

**BHARAT HEAVY ELECTRICALS LIMITED****HEEP HARIDWAR INDIA-PIN 249403****FAX NO: 0091 1334 226462****PHONE NO: 0091 1334 284593**Tender No.: **L/6455/20/1591/D1**

Dear Sir,

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators and so on.

Sealed tenders with the Tender No. and opening date clearly super scribed on the cover are invited from the manufacturers (registered as well as unregistered) for the supply of the following items: -

Tender No.	Item code Description of Item	Qty	LOT NO	LOT QTY	Delivery Schedule	Opening Date
L/6455/20/1591/D1	1. VAB268400113 THREAD ROLLING DIE (M72 X 6P) DRG.NO. -R2684-0011 REV.-01 VAR-I (SUITABLE FOR COMPONENT MATERIAL - ALLOY 783)	2 SET	1 2	1 SET 1 SET	31.12.20 On intimation	08.08.2020
	2. VAC268400113 THREAD ROLLING DIE (M72 X 6P) DRG.NO. -R2684-0011 REV.-01 VAR-II (SUITABLE FOR COMPONENT MATERIAL - HIGH ALLOY STEEL (X12CRMOWVNB:10-1-1)	2 SET	1 2	1 SET 1 SET	31.12.20 On intimation	
	3. VAB268400121 THREAD ROLLING DIE (M90 X 6P) DRG.NO. -R2684-0012 REV.-01 VAR-I (SUITABLE FOR COMPONENT MATERIAL - ALLOY 783)	2 SET	1 2	1 SET 1 SET	31.12.20 On intimation	
	4. VAC268400121 THREAD ROLLING DIE (M90 X 6P) DRG.NO. -R2684-0012 REV.-01 VAR-II (SUITABLE FOR COMPONENT MATERIAL - HIGH ALLOY STEEL (X12CRMOWVNB:10-1-1)	2 SET	1 2	1 SET 1 SET	31.12.20 On intimation	

1. PQR IS AS PER **ANNEXURE-A enclosed**. Vendor to confirm& submit details accordingly.
2. Technical specifications, process & drawings details, documents required and other requirements as per enclosed Annexure-1. Vendor to confirm and quote accordingly.
3. 1 SET= 2 NO.'S OF ROLLING DIE.
4. VENDOR TO QUOTE BEST POSSIBLE DELIVERY IN THE OFFER. EARLY DELIVERY ALSO ACCEPTABLE.
5. PO NO. /VENDOR'S SEAL/DRG NO. SHALL BE CLEARLY PUNCH MARKED/ETCHED ON EACH ITEM.

6. MATERIAL TEST CERTIFICATE BY NABL CERTIFIED LAB TO BE PROVIDED BY VENDOR AS MENTIONED IN DRAWING.
7. HARDNESS REPORT TO BE PROVIDED BY VENDOR.
8. THE QUOTATION SHOULD BE VALID FOR A MINIMUM PERIOD OF 180 DAYS EFFECTIVE FROM THE DATE OF OPENING OF TENDER.
9. PENALTY FOR LATE DELIVERIES SHALL BE APPLICABLE @0.5% PER WEEK OR PART THEREOF ON VALUE OF RESPECTIVE DELAYED SUPPLIES TO MAXIMUM 10% OF VALUE OF RESPECTIVE DELAYED SUPPLIES.
10. Ordering shall be done for each item code separately as per point no. 9 of enclosed Annexure-1.
11. Final acceptance for each set of roller dies supplied in LOT-1 shall be subjected to successful establishment in BHEL Haridwar as per point no. 10 of enclosed Annexure-1.
12. 100% payment against lot-1 supplies shall be done for each set/item code separately after set wise final acceptance as per point no. 10 of Annexure-1 enclosed. If any vendor does not accept the payment criteria, its offer will not be considered further.
13. Delivery of Lot-2 shall be on intimation by BHEL depending on successful acceptance of Lot-1 supply. Payment for lot-2 same in design/material as established & accepted during Lot-1 shall be on receipt of material at BHEL Haridwar as per point no. 10 of Annexure-1 enclosed.
14. CURRENCY EXCHANGE RATE WILL BE APPLICABLE ON THE DATE OF OPENING OF PART-I FOR EVALUATION PURPOSE.
15. For this procurement, Public procurement (preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018, 29.05.2019 & 04.06.2020 and subsequent orders issued by the respective nodal ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/PO//WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/or local content in respect of this procurement, same shall be applicable.
16. As defined under public procurement notifications, only the 'Class-I local supplier' and 'Class-II local supplier' is eligible to bid against this enquiry. Hence bids of non-local supplier (if any) will not be considered.
17. Accordingly, the 'Class-I local supplier'/'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate the percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'/'Class-II local supplier' and shall give details of the location(s) at which the local value addition is made.
18. **PLEASE SUBMIT YOUR OFFER ONLY FOR THE ABOVE REQUIREMENT SUBJECT TO OUR GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC: VERSION APRIL-2019, REV: 04). PLEASE VISIT OUR SITE WWW.BHELHWR.CO.IN FOR GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC) FOR TENDER ENQUIRIES. ALL THE BIDDERS/VENDORS MUST ENSURE COMPLIANCE OF THESE GISTC. GISTC CAN ALSO BE REFERRED BY LOGIN TO B2B PORTAL FOR REGISTERED VENDORS.**

The tender documents can be downloaded from our web site www.bhel.com or www.bhelhwr.co.in. Before submitting the tender, the bidders are required to go through the details mentioned in "Instruction to Bidders". Intending indigenous bidder must remit **Tender Fee of Rs. 2,000.00** (Rupees Two Thousand only) and foreign bidder must remit equivalent amount in foreign currency against the tender if documents (in hard copies) are required from BHEL. Indigenous bidder must also remit the requisite **Earnest Money Deposit (EMD) of Rs. 60,000.00/-** (Rupees Sixty thousand only) and foreign bidder must remit equivalent amount in foreign currency in the form of Cash (as permissible under Income Tax Act) / Pay Order / Demand draft. **If, Tender Fee (if required) and EMD is not submitted along with offer, then the offer shall be out rightly rejected.**

As per notification reference no. NSIC/HO/GP/15(4)/2013-14 dated 07.07.2013 Micro & Small Enterprises (MSEs) are not required to submit tender fees. A certificate issued from competent authority shall be submitted in support of Micro & Small Enterprises (MSEs). BHEL will not be responsible for any type of postal delay / incomplete information from vendor.

As per the OM No. F.No. 1(2)(1)/2016-MA dtd. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), "Traders and agents should not be allowed to avail the benefits extended under the PP Policy." In view of this, it is clarified that benefits of MSE (such as EMD Waiver, Tender fee exemption, Price preference, Payment preference etc.) will be given only to those MSE

Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stockists / Dealers / Traders etc.

The date for opening of tender shall be 08.08.2020 Tenders will be received up to **1.45 P.M.** on **08.08.2020** and opened on the same day at 2.00 P.M. in the Tender Room. **Please note that tender received after due date & time (1.45 PM on 08.08.2020) will not be opened.** BHEL will not be responsible for any type of postal / courier delay / incomplete information from vendor.

As per office order 'MM/ADMN/COVID-19/BID-OPENING/2020-21' dated 07/05/2020 for the subject 'Bid opening during lockdown due to COVID- 19 following shall be part of this enquiry.

Vendors can submit their bids through e-mail, e-mail shall have following clear subject line: -

1.Tender enquiry Reference no. _____

2.Bid Opening Date (Part 1, Techno-Commercial). _____

3.Vendors submitting their bids through e-mail shall submit their bids as attachment (pdf format) with password protection. The password shall be shared through mail (tendercell.heep@bhel.in) after 01:45 pm (IST) on the day of bid opening, however if no password is received up to 04:00 pm (IST) bids will not be opened and will be ignored.

Submission of bids through e-mail shall be considered as consent to open the bid without physically witnessing the event.

Foreign and Indigenous bidders against open tender will necessarily have to obtain class – III DSCs. Procedure for application is available on www.bhel.com.

The total quantity may undergo change at the time of ordering.

Splitting of items to the MSE vendor is not applicable in this tender.

Amendments/Corrigendum, if any, will be hosted on our web site only. Other terms and conditions will be as per tender documents.

Documents submitted with the offer/bid by the bidder (original registered supplier) shall be signed and stamped in each page by authorized representative of the bidder.

Any vendor who is under hold (for the item)/ delisted/ banned with BHEL on date of opening of Part – 1 will not be allowed to quote for this tender. In case their offer is received, it may be out rightly rejected.

Tenders will be received in Tender Box kept in Tender Room and should be addressed to:

**THE HEAD OF MATERIAL MANAGEMENT,
Heavy Electrical Equipment Plant,
Bharat Heavy Electricals Limited,
HARIDWAR-249403 (Uttarakhand), INDIA.**

Bids shall be opened at 2.00 PM on the due date in the presence of authorized representative of the bidders who may like to be present. The authorized representative should bring authority letter from their parent company (Manufacturer) for the specific tender no. attending the bid opening.

BHEL will forfeit the EMD(if any) if, the successful bidder / vendor refuses to honor the order after award of the same on him and / or withdraws his bid and / or unilaterally changes the offer and / or any of its terms & conditions within the validity period.

Unregistered vendors may please visit our site www.bhel.com for filing up the Supplier Registration Form.

KINDLY READ “INSTRUCTIONS TO BIDDERS.” QUOTATION NOT IN ACCORDANCE WITH THE INSTRUCTIONS ARE LIABLE TO BE DISQUALIFIED AND IGNORED.

INSTRUCTIONS TO BIDDERS FOR OPEN TENDER

DEFINITION

Registered Vendors - Are those who are registered with BHEL, Haridwar for Megawatt rating/ Size/ Weight of tendered items in respective material grade or machining of such items.

Un-registered Vendors - Are those who are not registered with BHEL, Haridwar for Megawatt rating/ Size/ Weight of tendered items in respective material grade or machining of such items.

ESSENTIAL INSTRUCTIONS

- 1) Un-registered vendors may be approved by BHEL, if found suitable, on the basis of data furnished by them in Supplier Registration Form (SRF) for Foreign Vendors or Indigenous Vendors (as applicable).
- 2) BHEL team may visit the vendor (s) works for verification of capability and capacity claimed in tender documents/offer (s).
- 3) The tenders shall be submitted in **three parts** in separate sub-envelopes clearly super scribing type of bid, tender no., due date and the name of vendor with full contact details.
 - ❖ **Part I** – Tender fee (if hard copy insisted from BHEL), Earnest Money Deposit (if any) or NSIC certificate for exemption of tender fee & Earnest Money Deposit or Central / State – PSUs / Government departments certificate & Prequalifying conditions. (As per annexure-A)
 - ❖ **Part II** – Techno- Commercial Bid
 - ❖ **Part III** – Price Bid

Note: - All the sub-envelopes (Part-I, Part- II, Part-III) to be put in a single covering envelope Indicating Tender no., due date and the name of vendor, e-mail id, with full contact details. Offer should be complete in all respect (i.e. Part-I, Part- II, Part-III).

- 4) Part-I will be opened on the date and time specified in the tender notice in the presence of those vendors who wish to attend.
- 5) Part-II (Techno-Commercial) bid will be opened of those vendors who successfully qualify the Prequalifying conditions.
- 6) Part – III (Price Bids) along with supplementary price bids, if necessary, will be opened at a later date of only those bidders whose techno-commercial bid will be found acceptable.
- 7) Currency exchange rate will be applicable on the date of opening of Part-I for evaluation purpose.
- 8) Please submit your offer only for the above requirement subject to our **GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC: Version April-2019, Rev: 04)**. Please visit our site www.bhelhwr.co.in for General Instructions and Standard Terms & Conditions (GISTC) for Tender enquiries. **All the bidders/vendors must ensure compliance of these GISTC (Version April-2019, Rev: 04)**. GISTC can also be referred by login to B2B Portal for Registered Vendors.

REFERENCES:

ANNEXURE-A (PQR)

ANNEXURE-1 (TECHNICAL SPECIFICATIONS, REQUIREMENTS ETC)

NDA: Non- Disclosure and Proprietary Information Agreement (Format enclosed)

ANNEXURE-A (PQR)

PRE-QUALIFYING REQUIREMENT (PQR) FOR INDENT NO: 20201591		
Sl. No.	Requirement	Remarks
1	Only those vendors who are Original Manufactures of Thread Rolling Die should quote. In support of same vendor should submit documents like purchase order copy, product catalogue copy etc.	Vendor to confirm & submit.
2	Vendor should have experience of manufacturing THREAD ROLLING DIE for Steel Stud/Screw having external Thread size M48 or above with Rolling die material HSS-M2 or better/equivalent for Thread rolling operation on Thread rolling machine are only eligible to quote. ----- Vendor to Confirm.	Vendor to confirm .
3	BHEL reserves the right to verify the information provided by vendor . In case the information is found to be false /incorrect , the offer shall be rejected.	Vendor to confirm.



DILIP KUMAR
(Dy. Mgr / TTX)



DGM (TTX)

TECHNICAL SPECIFICATIONS

THREAD ROLLING DIE (1 Set = 2 nos. of Dies)

1.0 Purpose:

Thread Rolling Dies should be suitable to carry out Thread Rolling Operation (Cold Thread Forming) on Thread Rolling Machine at BHEL Haridwar on Studs of size M90x6 as per attached drawing no 31132156061 and 31132156041 & on stud of size M72X6 as per drawing no 31132156062 and 31132156042 applicable vide respective material code description. All machining operations except thread rolling shall be carried out by BHEL.

----- Vendor to confirm.

2.0 Work Piece (Studs) Materials:

Round Bars of High Alloy Steel (X12CrMoWVNbN 10-1-1) & Alloy 783 with details as below.

Material – A (Alloy 783): Steel Bar Alloy 783, Rolled/Forged, Solutionized

Chemical Composition:

C	Si	Mn	P	S	Al	B
≤ 0.03	≤ 0.5	≤ 0.5	≤ 0.015	≤ 0.005	5 – 6	0.003 – 0.012
Cu	Cr	Ni	Ti	Fe	Nb	Co
≤ 0.5	2.5 – 3.5	26 - 30	0.1 – 0.4	24 - 27	2.5 – 3.5	Rest

Mechanical Properties at Room Temperature:

0.2% Proof Strength (N/MM ²)	Tensile Strength (N/MM ²)	Elongation l ₀ = 4d (%)	Reduction in Area (%)	Hardness HRC
≥ 724	≥ 1103	≥ 12	≥ 20	≥ 27

Material – B (X12CrMoWVNbN10-1-1): Steel Bar X12CrMoWVNbN10-1-1, Rolled/Forged, Quenched, Tempered Condition

Chemical Composition:

C	Si	Mn	P	S	Cr	Mo
0.11 – 0.13	≤ 0.12	0.4 – 0.5	≤ 0.01	≤ 0.005	10.2 – 10.8	1.0 – 1.1
Ni	W	V	Al	N	Nb	-
0.7 – 0.8	0.95 – 1.05	0.15 – 0.25	≤ 0.01	0.045 – 0.06	0.04 – 0.06	-

Mechanical Properties at Room Temperature:

0.2% Proof Strength (N/MM ²)	Tensile Strength (N/MM ²)	Elongation l ₀ = 5d (%)		Reduction in Area (%)		Impact Energy J		Hardness HB30
		L	T	L	T	L	T	
750-830	≤ 1000	≥ 14	-	≥ 50	-	≥ 40	-	265 - 310

----- Vendor to note & accept.

Shri Narayana
(E2/NTS)

Shri Narayana
(DIP/NTS)
(E2/NTS)

- 3.0 **Broad Specifications of the Thread Rolling Machine** (Model No.: 514, Make: HMT Ltd PRAGA DIVISION Hyderabad - Refer Attached Pic-1) at BHEL Haridwar are as below:

MINIMUM JOB DIAMETER	3 MM
MAXIMUM JOB DIAMETER (INFEED)	100 MM
MAXIMUM JOB DIAMETER (THRU FEED)	60 MM
MAXIMUM THREAD LENGTH (INFEED)	250 MM
IN FEED STROKE	10 MM
MAXIMUM THREAD PITCH	12 MM
ROLLING THRUST	36 TONNES
DIAMETER OF ROLLS (RANGE)	140 – 200 MM
WIDTH OF ROLLS	250 MM
ROLL SPEED RANGE AND STEPS	6 SPEEDS – 16, 22, 34, 73, 110, 150
ROLL SHAFT DIA	100g6
COOLANT	RECIRCULATING TYPE COOLANT OIL TANK CAPCITY 60 LTRS., FLOW 40 LTRS/MIN
DRIVES	MAIN DRIVE MOTOR – 15 HP, HYDRAULIC MOTOR – 5 HP, COOLANT MOTOR – 0.275 HP, LUBRICATION MOTOR – 0.18 HP

----- Vendor to note & accept.

4.0 **Thread Rolling Process:**

Infeed Thread Rolling is to be carried out on Stud with supplied rolling dies (one each on left & right side of the Stud) on the machine at BHEL Haridwar. Pre thread rolling diameters machined by turning operation on Lathe shall be 67.55±0.02 mm for M72 & 85.52±0.02 mm for M90 studs or as recommended by vendor.

----- Vendor to confirm and inform pre thread rolling diameters of studs, to be machined by BHEL by turning operation.

5.0 **Thread Rolling Dies:**

For Thread Rolling Dies, BHEL Drawing Nos. R2684-0011 (for size M72X6) and R2684-0012 (for size M90X6) are attached for vendor's reference. Final drawing of offered Roll dies shall be as per design & recommendation by the vendor.

----- Vendor to confirm & submit their drawings.

6.0 **Thread Rolling Die Material:**

High Speed Steel (HSS) M2 grade or better grade as per recommendations of the vendor. Vendor may offer Thread Rolling Dies of different materials for the two types of Work Piece (Studs) Materials (i.e. Material-A & B, Sl.No. 2).

Chemical Composition of HSS M2 Grade is as below for reference:

Grade	C	Cr	Mo	W	V	Co	Mn	Si
M2	0.85	4	5	6.0	2.0	-	-	-

----- Vendor to confirm and inform offered rolling die material with its chemical composition.

Shiv Anand
(E2/NTS)

Shiv Anand
(DILIP KUMAR)
E2/NTS

7.0 **Heat Treatment of Thread Rolling Die:**

Vendor to carry out suitable heat treatment of Thread Rolling dies for ensuring higher Rolling die life, strength and achievability of smooth surface finish & quality of Rolled threads as per drawing.

----- **Vendor to confirm.**

8.0 **Documentation to be provided by Vendor with the supplies:**

8.1 Material Test Certificate for the Rolling Die material by NABL Certified Lab/Government Lab.

8.2 Hardness Test Report for the Rolling Dies.

8.3 Heat treatment details and certificate for Rolling Dies.

----- **Vendor to confirm.**

9.0 **Quantity to be offered (for supply in two lots):** As per Inquiry.

Lowest bidder (L1 vendor) shall be finalized separately for each type of Rolling Die sets i.e. separately for each material code as per inquiry.

Vendor to quote prices for each set/SI.No. separately. The offer should be complete in all respect i.e. with Roller Dies drgs.

Lot-2 supply shall be subject to successful acceptance of Lot-1 supply.

----- **Vendor to confirm.**

10.0 **Acceptance Criterion for Thread Rolling Dies:**

Thread Rolling Dies supplied in Lot-1 shall be mounted on the Thread Rolling Machine at BHEL Haridwar. Two nos. of Studs of applicable size & material shall be Thread Rolled to achieve threads as per BHEL stud drawings using Lot-1 supply of each Rolling Die Set. Pre-machined Stud material shall be provided by BHEL. Machine shall be operated by BHEL Operators.

Final acceptance of each set of Roller Dies, supplied in Lot-1, shall be subject to successful establishment of Thread Rolling Operation with supplied set of Dies and achievability of required accuracy/sizes/surface finish on BHEL Studs as per BHEL drawings. All above operations shall be carried out in presence of Vendor's representative, if so desired by vendor. Vendor shall be given one additional chance for change in Die design/material in case of failed thread rolling by supplies of Lot-1. For that, vendor may replace the supplies/make additional supplies without any financial implications to BHEL.

Achievability of required accuracy/sizes/surface finish on BHEL Studs as per BHEL drawings: Specified major and pitch diameter values are to be achieved within specified tolerances. Threads shall also be checked with Ring Gauge (Go/No Go) for satisfactory results. Surface finish of 3.2 microns Ra, as per drawing, should be achieved on rolled thread surfaces without any marks or surface defects like line marks, pitting/dent marks, irregular surface, stick-on/chip-off material & Crest Folds.

Shs Number
(E2/NTS)
Sd/-
(DILIP KUMAR)
ES/TPD.

Payment against Lot-1 supplies shall be processed separately for each set/material code depending upon set-wise final acceptance. In case of failed thread rolling or failure to carry out thread rolling, set of supplied Roller Dies, tried but failed, shall be considered as rejected and no payment shall be made for the set. Also, in such cases, no payment shall be made for any supplied Die consumed or damaged during thread rolling.

Lot-2 supply shall be subject to successful final acceptance of Lot-1 supply. Payment to supplies of Lot-2, same in design/material as established & accepted during Lot-1 Thread Rolling, shall be on their receipt at BHEL Haridwar.

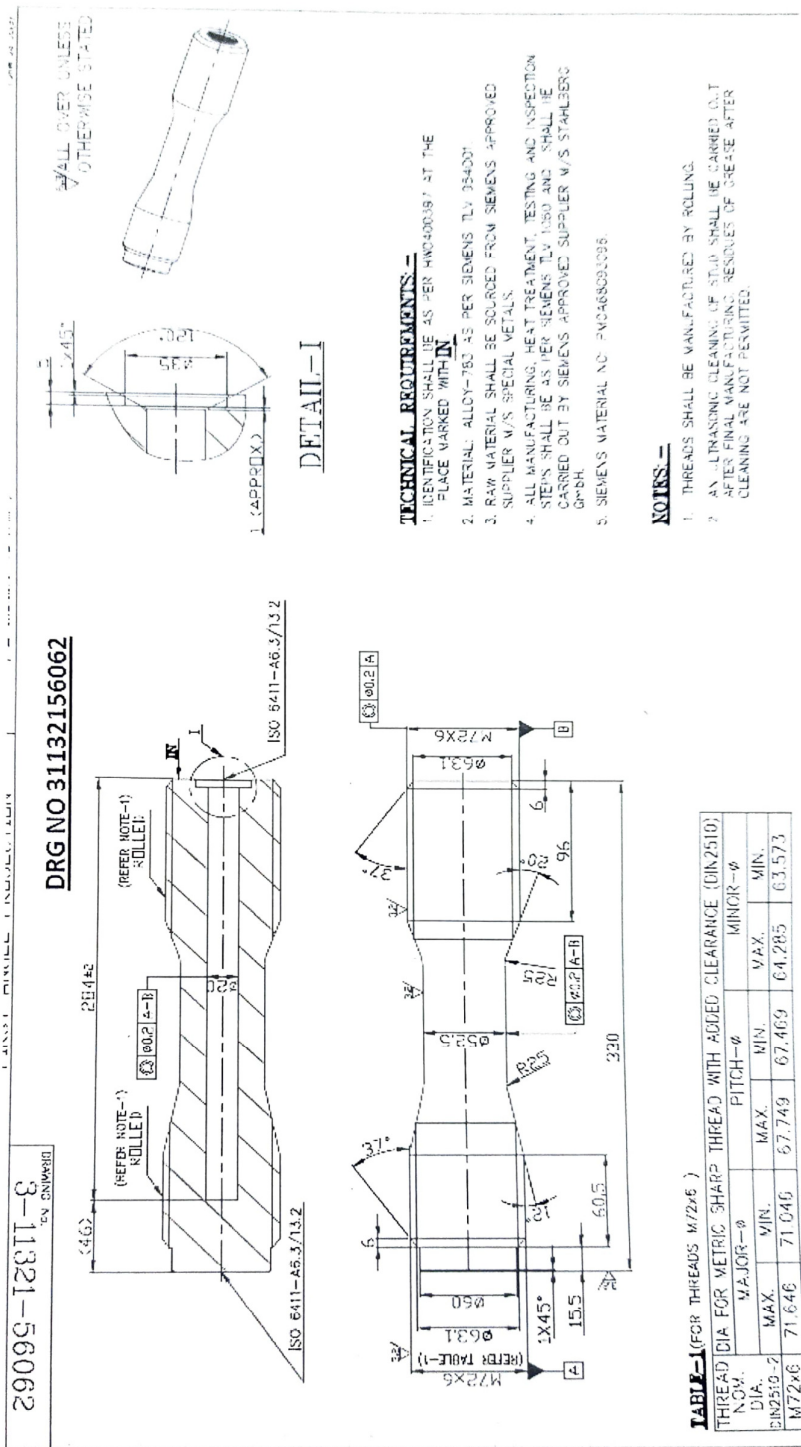
In case, vendor requires any clarification against any part of above specifications, they may discuss with BHEL prior to submission of their offer to avoid any gaps at later stage.

----- Vendor to confirm.

----- *

Shishu
(E2/NTS)

Signature
(DILIP KUMAR)
E3/TTA.



Copying -
 (Signature)
 28/11/2023

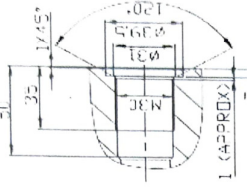
TABLE-1 (FOR THREADS M/2x6)

THREAD DIA FOR METRIC SHARP THREAD WITH ADDED CLEARANCE (DIN 2510)

DIA.	MAJOR-φ		PITCH-φ		MINOR-φ	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
DIN 2510-2	71.646	71.046	67.749	67.469	64.285	63.573
M72x6						

DEAINING NO.
3-

OTHERWISE STATED



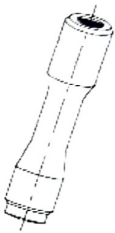
TECHNICAL REQUIREMENTS:-

1. IDENTIFICATION SHALL BE AS PER HW0400397 AT THE PLACE MARKED WITHIN

1. IDENTIFICATION SHALL BE AS PER HW4003397 AT THE PLACE MARKED WITH D.
2. MATERIAL: ALLOY-783 AS PER SIEVENS TLY 054001.
3. RAW MATERIAL SHALL BE SOURCED FROM SIEVENS APPROVED SUPPLIER W/S SPECIAL METALS
4. ALL MANUFACTURING HEAT TREATMENT, TESTING AND INSPECTION STEPS SHALL BE AS PER SIEVENS TLY 0560 AND SHALL BE CARRIED OUT BY SIEVENS APPROVED SUPPLIER W/S STAMPING 09MHD.
5. SIEVENS MATERIAL NO. PW4036393038.

1. THREADS SHALL BE MANUFACTURED BY ROLLING
2. AN ULTRASONIC CLEANING OF STD. SHALL BE CARRIED OUT AFTER FINAL MANUFACTURING. RESIDUES OF GREASE AFTER CLEANING ARE NOT PERMITTED.

THREAD NOM. DIA INCHES	DIA FOR METRIC SHAFT THREAD WITH AUGED CLEARANCE			
	MAJOR DIA MAX.	MIN.	FITCH DIA MAX.	MINOR DIA MAX.
0.3936	0.3936	0.3936	0.3749	0.3549
0.5000	0.5000	0.5000	0.4799	0.4599
0.6250	0.6250	0.6250	0.6049	0.5849
0.7500	0.7500	0.7500	0.7299	0.7099
0.8750	0.8750	0.8750	0.8549	0.8349
1.0000	1.0000	1.0000	0.9799	0.9599
1.1250	1.1250	1.1250	1.1049	1.0849
1.2500	1.2500	1.2500	1.2299	1.2099
1.3750	1.3750	1.3750	1.3549	1.3349
1.5000	1.5000	1.5000	1.4799	1.4599
1.6250	1.6250	1.6250	1.6049	1.5849
1.7500	1.7500	1.7500	1.7299	1.7099
1.8750	1.8750	1.8750	1.8549	1.8349
2.0000	2.0000	2.0000	1.9799	1.9599
2.1250	2.1250	2.1250	2.1049	2.0849
2.2500	2.2500	2.2500	2.2299	2.2099
2.3750	2.3750	2.3750	2.3549	2.3349
2.5000	2.5000	2.5000	2.4799	2.4599
2.6250	2.6250	2.6250	2.6049	2.5849
2.7500	2.7500	2.7500	2.7299	2.7099
2.8750	2.8750	2.8750	2.8549	2.8349
3.0000	3.0000	3.0000	2.9799	2.9599
3.1250	3.1250	3.1250	3.1049	3.0849
3.2500	3.2500	3.2500	3.2299	3.2099
3.3750	3.3750	3.3750	3.3549	3.3349
3.5000	3.5000	3.5000	3.4799	3.4599
3.6250	3.6250	3.6250	3.6049	3.5849
3.7500	3.7500	3.7500	3.7299	3.7099
3.8750	3.8750	3.8750	3.8549	3.8349
4.0000	4.0000	4.0000	3.9799	3.9599
4.1250	4.1250	4.1250	4.1049	4.0849
4.2500	4.2500	4.2500	4.2299	4.2099
4.3750	4.3750	4.3750	4.3549	4.3349
4.5000	4.5000	4.5000	4.4799	4.4599
4.6250	4.6250	4.6250	4.6049	4.5849
4.7500	4.7500	4.7500	4.7299	4.7099
4.8750	4.8750	4.8750	4.8549	4.8349
5.0000	5.0000	5.0000	4.9799	4.9599
5.1250	5.1250	5.1250	5.1049	5.0849
5.2500	5.2500	5.2500	5.2299	5.2099
5.3750	5.3750	5.3750	5.3549	5.3349
5.5000	5.5000	5.5000	5.4799	5.4599
5.6250	5.6250	5.6250	5.6049	5.5849
5.7500	5.7500	5.7500	5.7299	5.7099
5.8750	5.8750	5.8750	5.8549	5.8349
6.0000	6.0000	6.0000	5.9799	5.9599
6.1250	6.1250	6.1250	6.1049	6.0849
6.2500	6.2500	6.2500	6.2299	6.2099
6.3750	6.3750	6.3750	6.3549	6.3349
6.5000	6.5000	6.5000	6.4799	6.4599
6.6250	6.6250	6.6250	6.6049	6.5849
6.7500	6.7500	6.7500	6.7299	6.7099
6.8750	6.8750	6.8750	6.8549	6.8349
7.0000	7.0000	7.0000	6.9799	6.9599
7.1250	7.1250	7.1250	7.1049	7.0849
7.2500	7.2500	7.2500	7.2299	7.2099
7.3750	7.3750	7.3750	7.3549	7.3349
7.5000	7.5000	7.5000	7.4799	7.4599
7.6250	7.6250	7.6250	7.6049	7.5849
7.7500	7.7500	7.7500	7.7299	7.7099
7.8750	7.8750	7.8750	7.8549	7.8349
8.0000	8.0000	8.0000	7.9799	7.9599
8.1250	8.1250	8.1250	8.1049	8.0849
8.2500	8.2500	8.2500	8.2299	8.2099
8.3750	8.3750	8.3750	8.3549	8.3349
8.5000	8.5000	8.5000	8.4799	8.4599
8.6250	8.6250	8.6250	8.6049	8.5849
8.7500	8.7500	8.7500	8.7299	8.7099
8.8750	8.8750	8.8750	8.8549	8.8349
9.0000	9.0000	9.0000	8.9799	8.9599
9.1250	9.1250	9.1250	9.1049	9.0849
9.2500	9.2500	9.2500	9.2299	9.2099
9.3750	9.3750	9.3750	9.3549	9.3349
9.5000	9.5000	9.5000	9.4799	9.4599
9.6250	9.6250	9.6250	9.6049	9.5849
9.7500	9.7500	9.7500	9.7299	9.7099
9.8750	9.8750	9.8750	9.8549	9.8349
10.0000	10.0000	10.0000	9.9799	9.9599



(Drip tank)
(E3 tank)
(Addng.)

3-11321-56041

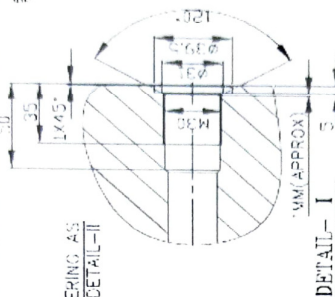


TABLE-I FOR THREADS M50x5

DIA FOR METRIC SIZES (INCHES WITH APPROX. CLEARANCE)						
TYPICAL NEW DIA	MAJOR DIA		DITCH DIA		MINOR DIA	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
W5000	59.640	59.540	55.740	55.640	52.720	52.620

TECHNICAL REQUIREMENTS

1. IDENTIFICATION SHALL BE AS PER HW400397 AT THE PLACE MARKED WITH **IN**
2. MATERIAL AS PER BH&L STANDARD HW10661.
3. THREADS OF THE STUD SHALL BE MANUFACTURED BY ROLLING.

10/23/2013
Dariusz Kozłowski

UKRAINIAN NO

10

100

ALL OVER UNLESS
OTHERWISE STATED

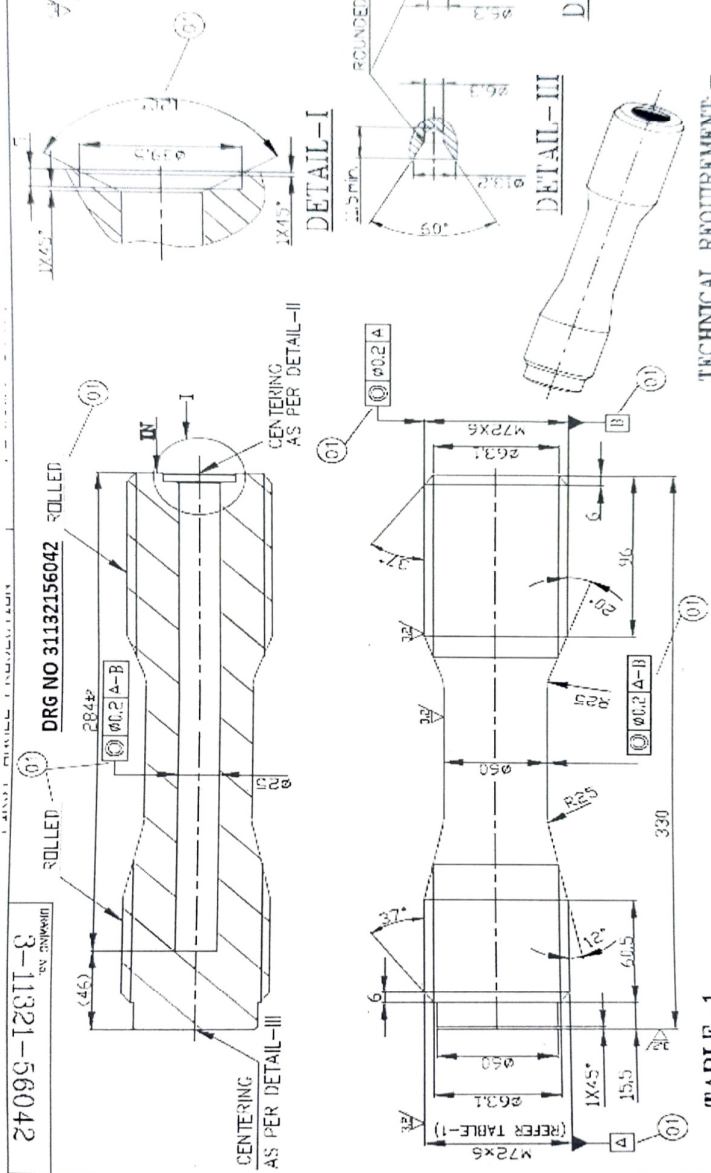


TABLE-1

DIA FOR METRIC SHAFT THREAD WITH AIDED CLEARANCE (DIN 2510)						
THREAD	NOM DIA.	MAJOR-Ø		PITCH-Ø		MINOR-Ø
		MAX	MIN	MAX	MIN	MAX
M7x6		7.646	7.646	6.7159	6.7409	6.4285
						6.5155

TECHNICAL REQUIREMENT: -

- IDENTIFICATION SHALL BE AS PER HW64030397
AT THE PLACE MARKED WITH **IN**
MATERIAL AS PER RHEL STANDARD HW10661
THREADS OF THE STUD SHALL BE MANUFACTURED BY ROLLING

Dirigible
Aircraft

NON-DISCLOSURE AND PROPRIETARY INFORMATION AGREEMENT

BETWEEN

_____ (**Name of the Vendor**),. having its registered offices in
_____ (**Address of Vendor**), registered under the no. _____ of the
Companies' register of _____ (**Name of Place and Country**), capital stock of
_____ (**Value**), with a place of business in _____ (**Name of Place and
Country**) (hereinafter referred to as " _____ (**Name of Vendor**)");

AND

Bharat Heavy Electricals Ltd a company incorporated under the Indian Companies Act 1956
having its registered offices at BHEL House, Siri Fort, New Delhi -110 049 and having one of its
works at Heavy Electrical Equipment Plant, Ranipur, Haridwar-249403 (Uttarakhand), India
registered under the No. 4281 of 1964-65 of the companies register of Delhi, capital stock of Rs
4895.2 million with a place of registered office in New Delhi (hereinafter referred to as “BHEL”)
hereinafter also referred to individually as “the Party” or collectively as “the Parties”.

BACKGROUND

This Agreement sets forth the rights and obligations of the Parties with respect to the use, handling,
protection and safeguarding of Proprietary Information that is disclosed by and between the Parties.

WHEREAS

A) the Parties wish to pursue exploratory discussions concerning a possible collaboration between
them in relation to the Program defined in Exhibit 1;

B) during the ensuing discussions and negotiations it may occur that either Party discloses to the other technical, financial or business information of a proprietary or confidential nature, which the Parties intend to protect against, making it available, by any means to any third person, and other unauthorized use and/or further disclosure by the recipient, in accordance with the terms and conditions set forth herein;

NOW, THEREFORE, the Parties have agreed as follows:

1. The term “Proprietary Information” shall mean any information or data of whatsoever kind of a confidential or proprietary nature, including but not limited to, commercial information, know how and technical information in the form of designs, drawings, concepts, requirements, specifications, software, interfaces, components, processes, or the like, that have been or will be disclosed by either Party to the other pursuant to this Agreement, either in writing, orally or other form, which is designated as “Proprietary” or “Confidential” by the disclosing Party by means of formal declaration or an appropriate stamp, legend or any other written or orally notice .
2. Proprietary Information may be conveyed, without limitation, through any written or printed documents, samples, models, electronic form on disk, tape, other storage media or any other means of disclosing such Proprietary Information that either Party may elect to use during the life of this Agreement, but if an originating Party originally discloses information orally or visually, the receiving Party will protect such information as Proprietary Information to the extent that the originating Party :
 - identifies the Information as Proprietary at the time of original disclosure,
 - summarizes the Proprietary Information in writing .Information stored in electronic form on disk, tape, other storage media will be adequately marked if a proprietary legend displays when the information originally runs on a computer system and when the information is printed from its data file.

Proprietary Information also includes any information which can be obtained by examination, testing or analysis of any hardware or material substance or any component part of such hardware or material substance provided by the Disclosing Party even though the requirements in Clause 1 for marking and designation have not been fulfilled.
3. Each Party, to the extent of its rights to do so, shall disclose to the other only the Proprietary Information which the disclosing Party deems appropriate to fulfil the objectives of this Agreement. The Parties hereby represent that the disclosure of Proprietary Information by and between themselves shall be made in compliance with, and subject to the laws and regulations of the Disclosing Party's country.

4. The receiving Party hereby agrees and covenants that, from the effective date of this Agreement until the expiry date as per article 11 and the following period as per article 12, the Proprietary Information that either Party receives from the other shall:
- a) be protected and kept in strict confidence by the receiving Party which must use the same degree of care it uses to protect its own confidential information and in no case less than a reasonable care;
 - b) be only disclosed to and used by those persons within the receiving Party's organization or that of its parent or controlled companies who have a need to know and solely for the purposes specified in this Agreement, and be treated by such persons or entities with the same degree of care and subject to the same restrictions;
 - c) to procure that each third party to whom Proprietary Information is disclosed under this Agreement is made aware of the provisions of this Agreement prior to such disclosure to it and that each such third party is bound by obligations of confidentiality which are no less onerous than those contained in this Agreement;
 - d) neither be disclosed nor caused to be disclosed or made available, either directly or indirectly, to any third Party or persons other than those mentioned in subparagraph b) above or other persons upon which both of the contractual Parties shall agree in an amendment to this Agreement;
 - e) not to copy, reproduce or reduce to writing any part of such Proprietary Information except as may be reasonably necessary for the purpose referred to in the Recitals of this Agreement

PROVIDED THAT the Receiving Party shall be entitled to make any disclosure required by court order or government or regulatory requirement of the Disclosing Party's Proprietary Information subject to notifying the Disclosing Party as soon as possible of such requirement

5. Any Proprietary Information and copies thereof disclosed by either Party to the other shall remain the property of the disclosing Party and shall be immediately returned or destroyed by the receiving Party upon request.
6. The receiving Party shall have no obligations or restrictions with respect to any Proprietary Information for which the receiving Party can prove that:

- a) is in or which comes into the public domain otherwise than as a result of a breach of this Agreement by any person to whom a disclosure of Proprietary Information is made as permitted under this Agreement or of any other duty of confidentiality relating to the Proprietary Information of which the Receiving Party has knowledge; or
 - b) it has been in its possession without restriction at the time of the disclosure, as evidenced by written documentation in its files; or
 - c) it has been lawfully received from a third Party without breach of this Agreement; or
 - d) it has been or is published without violation of this Agreement; or
 - e) it has been independently developed in good faith by employees of the receiving Party who did not have access to the Proprietary Information; or
 - f) it has not been properly declared, designated or confirmed as Proprietary or Confidential; or
 - g) the protection period has expired according to articles 11 and 12 of this Agreement.
7. With respect to any exchange of Proprietary Information which may occur as a result of this Agreement, it is expressly understood and agreed that the persons listed in Exhibit 2 shall, on behalf of the respective Parties, be the exclusive individuals authorized to receive from and transmit to the other Party Proprietary Information under this Agreement. Each Party may replace at any time its respective authorized individuals identified in such Exhibit 2, within its own organization. Any such new designation by a Party shall be made by written notice to the other at the address indicated in such Exhibit 2.
8. Any Proprietary Information which is identified as "Classified Information", or whose export is subject to an export license, shall be identified as such by the disclosing Party at the time of disclosure and the disclosure, protection, use and handling thereof, shall remain subject to the security procedures and restrictions imposed by the disclosing Party's Government.
9. The disclosure of Proprietary Information under this Agreement by either Party to the other shall not be construed as granting to the receiving Party any right, whether express or implied by licence or otherwise, on the matters, inventions or discoveries to which such information pertains, or as granting any trademark, patents, copyrights, trade secret right or other form of intellectual property right.
10. Nothing in this Agreement may be construed as an obligation of either Party to disclose any Proprietary Information to the other, or to enter into any subsequent contractual relationship with such other Party.

11. This Agreement covers the exchange of Proprietary Information which may be made by either Party to the other until ten years from signing of the agreement or any extension thereto which may be agreed upon by the Parties in writing. Proprietary information relevant to the Program detailed in Exhibit 1, already made available to the other contractual Party before the effective date, shall also be protected under this Agreement.

It is understood by the parties that, prior to disclosure, the Disclosing Party shall have obtained any government authorisation needed for the export of the Proprietary Information

12. The expiry of the period contemplated in Article 11 of this Agreement shall not relieve the receiving Party from complying with the obligations imposed by Article 4 here above with respect to the use and protection of the Proprietary Information, received prior the date of such expiry, for a period of ten (10) years after such expiry.
13. The Parties are independent contractors. Each will bear all costs and expenses in connection with this Agreement. This Agreement is intended to facilitate only the exchange of Proprietary Information and is not intended to be, and shall not be construed to create a teaming agreement, joint venture, association, partnership, or other business organisation or agency arrangement and no Party shall have the authority to bind the other without the other Party's separate prior written agreement .
14. This Agreement shall be governed by and shall be interpreted in accordance with the substantive Indian laws. Irrespective of the foregoing each Party shall remain bound by the provisions of its own national laws and regulations with respect to the transfer or use of Classified Information or information whose export is subject to an export license.
15. All disputes among the Parties, in connection with or arising out of the existence, validity, construction, performance and termination of this Agreement (or any terms thereof), which the Parties are unable to resolve among themselves, shall be finally settled by an Arbitration. The Arbitration shall be held in Haridwar (India), in English language, in accordance with the rules laid down in the arbitration and reconciliation act of India.
16. The foregoing constitutes the entire Agreement among the Parties with respect to the subject matter hereof and supersedes and cancels all prior representations, negotiations, commitments, undertakings, communications, either oral or written, acceptances, understandings and agreements among the Parties with respect to or in connection with any of the matters to which such Agreement applies or refers.

17. Notices to _____(**Name of Vendor**) shall be made at the following address:

(Complete Address of Vendor)

Attention: Mr. _____(**Name of the Authorised Person of Vendor**)

Notices to BHEL shall be made at the following address:

BHARAT HEAVY ELECTRICALS LIMITED,
HEAVY ELECTRICAL EQUIPMENT PLANT,
Ranipur, Haridwar-249403 (Uttarakhand), India

Attention: _____(**Name of the PPX Incharge**)

18. The effective date of this Agreement shall be the date of the last signature appearing herein.

IN WITNESS WHEREOF, each of the Parties has caused this Agreement, to be executed by its duly authorized officer.

Date :

Signed for and on behalf of

Signed for and on behalf of

(Name of Vendor)

BHEL

By:

By:

Title:

Title:

Signature:

Signature:

to the

NON-DISCLOSURE AGREEMENT

between

_____ **(Name of Vendor)**

and

BHARAT HEAVY ELECTRICALS LIMITED

dated:

The Non Disclosure Agreement covers the exchange of Proprietary Information which may occur during the discussions and negotiations in view of a possible cooperation between the Parties in the following programs:

-Description of Material or Services for which the order is placed

_____ **(Name of Vendor)** list of products that require an exchange of Proprietary Information which may be occur during the discussions and negotiations in view of a possible cooperation for the above programs :

to the

NON-DISCLOSURE AGREEMENT

between

_____ **(Name of Vendor)**

and

Bharat Heavy Electricals Ltd.

dated:

Personnel of the Parties authorized to receive and/or transmit Proprietary Information under this Agreement:

For **(Name of Vendor)**

(Name of Person)

Tel.

Fax

Address.

For Bharat Heavy Electricals Ltd.

Mr.

Tel. 01334

Fax 01334

Address. Main Administration Building

BHEL, HEEP, Haridwar

India

Mr.

Tel.

Tel. 01334

Fax

Fax 01334

Address.

Address. Main Administration Building

BHEL, HEEP, Haridwar

India