded U tubes to BHEL-Hyd are exempted in furnishing the above documents if their supply records are available with BHEL.			
	Note	vever such supplies have to meet all other requirements of this PQC. =: Suppliers shall furnish maximum upto 6 number of latest customer reference iils as indicated above in the attached annexure-I. Details furnished in any other			
	form All th	nat shall not be considered. he documents shall be furnished only in English. Documents furnished in other auges will not be considered for further evaluation.			

S.S. W	'elded U Tubes for LP Heaters (contd)	
	(c) BHEL reserves the right to cross verify with the above such customers and satisfy itself with reference to the claims of the supplier. If the information furnished by the supplier is not found satisfactory, the offer will be technically rejected.	
	Offers without the requirement as above 3(a) & 3(b) will not be technically evaluated by BHEL. Further, no correspondence in this matter will be entertained.	
	For making S.S. Welded tubes, stainless steel strips may be directly procured as raw material. Stainless steel strips shall be sourced from the following vendors. i) Jindal Stainless Ltd., India	
	ii) SAIL, Salem Steel Plant, India	
	If the tube manufacturer desires to source SS strips from any other reputed source, they may give full details of the facilities, like manufacturing and testing facilities, size ranges and the customers to whom they are supplying. BHEL reviews the credentials of such supplier, and may accept the proposal if it is satisfied technically. The decision of BHEL is final in this regard.	
6	The vendors shall furnish the detailed process of manufacturing and testing procedures along with the offer.	
	List of BHEL qualified bidders may be forwarded to BHEL's End Customer for their review and approval. The list finalized by BHEL's End Customer shall be final and binding.	
	BHEL team may carry out vendor evaluation/assesment(incase of a new vendor)by a visit to vendor works for qualifying /rejecting the technical bid based on the findings of the visit.	
	Vendors to submit their bid in 2- part system, i.e. Part-I shall consists of Pre- Qualification Criteria along with the required documnets and Techno-commercial bids and Part-II shall consists of Price Bid. Offers failing to meet prequalification part will not be considered for further evaluation.	

							C C /Mold	ed U Tubes for Heat Excl	hangors				Annexur				
	T					Heat E	Exchanger manufac		End customer details								
Ref project S.no	Material SA 688 TP 304 /SA 688 TP 304 N / SA 688 TP 304L/ SA 688 TP 304LN/ SA 688 TP 316 /SA 688 TP 316 N / SA 688 TP 316L/ SA 688 TP 316LN	OD mm 15.875 mm (5/8 inch) and	0.889)	Supply date		Supplied to (heat exchangers manufacturer's name)	Contact person	E-Mail id &Phone no	Name of the organisation(End user)	Project Details Name: MW Rating:	No.of years the equipment is in service	Contact person	E-Mail id&Phone no:				
1	3A 088 IP 310LN	above.	mm	DUMINITYTY	(Yes/No)					Location	is in service						
2																	
3																	
4																	
5																	
6																	

Note:

- a) Reference list shall be submitted in the above format only.

 Vendors are requested to fill the above and submit along with PreQualification Criteria(PQC). Details mentioned above only are considered for PQC evaluation.
- b) wherever details are not available, vendor to mention as "NA"

 Reference project Tube material shall be SA 688 TP 304 / SA 688 TP 304 N / SA 688 TP 304L / SA 688 TP 304L / SA 688 TP 316L / S
- c) Reference.
- d) Reference project Tube OD shall be 15.875 mm (5/8 inch) and above.
- e) Reference project Tube thickness shall be 0.889 mm minimum.
- f) clause no 3(a) (i) to 3(a) (viii) of PQC must be combinedly met by the vendor against a single supply reference of U tubes. Maximum of 06 such reference shall be mentioned in the above table (for ease of evaluation).

vendor's signature with seal



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED STRAIGHT TUBES FOR DRAIN COOLER PR no 8000096805

QP No: 9915-371-110-HYD-QVM-Q-010 A Rev. No.:00

DATE: 24.08.2021 PAGE: PAGE B.1 of 5 PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1033030000, W-1033030100

SL NO	COMPONENT &	CHARACTERISTICS	CLASS	TYPE OF	QUANTUM OF CHECK	REFERENCE	ACCEPTANCE	FORMAT OI	F	A	AGENO	CY	REMARKS
	OPERATION		CHECK		M C/N	DOCUMENT	NORMS	RECORD		M		N	
1.	2.	3.	4.	5.	6	7	8	9.	D*		** 10		11.
1.0	RAW MATERIAL INS	PECTION											
1.1	COIL	A) IDENTIFICATION OF COIL MARKINGS W.R.T. TC	MAJOR	VISUAL	100%	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD		V	V		
1.1	COIL	B) VISUAL & DIMN. EXAM	MAJOR	VISUAL & MEASURT	RANDOM	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD		Р			
1.2	VERIFICATION OF COIL	A) CHEMICAL COMP.	MAJOR	TC REVIEW	100%	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD	✓	Р	V	٧	CARBON CONTENT <=.05 %MAX FOR TP 304
1.2	TEST CERTIFICATE	B) MECH. PROPERTIES	MAJOR	TC REVIEW	100%	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD	✓	Р	V	٧	
2.0	IN PROCESS INSPECTION												
2.1	TUBE FORMING & WELDING	WELDING PARAMETERS	MAJOR	VISUAL	PERIODIC CHECKING	MFR. STD.	MFR. STD.	INSPN. RECORD		Р			
2.2	ID BEAD ROLLING	ID BEAD HEIGHT	MAJOR	MEASURT.	RANDOM	MFR. STD.	MFR. STD.	-DO-	✓	Р	V		NOTE 8
2.3	OD BEAD GRINDING	SURFACE CONDITION	MAJOR	VISUAL	100%	MFR. STD.	MFR. STD.	-DO-		Р			
2.4	INTERMEDIATE / FINAL DRAWING	SOLUTION ANNEALING AFTER DRAWING OPERATION	MAJOR	HEAT TREATMENT	100%	MFR. STD.	MFR. STD.	-DO-		Р			NOTE 2
2.5	TUBE WASHING	SURFACE CONDITION	MAJOR	VISUAL	100%	MFR. STD.	MFR. STD.	-DO-		Р			
2.6	BRIGHT ANNEALING	SOLUTION ANNEALING IN INERT ATMOSPHERE	MAJOR	HEAT TREATMENT	100%	MFR. STD. & SA688	MFR. STD. & SA688	HT REPORT	✓	Р	٧	V	NOTE 3
2.7	FINAL SIZING	OD & SURFACE CONDITION	MAJOR	MEASURT.	100%	BHEL SPECIFICATION & PO	BHEL SPECIFICATION & PO	INSPN. RECORD		Р			
2.8	STRAIGHTENING	STRAIGHTNESS	MAJOR	VISUAL	100%	BHEL SPECIFICATION & PO	BHEL SPECIFICATION & PO	INSPN. RECORD		Р			
	DOC.NO 9915-371-110-HYD-QVM-Q-010 A												

ALOK BEHERA SR.ENGR/ QA

B. ASHOK KUMAR

AGM/QA

MAIN SUPPLIER

SIGNATURE

LEGEND: * RECORDS INDENTIFIED WITH (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION, M.MANUFACTURER / SUB-SUPPLIER, C-MAIN SUPPLIER/MAIN SUPPLIER TPIA . N-NTPC. INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION. AS APPROPRIATE "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

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FOR NTPC

USE

DOC.NO 9915-371-110-HYD-QVM-Q-010 A REV 00 CAT I APPROVAL REVIEWED BY APPROVED BY SEAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED STRAIGHT TUBES FOR DRAIN COOLER

QP No : 9915-371-110-HYD-QVM-Q-010 A

Rev. No.:00 DATE: 24.08.2021 PAGE: PAGE B.**2** of **5** PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1033030000,W-1033030100

SL NO	COMPONENT &	CHARACTERISTICS	CLASS	TYPE OF	QUAN OF CH		REFERENCE	ACCEPTANCE	FORMAT OF		FORMAT OF RECORD		A	AGENO	CY	REMARKS
	OPERATION			CHECK	M	C/N	DOCUMENT	NORMS	RECORD		M	C	N			
1.	2.	3.	4.	5.	6		7	8	9.	D*		** 10		11.		
2.9	EDDY CURRENT TEST	INTERNAL FLAWS	MAJOR	NDE	100 %	10%	ASTM E426 & SA688 S1	ASME SA1016	SUPPLIER TC	✓	Р	W	W	10 % BY BHEL TPIA 5 % BY NTPC		
2.10	ULTRASONIC TEST	INTERNAL FLAWS	MAJOR	NDE	100 %	10 %	ASTM E213	ASME SA1016	SUPPLIER TC	✓	Р	w	V	10 % BY BHEL TPIA		
2.11	CUT TO LENGTH WITH ALLOWANCE	LENGTH,THICKNESS,STRAIG HTNESS,GO RING GAUGE PASS, EDGE BURR AND SURFACE CONDITION	MAJOR	MEASURT,VIS UAL	10	0%	MFR STD	BHEL SPECIFICATION & PO	INSPN. RECORD		Р					
3.0	FINAL INSPECTION															
3.1	HYDROSTATIC TESTING	PRESSURE, TIME, LEAKAGE	MAJOR	VISUAL	100 %	10%	ASTM A1016	ASTM A1016	SUPPLIER TC	✓	Р	W	W	NOTE 4 10 % by bhel tpia 5 % by ntpc		
3.2	CUT TO LENGTH, DEBURR	LENGTH, EDGE CONDITION	MAJOR	MEASURT	10	0%	BHEL SPECIFICATION & PO	BHEL SPECIFICATION & PO	INSP. RECORD		Р					
3.3	DIMN. CONFORMITY & VISUAL EXAM.	OD, THICKNESS, LENGTH, STRAIGHTNESS, EDGE BURRS., SURFACE CONDITION	MAJOR	VISUAL & MEASURT.	100 %	10%	DRG. / PO	DRG. / PO	INSP. RECORD	✓	Р	w	W	10 % BY BHEL TPIA 1 % BY NTPC		
		a. CHEMICAL COMPOSITION	MAJOR	CHEMICAL	AS I SPI		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	V	V			
		b. TENSILE TESTING	MAJOR	МЕСН.	AS I SPI		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V			
3.4	TEST ON TUBES	c. HARDNESS TESTING	MAJOR	МЕСН.	AS I SPI		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V			
3.4	TEST ON TODES	d. REVERSE BEND TEST	MAJOR	МЕСН.	AS I SPI		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V			
		e. FLATTENING TEST	MAJOR	MECH.	AS I SPI		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V			
		f. FLANGING TEST	MAJOR	MECH.	AS I SPI		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V			

ALOK BEHERA SR.ENGR/ QA

MAIN SUPPLIER

SIGNATURE LEGEND: * RECORDS INDENTIFIED WITH (\checkmark) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION, M.MANUFACTURER / SUB-SUPPLIER, C-MAIN SUPPLIER/MAIN SUPPLIER TPIA . N-NTPC. INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION. AS APPROPRIATE "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

	DOC.NO 9915-371- REV 00	-110-HYD-QVM-Q-0 CAT I	10 A
एनरीपीसी NTPC			
FOR			
NTPC USE	REVIEWED BY	APPROVED BY	APPROVAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED STRAIGHT TUBES FOR DRAIN COOLER

QP No : 9915-371-110-HYD-QVM-Q-010 A

Rev. No.:00 DATE: 24.08.2021 PAGE: PAGE B.**3** of **5** PROJECT: 2x660 MW THDC India Ltd Khurja PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1033030000,W-1033030100

								DILLE !!!	9 110: 110: 11 100:	302000	0,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
SL NO	COMPONENT & OPERATION	CHARACTERIST	TICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK M C/N	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	7	A M	GENC C	Y N	REMARKS
1.	2.	3.		4.	5.	6	7	8	9.	D*		** 10.		11.
		g. INTER GRANULA CORROSION TES		MAJOR	MET.	AS PER SPEC.	SA688 & PO	SA688 & PO	SUPPLIERS TC	√	Р	V	٧	
		h. RESIDUAL CHLOI FOR TUBE INSIDI OUTSIDE SURFACE	E &	MAJOR	СНЕМ.	-DO-	SA688 & PO	SA688 & PO	INSP. RECORD	✓	Р	٧	V	
		i. RESIDUAL CIRCUMFEREN' STRESS	TIAL	MAJOR	MEASURT	ONE SPECIMEN PER LOT	BHEL SPECIFICATION	MAX. 4KG/MM2	INSPN. RECORD	✓	Р	٧	V	
		VERIFICATION OF AI FOR COMPLETION.	LL TCS	MAJOR	VISUAL	100%	PO, SPEC, DRG. & QP	PO, SPEC, DRG. & QP	INSP. RECORD		Р	٧		
4.0	PACKING & DESPATCH	CLEANLINESS OF INS		MAJOR	VISUAL	100%	BHEL SPECIFICATION	BHEL SPECIFICATION	INSP. RECORD		Р	٧		
		IDENTIFICATION, PRESERVATION & PA	ACKING	MAJOR	-DO-	100%	PO / DRG & AA0490002	PO / DRG & AA0490002	INSP. RECORD	✓	Р	V		NOTE 5

PR No: 8000096805

THIS QAP IS FOR REFERENCE PURPOSE ONLY. THIS QUALITY PLAN DESCRIBES TYPICAL STANDARD TEST REQUIREMENTS OF TUBES.

FINAL APPROVED QAP FROM NTPC SHALL BE FOLLOWED BY VENDOR

ALOK BEHERA SR.ENGR/QA	B. ASHOK KUMAR AGM/QA							
MAIN SU	JPPLIER							
SIGNATURE								

LEGEND: * RECORDS INDENTIFIED WITH (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION, M.MANUFACTURER / SUB-SUPPLIER, C-MAIN SUPPLIER/MAIN SUPPLIER TPIA . N-NTPC. INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION. AS APPROPRIATE "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

	DOC.NO 9915-371- REV 00	-110-HYD-QVM-Q-02 CAT I	10 A
एनरीपीसी NTPC			
FOR			
NTPC USE	REVIEWED BY	APPROVED BY	APPROVAL SEAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED STRAIGHT TUBES FOR DRAIN COOLER QP No : 9915-371-110-HYD-QVM-Q-010 A

Rev. No.:00 DATE: 24.08.2021 PAGE: PAGE B.**4** of **5** PROJECT: 2x660 MW THDC India Ltd Khurja PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371
MAIN SUPPLIER: HPEP. BHEL HYDERABAD

BHEL SALE ORDER NO: MPA1067001/002 BHEL WO NO: WO: W-1033030000,W-1033030100

I SI NO I	ONENT & CHA	RACTERISTICS	CLASS	TYPE OF CHECK	OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	7		ENC	Y	REMARKS
1.	2.	3.	4.	5.	M C/N 6	7	8	9.	D*	* *	C * 10.	N	11.

Notes:

- 1) IN CASE OF INDIGENOUS VENDORS, THE RAW STRIP USED FOR MANUFACTURING THE TUBES SHALL BE PROCURED SOURCES AS GIVEN BELOW

 AVESTA: POLARIT, SWEDEN JINDAL STAINLESS, HISSAR KRUPP THYSSEN: GERMANY, ACERINOX: SPAIN, MALAYASIA, ALLEGHENY TECHNOLOGIES: USA, OUTOKUMPU: SWEDEN;
 FINLAND. BOHLER: AUSTRIA. NIPPON STEEL: JAPAN. SAIL: SALEM. POSCO: SOUTHKOREA. VIETNAM. APERAM: BELGIUM. A K STEEL: USA
- 2) INTERMEDIATE SOLUTION ANNEALING AFTER EACH DRAWING OPERATION IS NOT APPLICABLE FOR RSA PROCESS
- 3) STRAIGHT TUBES SHALL BE CLEANED AND BRIGHT ANNEALED AT A TEMPERATURE OF 1040°C MIN. FOLLOWED BY QUENCHING TO BELOW 370°C.
- 4) 'HYDROSTATIC TESTING' OF TUBES SHALL BE CARRIED OUT WITH DEMINERALISED WATER, CHLORIDE CONTENT OF DM WATER SHALL NOT BE MORE THAN 10 PPM MAX.
- 5) TUBES SHALL BE PACKED IN SEA WORTHY PACKING & SHALL BE CAPABLE OF WITH STANDING MECHANICAL DAMAGES DURING TRANSIT.
- 6) PROJECT SPECIFIC REQUIREMENTS, IF ANY, AS PER P.O. SHALL ALSO BE COMPLIED WITH.
- 7) LUBRICANTS USED IN TUBE DRAWING OPERATION SHALL BE NON-CHLORINATED (50 PPM CHLORIDES OR LESS). ALL CLEANING COMPOUNDS SHALL BE CHLORIDE AND CAUSTIC FREE. EACH CLEANING OPERATION SHALL BE FOLLOWED BY A RINSE OR RINSES WITH WATER, THE FINAL RINSE SHALL BE WITH DEMINERALISED WATER CONTAINING NOT MORE THAN 10 PPM CHLORIDES.
- 8) NOT APPLICABLE FOR RSA TECHNOLOGY, HOWEVER ID BEAD HEIGHT WILL BE MAINTAINED BY PASSING INERT GAS INSIDE THE TUBE DURING WELDING
- 9) IN CASE OF DIFFERING/CONFLICTING REQUIREMENTS, ANOMALIES, ANY DRAWING/SPECN SHALL PREVAIL OVER QUALITY PLAN
- 10) THIS QP IS APPLICABLE ONLY FOR NTPC APPROVED VENDORS.
- 11) THIS OP IS APPLICABLE FOR THE MAIN AS WELL AS SUBSEQUENT SPARE SUPPLIES.
- 12) FOR IMPORTED VENDORS, BHEL & NTPC WITNESS SHALL BE CONSIDERED VERIFICATION
- 13) THIS QP IS ALSO APPLICABLE FOR OTHER VENDORS APPROVED BY NTPC/THDC DURING DETAILED ENGINEERING

GENERAL LE	GENDS				
NDE	NON DESTRUCTIVE EXAMINATION	ASSLY	ASSEMBLY	CHEM	CHEMICAL
UT	ULTRASONIC TEST	QC	QUALITY CONTROL	MECH	MECHANICAL
PT	DYE PENETRANT TEST	TPIA	THIRD PARTY INSPECTION AGENCY	TC	TEST CERTIFICATES
MT/MPI	MAGENTIC PARTICLE INSPECTION	WPS	WELDING PROCEDURE SPECIFICATION	VERFN	VERIFICATION
RT	RADIOGRAPHY TEST	WQR	WELDER QUALIFICATION RECORD	IGC	INTER GRANULAR CORROSSION
MEASRT	MEASUREMENT	PQR	PROCEDURE QUALIFICATION RECORD	HT	HEAT TREATMENT
DIMN	DIMENSION	IR	INSPECTION REPORT	QA	QUALITY ASSURANCE
COC	CERTIFICATE OF COMPLIANCE	DRG /DS	DRAWING /DATA SHEET	PO	PURCHASE ORDER

ALOK BEHERA SR.ENGR/QA	B. ASHOK KUMAR AGM/QA							
MAIN SUPPLIER								
SIGNATURE								

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	DOC.NO 9915-371- REV 00	10 A	
एनशैपीसी NTPC			
FOR			
NTPC USE	REVIEWED BY	APPROVED BY	APPROVAL SEAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED STRAIGHT TUBES FOR DRAIN COOLER

QP No: 9915-371-110-HYD-QVM-Q-010 A

Rev. No.:00 DATE: 24.08.2021 PAGE: PAGE B.**5** of **5** PROJECT: 2x660 MW THDC India Ltd Khurja PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371

MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002 BHEL WO NO: WO: W-1033030000,W-1033030100

SL NO	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	NTUM HECK C/N	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	7	AG M	ENCY C N	REMARKS
1.	2.	3.	4.	5.	6	7	8	9.	D*	*	10.	11.

ALOK BEHERA SR.ENGR/ QA

B. ASHOK KUMAR AGM/QA

MAIN SUPPLIER

SIGNATURE

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FOR NTPC USE REVIEWED BY APPROVED BY

APPROVAL

SEAL

DOC.NO 9915-371-110-HYD-QVM-Q-010 A



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED U TUBES FOR LP HEATER

PR No: 8000096860

QP No 9915-371-110-HYD-QVM-Q-009 A

Rev. No.:00 DATE: 24.08.2021 PAGE: Page B.1 of 6

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD

BHEL SALE ORDER NO: MPA1067001/002

PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

BHEL WO NO: WO: W-1032332300,W-1032332400,W-1032332500,W-

1032332600,W-1032332700,W-1032332800

		1	1		OLIANIEUN COE		1			Т				
SL NO	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD			AGEN	_	REMARKS	
1.	2.	2	4.	5.	M C/N	7	8	9.	D*	M	** 10	N	11.	
1.	<i>L</i> .	3.	4.	3.	0	/	8	9.	D		*** 10).	11.	
1.0	RAW MATERIAL INSI	PECTION												
1.1	COIL	A) IDENTIFICATION OF COIL MARKINGS W.R.T. TC	MAJOR	VISUAL	100%	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD		V	٧			
1.1		B) VISUAL & DIMN. EXAM	MAJOR	VISUAL & MEASURT	RANDOM	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD		Р				
1.2	VERIFICATION OF COIL	A) CHEMICAL COMP.	MAJOR	TC REVIEW	100%	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD	✓	Р	V	٧	CARBON CONTENT <=.05 %MAX FOR TP 304	
1.2	TEST CERTIFICATE	B) MECH. PROPERTIES	MAJOR	TC REVIEW	TC REVIEW	100%	TEST CERTIFICATE	BHEL SPECIFICATION & PO	TC & INSPN. RECORD	✓	Р	V	V	
2.0	IN PROCESS INSPECTION													
2.1	TUBE FORMING & WELDING	WELDING PARAMETERS	MAJOR	VISUAL	PERIODIC CHECKING	MFR. STD.	MFR. STD.	INSPN. RECORD		Р				
2.2	ID BEAD ROLLING	ID BEAD HEIGHT	MAJOR	MEASURT.	RANDOM	MFR. STD.	MFR. STD.	-DO-	✓	Р	V		NOTE 8	
2.3	OD BEAD GRINDING	SURFACE CONDITION	MAJOR	VISUAL	100%	MFR. STD.	MFR. STD.	-DO-		Р				
2.4	INTERMEDIATE / FINAL DRAWING	SOLUTION ANNEALING AFTER DRAWING OPERATION	MAJOR	HEAT TREATMENT	100%	MFR. STD.	MFR. STD.	-DO-		Р			NOTE 2	
2.5	TUBE WASHING	SURFACE CONDITION	MAJOR	VISUAL	100%	MFR. STD.	MFR. STD.	-DO-		Р				
2.6	BRIGHT ANNEALING	SOLUTION ANNEALING IN INERT ATMOSPHERE	MAJOR	HEAT TREATMENT	100%	MFR. STD. & SA688	MFR. STD. & SA688	HT REPORT	✓	Р	٧	V	NOTE 3	
2.7	FINAL SIZING	OD & SURFACE CONDITION	MAJOR	MEASURT.	100%	BHEL SPECIFICATION & PO	BHEL SPECIFICATION & PO	INSPN. RECORD		Р				

ALOK BEHERA SR.ENGR/ QA

B. ASHOK KUMAR AGM/QA

MAIN SUPPLIER

SIGNATURE

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एनशैपीसी NTPC			
FOR			
NTPC USE	REVIEWED BY	APPROVED BY	APPROVAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED U TUBES FOR LP HEATER

QP No 9915-371-110-HYD-QVM-Q-009 A

Rev. No.:00 DATE: 24.08.2021 PAGE: Page B.**2** of **6** PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1032332300,W-1032332400,W-1032332500,W-

1032332600,W-1032332700,W-1032332800

							1032332000, W-1032332700, W-1032332800							
SL NO	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANT CHE M		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT O RECORD		M	AGENO	CY N	REMARKS
1.	2.	3.	4.	5.	6	,	7	8	9.	D*		** 10).	11.
2.8	STRAIGHTENING	STRAIGHTNESS	MAJOR	VISUAL	100	0%	BHEL SPECIFICATION & PO	BHEL SPECIFICATION & PO	INSPN. RECORD		Р			
2.9	EDDY CURRENT TEST	INTERNAL FLAWS	MAJOR	NDE	100%	10%	ASTM E426 & SA688 S1	ASME SA1016	SUPPLIER TC	✓	Р	W	W	10 % BY BHEL TPIA 5 % BY NTPC
2.10	ULTRASONIC TEST	INTERNAL FLAWS	MAJOR	NDE	100%	10 %	ASTM E213	ASME SA1016	SUPPLIER TC	✓	Р	W	V	10 % BY BHEL TPIA
2.11	CUT TO LENGTH WITH ALLOWANCE	LENGTH,THICKNESS,STRAIG HTNESS,GO RING GAUGE PASS, EDGE BURR AND SURFACE CONDITION	MAJOR	MEASURT,V ISUAL	100	0%	MFR STD	BHEL SPECIFICATION & PO	INSPN. RECORD		Р			
2.13	U-BENDING OF TUBES	CENTRE LINE BEND RADIUS (CLR)	MAJOR	VISUAL	100%		MFR. STD.	MFR. STD.	INSPN. RECORD		Р	V	V	
2.14	U-BEND TUBE MOCK UP	WALL THINNING	MAJOR	MEASURT	ONE SA OF MIN BEND F FOR E THICK	IIMUM RADIUS EACH	BHEL SPECIFICATION & DRAWING	BHEL SPECIFICATION & DRAWING	INSPN. RECORD/MO CK UP RECORD	✓	Р	V	V	
2.15	STRESS RELIEVING OF U- BEND PORTION	SOLUTION ANNEALING	MAJOR	VISUAL	100	0%	SA688 / PO	SA688 / PO	INSPN. RECORD	✓	Р	V	V	
3.0	FINAL INSPECTION													
3.1	HYDROSTATIC TESTING	PRESSURE, TIME, LEAKAGE	MAJOR	VISUAL	100%	10%	ASTM A1016	ASTM A1016	SUPPLIER TC	√	Р	W	W	NOTE 4 10 % BY BHEL TPIA 5% RANDOM BY NTPC
3.2	CUT TO LENGTH, DEBURR	LENGTH, EDGE CONDITION	MAJOR	MEASURT	100	0%	BHEL SPECIFICATION & PO	BHEL SPECIFICATION & PO	INSP. RECORD		Р			NOTE - 11

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ALOK BEHERA SR.ENGR/ QA	

B. ASHOK KUMAR AGM/QA

MAIN SUPPLIER

SIGNATURE

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एनरीपीरी NTPC				
FOR				
NTPC USE	REVIEW	ED BY	APPROVED BY	APPROVAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED U TUBES FOR LP HEATER

QP No 9915-371-110-HYD-QVM-Q-009 A

Rev. No.:00 DATE: 24.08.2021 PAGE: Page B.**3** of **6** PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1032332300,W-1032332400,W-1032332500,W-

1032332600,W-1032332700,W-1032332800

SL NO	COMPONENT &	CHARACTERISTICS	CLASS	TYPE OF	QUANT CHE		REFERENCE	ACCEPTANCE	FORMAT O	F	1	AGEN	CY	REMARKS
52110	OPERATION	CIA Ha TO TEMBOTION	02.100	CHECK	M	C/N	DOCUMENT	NORMS	RECORD		M		N	TEEN HETS
1.	2.	3.	4.	5.	6	i	7	8	9.	D*		** 10).	11.
3.3	DIMN. CONFORMITY & VISUAL EXAM.	OD, CLR, THICKNESS, LENGTH, OVALITY, LEG SPACING, PLANE OF BEND, CURVATURE, EDGE BURRS., SURFACE CONDITION	MAJOR	VISUAL & MEASURT.	100%	10%	BHEL DRG. / PO	BHEL DRG. / PO	INSP. RECORD	>	Р	W	W	10 % BY BHEL TPIA 1 % BY NTPC
		a. CHEMICAL COMPOSITION	MAJOR	CHEMICAL	AS PER	SPEC.	SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	V	V	
		b. TENSILE TESTING	MAJOR	MECH.	AS PER	SPEC.	SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V	
		c. HARDNESS TESTING	MAJOR	MECH.	AS PER SPEC.		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	√	Р	W	V	
		d. REVERSE BEND TEST	MAJOR	MECH.	AS PER SPEC.		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V	
3.4	TEST ON TUBES	e. FLATTENING TEST	MAJOR	MECH.	AS PER SPEC.		SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	√	Р	W	V	
3.4	TEST ON TOBES	f. FLANGING TEST	MAJOR	МЕСН.	AS PER	SPEC.	SA688, SA1016 & PO	SA688, SA1016 & PO	SUPPLIERS TC	✓	Р	W	V	
		g. INTER GRANULAR CORROSION TESTING	MAJOR	MET.	AS PER	SPEC.	SA688 & PO	SA688 & PO	SUPPLIERS TC	✓	Р	٧	V	
		h. RESIDUAL CHLORIDE FOR TUBE INSIDE & OUTSIDE SURFACE	MAJOR	СНЕМ.	-D	0-	SA688 & PO	SA688 & PO	INSP. RECORD	√	Р	V	V	
		i. RESIDUAL CIRCUMFERENTIAL STRESS	MAJOR	MEASURT	ONE SP		BHEL SPECIFICATION	MAX. 4KG/MM2	INSPN. RECORD	>	Р	٧	٧	
4.0	PACKING & DESPATCH	VERIFICATION OF ALL TCS FOR COMPLETION.	MAJOR	VISUAL	10	0%	PO, SPEC, DRG. & QP	PO, SPEC, DRG. & QP	INSP. RECORD		Р	V		

ALOK BEHERA SR.ENGR/ QA

B. ASHOK KUMAR AGM/QA

tham

MAIN SUPPLIER

SIGNATURE

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एनरीपीसी NTPC			
FOR			
NTPC USE	REVIEWED BY	Y APPROVED BY	APPROVAL SEAL



MANUFACTURING OUALITY PLAN

ITEM: SS WELDED U TUBES FOR

Rev. No.:00 DATE: 24.08.2021 PAGE: Page B.**4** of **6**

QP No 9915-371-110-HYD-QVM-Q-009 A

PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1032332300,W-1032332400,W-1032332500,W-

1032332600,W-1032332700,W-1032332800

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SL NO	COMPONENT OPERATION	(.H	ARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM O CHECK M C/N	F REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT O RECORD		A M	GENCY C N	REMARKS
1.	2.		3.	4.	5.	6	7	8	9.	D*		** 10.	11.
			INESS OF INSIDE E OF TUBES	MAJOR	VISUAL	100%	BHEL SPECIFICATION	BHEL SPECIFICATION	INSP. RECORD		Р	V	
			ICATION, VATION & PACKING	MAJOR	-DO-	100%	PO / BHEL DRG	PO / BHEL DRG	INSP. RECORD	✓	Р	V	NOTE 5

Notes:

- 1) IN CASE OF INDIGENOUS VENDORS, THE RAW STRIP USED FOR MANUFACTURING THE TUBES SHALL BE PROCURED SOURCES AS GIVEN BELOW

 AVESTA: POLARIT, SWEDEN JINDAL STAINLESS, HISSAR KRUPP THYSSEN: GERMANY, ACERINOX: SPAIN, MALAYASIA, ALLEGHENY TECHNOLOGIES: USA, OUTOKUMPU: SWEDEN;
 FINLAND, BOHLER: AUSTRIA, NIPPON STEEL: JAPAN, SAIL: SALEM, POSCO: SOUTHKOREA, VIETNAM, APERAM: BELGIUM, A K STEEL: USA
- 2) INTERMEDIATE SOLUTION ANNEALING AFTER EACH DRAWING OPERATION IS NOT APPLICABLE FOR RSA PROCESS
- 3) STRAIGHT TUBES SHALL BE CLEANED AND BRIGHT ANNEALED AT A TEMPERATURE OF 1040°C MIN. FOLLOWED BY QUENCHING TO BELOW 370°C.
- 4) 'HYDROSTATIC TESTING' OF TUBES SHALL BE CARRIED OUT WITH DEMINERALISED WATER. CHLORIDE CONTENT OF DM WATER SHALL NOT BE MORE THAN 10 PPM MAX.
- 5) TUBES SHALL BE PACKED IN SEA WORTHY PACKING & SHALL BE CAPABLE OF WITH STANDING MECHANICAL DAMAGES DURING TRANSIT. PROJECT SPECIFIC REQUIREMENTS, IF ANY, AS PER P.O. SHALL ALSO BE COMPLIED WITH.
- 6) LUBRICANTS USED IN TUBE DRAWING OPERATION SHALL BE NON-CHLORINATED (50 PPM CHLORIDES OR LESS). ALL CLEANING COMPOUNDS SHALL BE CHLORIDE AND CAUSTIC FREE. EACH CLEANING OPERATION SHALL BE FOLLOWED BY A RINSE OR RINSES WITH WATER, THE FINAL RINSE SHALL BE WITH DEMINERALISED WATER CONTAINING NOT MORE THAN 10 PPM CHLORIDES.
- 7) NOT APPLICABLE FOR RSA TECHNOLOGY, HOWEVER ID BEAD HEIGHT WILL BE MAINTAINED BY PASSING INERT GAS INSIDE THE TUBE DURING WELDING
- 8) HOT BENDING TO FORM 'U' TUBES SHALL NOT BE PERMITTED
- 9) U BEND AREA PLUS APPROXIMATELY 150MM OF EACH LEG BEYOND TANGENT POINT OF THE U BEND SHALL BE HEAT TREATED
- 10) INTERNAL CLEANING OF TUBES SHALL BE DONE BY PASSING DRY AIR & ACETONE SOAKED FELT PLUG.
- 11) MATERIAL OF CONSTRUCTION SHALL BE AS PER NTPC APPROVED GA DRAWING.
- 12) THIS OP IS ALSO APPLICABLE FOR OTHER VENDORS APPROVED BY NTPC/THDC DURING DETAILED ENGINEERING
- 13) IN CASE OF DIFFERING/CONFLICTING REQUIREMENTS, ANOMALIES, ANY DRAWING/SPECN SHALL PREVAIL OVER QUALITY PLAN
- 14) THIS QP IS APPLICABLE ONLY FOR NTPC APPROVED VENDORS AS PER LOA APPROVED VENDOR LIST.
- 15) THIS OP IS APPLICABLE FOR THE MAIN AS WELL AS SUBSEQUENT SPARE SUPPLIES.

LP HEATER

16) FOR IMPORTED VENDORS, BHEL & NTPC WITNESS SHALL BE CONSIDERED VERIFICATION, SIPPLIER TC /COC SHALL BE FURNISHED.

DOC.NO 9915-371-110-HYD-QVM-Q-009 A LEGEND: * RECORDS INDENTIFIED WITH (✓) SHALL BE ESSENTIALLY INCLUDED BY techa REV 00 CAT I SUPPLIER IN QA DOCUMENTATION, M.MANUFACTURER / SUB-SUPPLIER, C-MAIN SUPPLIER/MAIN SUPPLIER TPIA. N-NTPC. INDICATE "P" PERFORM "W" WITNESS AND "V" एनरीपीसी NTPC B. ASHOK VERIFICATION. AS APPROPRIATE "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W" KUMAR **ALOK BEHERA** SR.ENGR/ QA AGM/QA MAIN SUPPLIER FOR NTPC APPROVAL SIGNATURE REVIEWED BY APPROVED BY USE **SEAL**



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED U TUBES FOR LP HEATER

QP No 9915-371-110-HYD-QVM-Q-009 A

Rev. No.:00 DATE: 24.08.2021 PAGE: Page B.**5** of **6** PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1032332300,W-1032332400,W-1032332500,W-

1032332600,W-1032332700,W-1032332800

	PONENT &	CHARACTERISTICS	CLASS	TYPE OF	QUANTUM OF CHECK		REFERENCE	ACCEPTANCE	FORMAT OF		AGENCY			REMARKS
OPE	ERATION			CHECK	M	C/N	DOCUMENT	NORMS	RECORD		M	С	N	
1.	2.	3.	4.	5.		6	7	8	9.	D*		** 10.		11.

GENERAL LE	GENDS				
NDE	NON DESTRUCTIVE EXAMINATION	ASSLY	ASSEMBLY	CHEM	CHEMICAL
UT	ULTRASONIC TEST	QC	QUALITY CONTROL	MECH	MECHANICAL
PT	DYE PENETRANT TEST	TPIA	THIRD PARTY INSPECTION AGENCY	TC	TEST CERTIFICATES
MT/MPI	MAGENTIC PARTICLE INSPECTION	WPS	WELDING PROCEDURE SPECIFICATION	VERFN	VERIFICATION
RT	RADIOGRAPHY TEST	WQR	WELDER QUALIFICATION RECORD	IGC	INTER GRANULAR CORROSSION
MEASRT	MEASUREMENT	PQR	PROCEDURE QUALIFICATION RECORD	HT	HEAT TREATMENT
DIMN	DIMENSION	IR	INSPECTION REPORT	QA	QUALITY ASSURANCE
COC	CERTIFICATE OF COMPLIANCE	DRG /DS	DRAWING /DATA SHEET	PO	PURCHASE ORDER

ALOK BEHERA SR.ENGR/ QA B. ASHOK KUMAR AGM/QA

MAIN SUPPLIER

SIGNATURE

LEGEND: * RECORDS INDENTIFIED WITH (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION, M.MANUFACTURER / SUB-SUPPLIER, C-MAIN SUPPLIER/MAIN SUPPLIER TPIA. N-NTPC. INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION. AS APPROPRIATE "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

	DOC.NO REV 00	9915-371-	-110-HYD-QVM-Q-0 CAT I	09 A
एनरीपीरी NTPC				
FOR				
NTPC USE	REVIEW	ED BY	APPROVED BY	APPROVAL SEAL



MANUFACTURING QUALITY PLAN

ITEM: SS WELDED U TUBES FOR LP HEATER

QP No 9915-371-110-HYD-QVM-Q-009 A

Rev. No.:00 DATE: 24.08.2021 PAGE: Page B.6 of 6 PROJECT: 2x660 MW THDC India Ltd Khurja

PACKAGE:TG & AUX

CONTRACT NO: THDC/RKSH/CC-9915-371 MAIN SUPPLIER: HPEP, BHEL HYDERABAD BHEL SALE ORDER NO: MPA1067001/002

BHEL WO NO: WO: W-1032332300, W-1032332400, W-1032332500, W-

1032332600,W-1032332700,W-1032332800

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

PR No. 8000096860

KUMAR

THIS QAP IS FOR REFERENCE PURPOSE ONLY. THIS QUALITY PLAN DESCRIBES TYPICAL STANDARD TEST REQUIREMENTS OF TUBES. FINAL APPROVED QAP FROM NTPC SHALL BE FOLLOWED BY VENDOR.

tham B. ASHOK **ALOK BEHERA** SR.ENGR/ QA AGM/QA MAIN SUPPLIER SIGNATURE

LEGEND: * RECORDS INDENTIFIED WITH (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION, M.MANUFACTURER / SUB-SUPPLIER, C-MAIN SUPPLIER/MAIN SUPPLIER TPIA. N-NTPC. INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION. AS APPROPRIATE "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

	DOC.NO REV 00	9915-371-	-110-HYD-QVM-Q-0 CAT I	09 A
एनरीपीसी NTPC				
FOR				
NTPC USE	REVIEW	ED BY	APPROVED BY	APPROVAL SEAL

TD-106-1 Rev-5 Form No.



PRODUCT STANDARD HEAT EXCHANGERS

HYDERABAD

HE 5 1103

REV. NO. 19

PAGE 1 OF 3

SPECIFICATION FOR SS WELDED TUBES FOR HP HEATERS, LP HEATERS AND DRAIN COOLERS

- 1. Bend/straight tubes shall conform to SA 688 TP 304/304L/304N/316(with maximum carbon limited to 0.05% in case of 304/304N/316 and 0.035% incase of 304L. (The material specification shall be as per drawing/PO and ASME Sec II Part A edition and addenda as indicated in the drawing/P.O.). Carbon content Specified in the drawing/P.O shall be governing.
- 2. Eddy current test shall be done as per supplementary requirement 'S1' of specification SA 688. Heat treatment of straight tube and bent portion shall be carried out as per SA688. Straight tubes/straight tubes of U-Tubes before U-bending shall be bright annealed (both inside and out surfaces). U bend shall be purged with inert gas during Heat Treatment of U-bent portion.
- 3. Flaring test on each lot atleast two tests from each lot are to be conducted as per SA 1016.
- 4. Longitudinal welds of tubes shall be ultrasonic tested.
- 5. For tubes supplied in bent conditions, tube thinning shall be governed by the following formula.
 - t = to (1 + d/4R) where
 - t = specified minimum tube wall thickness.
 - to = Thickness after bending
 - d = Outside diameter of tube
 - R = Center line bend radius
- 6. Minimum thickness, ovality etc., achieved for minimum bend radius tube for each thickness shall be proved.
- 7. Hot bending to form U tubes shall not be acceptable.
- 8. Bending, heat treatment and hydrotest shall be as per Quality Plan latest revision and relevant drawing. Each tube shall be hydrotested to test pressure mentioned in the drawing/P.O.
- 9. Corrosion test shall be carried out as per requirement of SA 688 TP 304/304L/304N/316
- 10. Inspection and certification:
 - i) H.P.HEATERS:
 - a) where the material is sourced from suppliers other than India ,the certification shall be in IBR form III B duly signed by BHEL Approved Third Party Inspection Agency(BHEL TPIA).BHEL TPIA shall be authorised by Central Boiler Board for that country.
 - b) Where the material is sourced from Indigenous Suppliers, the certification shall be by Director of Boilers in form III B and also by
 - BHEL Approved Third Party Inspection Agency(BHEL TPIA) as per ASME SEC.II Part A.Edition & Addenda as indicated in the drawing/P.O & enclosed quality plan.
 - ii) L.P.HEATERS & DRAIN COOLER:
 - a) Inspection & Certification shall be by BHEL Approved Third party Inspection Agency(BHEL TPIA) as per ASME SEC.II Part A. Edition & Addenda as indicated in the drawing/P.O & enclosed quality plan.

7	•	Revisions:	Prepared:	Approved	Date:
7	- 1	Refer to record of revisions	Beinib.	Volut	24.09.2004

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PRODUCT STANDARD HEAT EXCHANGERS HYDERABAD

HE 5 1103

REV. NO. 19

PAGE 2 OF 3

11	.Packing shall be seaworthy and capable for withstanding mechanical damage. Tube ends	S
	shall be capped or plugged for protection against ingress of moisture / water during trans	it
	and storage.	

12 -----

- 13. Tubes inside & outside surfaces shall be tested for residual chloride salt contamination to limit as per of SA 688. The same shall be reported in T.Cs. Procedure of measuring residual chloride contamination shall be furnished.
- 14. Cleanliness of inside surface of all U-tube shall be confirmed by blowing close fitting acetone soaked felt plugs. Inert gas or N2 / dry oil free compressor air shall be used for blowing.
- 15. Inspection agency: Third party inspection agency. Additionally Director Of Boilers in case of H.P.Heaters (For Indegenious suppliers only).
 - a) The extent/ quantum of witness by Third party inspection agency shall be indicated as follows. However Vendor to carry out the tests on 100% of tubes.
 - i) Eddy Current testing to be carried out 100% online OR 100% Offline which shall be witnessed by BHEL/BHEL nominated inspection agency (BHEL TPIA) With quantum of inspection 100%.
 - ii) Ultrasonic testing (UST): 10%
 - iii) Hydro testing: 100%
- 16. Product markings shall be as per SA 688.
- 17. ---
- 18. Packing and marking standard ref. no. for:
 - (a) Straight tubes AA0490002
 - (b) U tubes AA0490003.
- 19.In case of indigenous vendors the raw strip used for manufacturing tubes shall be procured from BHEL approved vendors.
- 20.The residual circumferential stresses after tube straightening and U-bending shall be kept as low as possible. In any case these shall be limited to 4kg/mm² (compressive or tensile). one specimen shall be tested per lot. The procedure for residual stress measurement shall be approved by BHEL.

	· .	Revisions:	Prepared:	Approved	Date:
1,00		Refer to record of revisions	B&ciril	Voice	24.09.2004

Form No. TD-106-3 Rev-5



PRODUCT STANDARD **HEAT EXCHANGERS HYDERABAD**

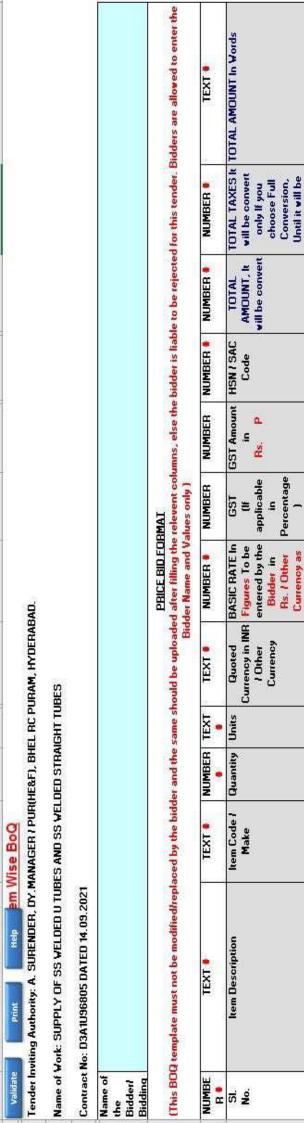
No: **H E 51103**

REV. NO. 19

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RECORD	OF	REVISIONS

The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company			STANDARD REWRITTEN AS PER		
	09	02-07-93	NEW FORMAT	B.U.G	D.S
	10	23-06-93	QUALITY PLAN Nos. IN CLAUSE No. 7 AND 11 ARE REVISED	M.R.RAO	V.C.K
	11	10-06-96	TITLE & CL. No. 10 & 14 REVISED CL. No. 15 & 16 ADDED	M.R.RAO	V.C.K
	12	26-06-98	CLAUSE No. 17 ADDED	B.U.G.	V.S
	13	22-01-03	STANDARD REVISED INLINE WITH SQP AND PRQC MEETING DT:28-12-02	B.S	V.S
	14	06-05-04	REVISED INLINE WITH MOM DT:30-03-04	B.S	V.C.K
	15	24-09-04	REVISED INLINE WITH MOM DT:24-09-04	B.S	V.C.K
	16	12-01-07	CL. no. 10 Revised.	Beinil	Voice
	17	04-09-07	CL. NOs. 1, 11 and 12 are revised. CL. NO 19 ADDED.	Beinin	VCLL
	18	10-11-08	CL. NO 20 ADDED.	Beining.	VCLL
	19	27-11-13	REVISED INLINE WITH MOM DT:26-10-13	Bocinile. Qiran	Beinilo.
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SS PLAIN TUBE 3/4"X20BWG MIN, L-4000 | HEP A85697003

Total in Figures

SS WLD U TUBES(OD 19.05 X 10700 LL)

SS WLD UTUBES(OD 19:05 × 9600 LL)

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