	PPX-BOI DEPARTMENT BHARAT HEAVY ELECTRICALS LIMITED HEEP: HARDWAR-249 403 (Uttarakhand) FAX: +91 1334 226084/226462 TEL: +91 1334 28 5773/28 1707	ENQUIRY NO. B/4011/3/1053/V2 PACKAGE: Jacking Oil Pump Motor (AC/DC) and its spares PROJECT: GSEB UKAI R&M
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E-PROCUREMENT through GeM portal: Please note that this tender enquiry has been issued through GeM portal of Govt of India. Hence, please upload your e-bid (Two part) through GeM portal only. Please note that PAPER BID or BID THROUGH e-mail SHALL NOT BE Considered.

A. SCOPE OF ENQUIRY:

E-bids on GeM are invited from bidders for the supply of **Jacking Oil Pump Motor (AC/DC)** and its spares for UKAI R&M project as per requirement mentioned below:

Sl. No.	Material Code & Item Description	Total Quantity	LOT Quantity	Present Material Requirement
1.	W90311919456 DRG: 411919BOI14 REV:00 JACKING OIL PUMP MOTOR(AC) ASSEMBLY (INCLUDING BASE MOUNTING FRAME, COUPLING FIXING BOLTS ETC) SUITABLE TO SUPPLY FOLLOWING PARAMETERS. Q= 190 LPM, P= 175 BAR. SPEC: ST39003 REV: 13	4 No.	2No	15-07-2024
			2No	15-07-2024
2.	W90311919464 DRG: 411919BOI15 REV:00 JACKING OIL PUMP MOTOR(DC) ASSEMBLY (INCLUDING BASE MOUNTING FRAME, COUPLING FIXING BOLTS ETC) SUITABLE TO SUPPLY FOLLOWING PARAMETERS. Q= 190 LPM, P= 175 BAR. SPEC: ST39007 REV: 12	4 No.	2 No	15-07-2024
			2 No	15-07-2024
3.	W99318101562 DRG: -- REV:00 BEARINGS FOR AC MOTOR SUITABLE FOR JOP, 90 KW, AS PER ST39003 SPEC: ST39003 REV: 13	2 ST	1 ST 1 ST	15-07-2024 15-07-2024
4.	W99318101546 DRG: -- REV:00 BEARINGS FOR DC-MOTOR SUITABLE FOR JOP-DC,90 KW AS PER ST39007. SPEC: ST39007 REV: 12	2 ST	1 ST 1 ST	15-07-2024 15-07-2024
5.	W99318101538 DRG: -- REV:00 SET OF BRUSHES FOR 90KW-DC MOTOR FOR JOP AS PER ST-39007. SPEC: ST39007 REV: 12	4 ST	2 ST 2 ST	15-07-2024 15-07-2024

SPECIAL NOTE:

- 1.ALL ITEMS/MATERIAL CODES OF THE PROJECT ARE REQUIRED TO BE PROCURED FROM SINGLE SOURCE HENCE SPLITTING OF THE PURCHASE ORDER FOR A PROJECT IS NOT ALLOWED.
- 2.VENDOR TO QUOTE SEPARATELY FOR EACH MATERIAL CODE THROUGH GEM PORTAL


B. Additional Terms and conditions (ATC) of BHEL

Sl. No.	Terms	Description	Confirmation of vendors
1.	Eligibility criteria for participation in this enquiry.	This is domestic open tender enquiry and only class -1 and class-II local suppliers are eligible to participate in this tender enquiry under compliance of PPP-MII Order No. P-45021/ 2/ 2017-PP (BE-II) dtd. 04/06/2020 of Govt of India. Purchase preference to class-1 local supplier over class2 supplier shall be applicable as per PPP-MII Order No. P-45021/ 2/ 2017-PP (BE-II) dtd. 04/06/2020 of Govt of India.	
		For MII, self-certification of local content shall be furnished by bidders in prescribed format of make in India. Please confirm	
2.	Confirmation to compliance of GeM GTC4.0 (Version 1.11)	In addition to the terms & conditions mentioned in below table, General terms and conditions on GeM 4.0 (Version 1.11 Dated-21'June-2023) or subsequent rules/policies issued by GeM shall be applicable against this enquiry. Kindly confirm same is acceptable to you.	
3.	Compliance of 144 (xi) of GFRs-2017	RESTRICTIONS UNDER RULE No. 144 (xi) of GFRs-2017. ALL PROVISIONS OF ORDER NO. F. NO. 6/18/2019-PPD DTD. 23/07/2020 OF DEPARTMENT OF EXPENDITURE (DOE) SHALL BE APPLICABLE FOR THIS TENDER ENQUIRY (ORDER COPY IS AVAILABLE AT https://doe.gov.in/ procurement-policy-divisions).	
4.	Evaluation criteria	The evaluation would be done on the basis of total landed cost to BHEL up to Ukai Project, which Includes (Material cost, freight charges, commissioning charges, Insurance, TPI charges & applicable duties , Taxes etc)	
		ALL THE MATERIAL CODES OF THE PROJECT ARE REQUIRED TO BE PROCURED FROM SINGLE SOURCE HENCE SPLITTING OF THE PURCHASE ORDER FOR A PROJECT IS NOT ALLOWED. PLEASE CONFIRM TO QUOTE ACCORDINGLY.	
5.	Evaluation Currency	The evaluation currency for this tender shall be INR.	
6.	Validity	Confirm that the validity of the offer shall be 180 days from the due date of opening of Techno-Commercial offers.	
		Please note that BHEL reserves the right to ignore the offers quoting validity less than 180 days from EOD (Enquiry Opening Date).	
7.	Basis of Quotation	Price has been quoted "Ex-works freight prepaid basis up to Ukai Project with inclusive of the GST.	
		Please note that, TOTAL ITEMS COVERD IN ENQUIRY TO BE DISPATCHED DIRECTLY TO UKAI PROJECT SITE. PLEASE CONFIRM. Consignee address of is as below- CHIEF ENGINEER (Gen.) GUJRAT STATE ELECTRICITY CORPORATION LIMITED UKAI R&M STORE, THERMAL POWER STATION UKAI DIST-TAPI P.O.UKAI DAM,TAL-FORT-SONGADH PIN-394680 GUJRAT	
8.	Document checklist & PQR qualification	The Pre-Qualification Requirements have been compiled with tender documents. All the bidders should ensure submission of complete details and documents as called for in these requirements. The Offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first. Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements. Please confirm.	
9.	Engineering Document/ Drawing approval conditions	Drawings/Data sheets/documents as called for in the specifications (if any) shall be submitted for approval to BHEL for BHEL/customer approval within 30 days of purchase order. Any delay in delivery on account of late submission of drawings shall be to vendors account. BHEL will arrange the approval of the drawings/data sheets/ documents within 30 days of their receipt. In case of delay on account of BHEL only, delivery shall be re-scheduled. However, vendor to dispatch material as per PO conditions. Please confirm.	
10.	Payment Terms	Payment term for material supply portion- The payment shall be done after issue of consignee receipt-cum acceptance certificate (GeM-CRAC) as per below categorization of the MSE/Non MSE suppliers & Subject to submission of non-discrepant documents.	

		Type of Bidder	Payment Terms (Number of Days)		
		Micro & Small Enterprises (MSEs)	45 days		
		Medium Enterprises	60 days		
		Non MSME	90 days		
		Vendor shall provide the updated MSE/UAM certificate.			
		Bank charges shall be either side, if any. Please confirm			
		In case of deviation in payment terms w.r.t. tender conditions, offer shall be evaluated after loading on account of deviation in payment terms as per extended rules of BHEL.			
11.	Liquidated Damages for late delivery / Penalty Clause	In case of delay in supply of material beyond the agreed contractual delivery, Penalty for Late Delivery would be applicable @ 0.5 % of the undelivered portion (lot wise/unit wise) per week of delay or part thereof subject to a maximum of 10% of the un-delivered portion of PO. Please confirm.			
		Date of GR/LR/LR shall be treated as date of dispatch for all purpose/LD purpose.			
		In case of any deviation to the above penalty clause, BHEL reserves the right to load the offers to the extent to which it is not agreed by vendors (at offered value).			
12.	Insurance	Transit insurance of materials shall be in BHEL scope. Please quote your offer accordingly.			
13.	QUALITY REQUIREMENTS (QP APPROVAL, TPI & CUSTOMER APPROVAL CONDITION)	Vendor to submit quality plan along with the offer. Please confirm.			
		Vendor to confirm that inspection shall be done by BHEL nominated inspection agency M/s Intertek and Customer (if required) as per Customer approved quality plan.			
		Inspection charges of Third party inspection agency shall be to BHEL account. BHEL shall pay directly to TPI. However, all coordination with TPI for raising inspection call & arranging inspection shall be done by supplier. Please confirm.			
		For Spares: Vendor to confirm that quality control will be same as main quality plan if item appear in quality plan. If item does not appear in quality plan, then certificate of compliance will be provided.			
		Customer approval (if required for the new supplier/non approved customer vendor), Vendor shall submit required credential along with relevant documents for arranging customer approval. Offers of only vendors to whom customer shall accord approval (if required) will be considered for price bids opening.			
14.	MDCC clause	Please note that, material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) by BHEL. For issue of MDCC, you are required to submit all test certificates (TC) and inspection report of third party (IR) to BHEL for review after BHEL acceptance the TC/IR shall be submitted to end customer after receipt of end customer clearance MDCC will be issued to vendor. At least 7 days would be required for issuance of MDCC by BHEL. After issuance of MDCC vendor will be dispatched within 7 days.			
15.	Delivery period	Please quote your possible deliveries (lot wise) in number of months/weeks from the date of PO placement/doc approval of Engg drawing, QP whichever is later.			
		If the delivery quoted by you does not meet BHEL Project requirement, BHEL reserve the right to reject such bids offers.			
16.	Reverse Auction	Opening of Price bid & RA shall be conducted for only those bidders who qualifies PQR and whose techno-commercial bid is acceptable to BHEL. During RA on GeM only H-1 bidder will be eliminated.			
17.	CONTRACT EXECUTION	Bidders are advised to read GeM related query & clarification carefully on GeM portal. Order shall be executed through GeM.			
18.	GeM charges	GeM charges if any shall be either side only i.e. buyer's GeM charges shall be in buyer's account and seller's GeM charges shall be on seller's account. Please confirm.			

19.	Packing Instructions	<p>Please confirm that each item of package must be tagged with the same description as per packing list. Package information such as No of boxes, type of boxes, Net & Gross weight of package & dimension of boxes should be mentioned in the packing list. Please confirm.</p> <p>Suitable and sturdy packing should be ensured for handing of the material up to designated site in good condition.</p>															
20.	Integrity pact	<p>(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.</p> <table border="1"><thead><tr><th>SI</th><th>IEM</th><th>Email</th></tr></thead><tbody><tr><td>1.</td><td>Shri Otem Dai, IAS (Retd.)</td><td>iem1@bhel.in</td></tr><tr><td>2.</td><td>Shri Bishwamitra Pandey, IRAS (Retd.)</td><td>iem2@bhel.in</td></tr><tr><td>3.</td><td>Shri Mukesh Mittal, IRS (Retd.)</td><td>iem3@bhel.in</td></tr></tbody></table> <p>(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.</p> <p>(c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.</p> <p>Note: <i>No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:</i></p> <table border="1"><tbody><tr><td>Mr. Mahavir Singh Panwar Engineer- (PPX-BOI) Email ID: msp@bhel.in Tel: +91 1334 28 1707</td><td>Mr. Manoj Kumar Designation: Sr. Manager (PPX-BOI) Email ID: manojy@bhel.in Tel: +91 1334 28 5773</td></tr></tbody></table>	SI	IEM	Email	1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in	2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in	3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in	Mr. Mahavir Singh Panwar Engineer- (PPX-BOI) Email ID: msp@bhel.in Tel: +91 1334 28 1707	Mr. Manoj Kumar Designation: Sr. Manager (PPX-BOI) Email ID: manojy@bhel.in Tel: +91 1334 28 5773	
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21.	Quantity Variation	BHEL reserves the right to cancel tender or reject any or all the quotations without assigning any reasons thereof. BHEL also reserves the right to Increase or decrease the tendered quantities. Vendors should be prepared to accept order for reduced Quantity without any extra charges. Vendor should also be prepared for giving discount in case of Increase in Quantity. Please confirm															
22.	Dispatch documents	<p>Following dispatch documents to be provided immediately after dispatch to BHEL Haridwar for the purpose of commercial billing-</p> <ul style="list-style-type: none">• Test/Inspection certificates and Guarantee certificates.• E- Invoice• GeM invoice• Original copy of GR/LR (Consignee copy)• Packing list• Guarantee Certificate• Original GST compliance certificate.• MRC copy (on rcpt of material at site)• GeM CRAC by site based on delivery confirmation of material in good condition.															
23.	Guarantee clause	Guarantee shall be 12 months from Installation & commissioning & 18 Months from the date of dispatch, whichever is earlier. Please confirm.															

24.	Special condition of enquiry to comply	1.SUPPLY OF ITEM NO.5 SHOULD BE EXACTLY SAME & BE REPLACEABLE WITH SUPPLY OF ITEM NO.1. 2.SUPPLY OF ITEM NO.6 AND 7 SHOULD BE EXACTLY SAME & BE REPLACEABLE WITH SUPPLY OF ITEM NO.2.	
		Bidder shall comply all technical requirement as per this tender specific BHEL specifications, drawing , PID,PQR & QP etc. bidders shall submit the copies of these documents (endorsed) along with technical offer.	
25.	Performance Security/Performance Bank Guarantee	Please confirm that Performance Security/Performance Bank Guarantee shall be submitted as 10% of the contract Value (Excluding Taxes). The Performance Security/PBG shall be submitted within 30 days of notification of the award of Contract and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including Guarantee/ Warranty obligations.	
		Please specifically confirm that PBG would be issued / confirmed by Indian Branch of any of BHEL's consortium bank.	
		Please note that, no deviation in submission of Bank Guarantee is acceptable. The offers of the vendors not agreeing to submit PBG is likely to be rejected by BHEL and no further communication in this regards will be entertained.	
26.	Site Visit condition for commissioning supervision	<u>FOR MAIN SCOPE OF SUPPLY (I.E. 2 NO. OF AC JOP & 2 NO. OF DC JOP)</u> Site visit for supervision & commissioning of main supply Jacking Oil Pumps with AC/DC Motor assembly is required i.e 1 days of each main supply pump motor set is required i.e total 4 days for 4 Sets. Please confirm	
		Accordingly, bidder to quote/submit your prices inclusive through GeM portal for commissioning supervision at site.	
		Checklist shall be submitted by the vendor to BHEL after PO placement. After receipt of checklist from BHEL/BHEL site, vendor to depute commissioning engineer within <u>a week</u> from intimation/readiness from BHEL.	
27.	Risk Purchase clause	In case of abnormal delays (beyond the maximum late delivery period as per LD clause) in supplies / defective supplies or non-fulfilment 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 / alternative source at the risk and cost of the supplier. BHEL 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. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract or under General Law.	
28.	Arbitration/settlement of disputes clause	In case of any dispute arising out of as in connection with this contract, the same shall be referred to arbitration under Arbitration & Conciliation Act 1996 of a sole arbitrator who shall be appointed by mutual consent of the parties. The seat & venue of arbitration shall be Haridwar. The proceedings shall be conducted in English. The Governing law of contract shall be the substitutive law of India.	
29.	Action against vendors/contractor in case of default situation	In order to protect the commercial interests of BHEL, BHEL shall take action against supplies / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business/ money/ reputation, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc. Suspension of Business Dealings could be in the form of "Hold" or "Banning" a supplier/ contractor or a bidder and shall be as per "Guidelines for Suspension of Business Dealings with Suppliers/ Contractors" available at BHEL's website " https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors "	
30.	Contact detail of bidder	For necessary communication, bidders are requested to provide the follow details- 1. Contact person & Mob number----- 2. Official email ids (at least two or three email id)----- ----- 3. Works address/Location:	

	PPX-BOI DEPARTMENT BHARAT HEAVY ELECTRICALS LIMITED HEEP: HARDWAR-249 403 (Uttarakhand) FAX: +91 1334 226084/226462 TEL: +91 1334 28 5773/28 1707	ENQUIRY NO. B/4011/3/1053/V2 PACKAGE: Jacking Oil Pump Motor (AC/DC) and its spares PROJECT: GSEB UKAI R&M
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Important instructions to bidders

Note: Please note that this tender enquiry has been issued through GeM portal of Govt of India. Hence, may please upload your e-bid (Two part) through GeM portal only. Please note that PAPER BID or BID THROUGH e-mail SHALL NOT BE Considered.

1. SCOPE OF ENQUIRY:

For scope of supply please refer tender ATC documents enclosed separately with this tender enquiry.

2. Project Detail:

CHIEF ENGINEER (Gen.)
 GUJRAT STATE ELECTRICITY CORPORATION LIMITED UKAI R&M STORE,
 THERMAL POWER STATION UKAI DIST-TAPI
 P.O. UKAI DAM, TAL-FORT-SONGADH PIN-394680 GUJRAT

3.EARNEST MONEY DEPOSIT (EMD)-

3.1 Interested vendors must submit their e-bid along with the proof of submission of following Earnest Money Deposit (EMD) details through GeM portal.

Details	Amount In INR	Type
EMD amount	INR 6,00,000/- (INR Six Lacs)	Refundable

3.2 EMD shall be applicable to all bidders irrespective to PMD vendors/GeM provisions.

3.3 The EMD should be submitted/credited through **Electronic transfer mode/e-payment/in form of demand draft / Pay Order**. For E-Payment, the Bank/RTGS details are as mentioned below-

Bank Details	SWIFT Details of bank	Contact Details of Banker
STATE BANK OF INDIA RANIPUR BRANCH, OPP: BHEL MAIN GATE, SECTOR-5, RANIPUR, HARIDWAR, UTTRAKHAND, INDIA PIN CODE : 249403	SWIFT NO : SBININBB225 CC ACCOUNT NO : 10667995458 IFSC CODE : SBIN0000586	Contact No. +91 1334 224201 +91 1334 226125 Fax:+91 1334 226512

The Drafts shall be drawn in favor of "BHEL Hardwar and in case of EMD shall be submitted in the form of demand draft / Pay Order the same may be sent to following address

To,
 The Head of Material Management,
 Heavy Electrical Equipment Plant,
 Bharat Heavy Electricals Limited,
 Haridwar-249403 (Uttarakhand), India.
 Telephone: 0133402801707

3.4 EMD Exemption criteria: MSE vendor of Micro and Small category and start-up are exempted to submit EMD.

3.5-Forfeiture of EMD

- A bidder's EMD will be forfeited if the bidder withdraws or amends its/his tender or impairs or derogates from the tender in any respect within the period of validity of the tender or if the successful bidder fails to furnish the required performance security within the specified period mentioned in the Tender.
- EMD by the tenderer to be withheld in case any action on the bidder is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" and forfeited/ released based on the action as determined under these guidelines.

3.5 EMD return provision

- Bid securities/EMD of the unsuccessful bidders should be returned to them at the earliest after expiry of the final bid validity period and latest by the 30th day after the award of the contract. However, in case of two packet or two

stage bidding, Bid securities of unsuccessful bidders during first stage i.e. technical evaluation etc. should be returned within 30 days of declaration of result of first stage i.e. technical evaluation etc.

(ii) Bid security should be refunded to the successful bidder on conclusion of the order/ receipt of a performance security.

(iii) EMD shall not carry any interest.

4. PRE-QUALIFICATION REQUIREMENT (PQR)

All the bidders should ensure submission of complete details and documents as called for in these requirements.

The Offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first.

Techno- Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.

5. SUBMISSION OF OFFER: Please note that this tender enquiry has been issued through GeM Portal, hence PAPER BID or BID THROUGH e-MAIL SHALL NOT BE ENTERTAINED FOR THIS TENDER. Please upload your bid through GeM portal only.

5.1 Only English version or bilingual with one language as English, of all documents would be valid & binding.

5.2 Bidders are advised to read all the tender documents carefully. Any submission of tender by the bidder shall be deemed to have been done after careful study and examination of the tender documents and with full understanding of the implications thereof. The specifications/ Technical Requirements and terms & conditions shall be deemed to have been accepted unless otherwise specifically commented upon in 'Deviation' sheets by the bidder in his offer. Non-compliance with any of the requirements and instructions in the Tender Enquiry may result in rejection of the offer.

5.3 Name of vendor's dealing person with Contact No(s), Email ID and Address of correspondence shall be provided in the bid.

5.4 Tenders are to be uploaded through GeM Portal in Two Parts and Part-I (Techno-Commercial Bid along with PQR, as detailed below) will be opened first. The offers are to be uploaded on or before the last date of submission of offer, as detailed on BHEL e-procurement portal for the tender:

[A] PART-I BID: PRE-QUALIFICATION REQUIREMENT (PQR) & TECHNO-COMMERCIAL BID

Following documents are an integral part of this tender enquiry and endorsed copies of these documents (duly signed and stamped on each page, as a token of acceptance) to be necessarily submitted along with the 'Techno-Commercial Bid' (Part-I bid) on GeM portal.

- i. Proof of EMD submission details must be uploaded on the e-procurement portal.
- ii. **Please submit duly signed & stamped copy (each page) of the Pre- Qualification Requirements (PQR)** with proper filled information and related supporting documents as mentioned in PQR documents.
- iii. Please submit complete Technical offer with relevant drawings/ documents etc.
- iv. Please submit duly signed & Stamped copy of replica of Price Bid (without prices) showing 'quoted' in place of price.
- v. Please submit duly signed & Stamped copy (each page) of duly filled "Additional Terms and conditions".
- vi. Please submit duly signed & stamped copy (each page) of GeM GTC.
- vii. Please submit duly signed & stamped copy (each page) of BHEL Technical specification & Drawing.
- viii. Documents for taking up Customer approval (as per requirement)
- ix. Please submit duly signed & stamped copy (each page) of "Instructions to bidder".
- x. Please submit signed & stamped copy (each page) of INTEGRITY PACT_AASSPIR03 dtd. 01042022.
- xi. Deviations if any are to be listed out separately. Please note that in case no- deviation sheet is received along with offer, it will be presumed that all terms and conditions mentioned in "INSTRUCTION TO BIDDERS, additional Terms & conditions of Tender enquiry & GeM GTC)" shall be acceptable to you and your offer will be processed accordingly.
- xii. Any Deviation with reference to technical requirements/specification to be laid down on separate sheet along with the cost of Withdrawal of such technical deviations (if any). Acceptance of such technical deviations would be at the discretion of BHEL.

[B] PART-II BID (PRICE-BID): BOQ Bid

Price shall be uploaded through GeM portal inclusive of freight & GST.

5.5 e- price bid shall be opened as per schedule given after technical evaluation.

5.6 Part-I bid (Techno-Commercial bid along with PQR) on GeM portal will be opened on Due Date and time specified on the portal. Incomplete offers are liable to be rejected.

5.7 Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements mentioned in our Enquiry and who have submitted the EMD as stipulated in clause 3 above.

5.8 After opening of the online techno-commercial offer, the offers would be evaluated by BHEL and acceptance shall be subject to End Customer approval. Online Price Bid shall be opened only of the Customer approved vendors.

5.9 After finalization of Techno-Commercial evaluation, offers of BHEL and Customer approved vendors who have qualified in techno-commercial offer shall be considered for Price Bid opening. RA shall be done as per GeM guidelines after price bid opening.

5.10 All correspondence thereof, shall be addressed to the following persons:

Mr. Mahavir Singh Panwar Engineer (PPX-BOI) 4 th Floor, Main Administrative Building HEEP, BHEL, Hardwar- 249403, Uttarakhand, India Email ID: mssp@bhel.in Tel: +91 1334 28 1707	Mr. Manoj Kumar Designation: Sr. Manager (PPX-BOI) 4 th Floor, Main Administrative Building HEEP, BHEL, Hardwar- 249403, Uttarakhand, India Email ID: manojy@bhel.in Tel: +91 1334 28 5773
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5.11 BHEL prefers to deal directly with the principal manufacturers/OEM. However, if the OEM/ Principal insists on engaging the services of an agent, the same can be allowed only thru a tender specific authorization letter issued by the principal/OEM. The acceptance of any such offer would be at the discretion of BHEL.

As per directives of CENTRAL VIGILANCE COMMISSION, GOVERNMENT OF INDIA, one agent cannot represent two or more suppliers or quote on their behalf in a particular tender. If so found at any stage, BHEL Hardwar 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).

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 the manufacturer/ supplier and the agent, bid received from the agent shall be ignored.

5.12 Vendors operating from BHEL quarters, unauthorized colonies on BHEL Land and Dharamshalas/ Hotels shall not be considered, hence such vendors need not apply.

6. RIGHT OF ACCEPTANCE

6.1 BHARAT HEAVY ELECTRICALS LIMITED HARIDWAR reserves the right to reject any or all the bids/quotations without assigning any reason thereof. BHEL also reserves the right to increase or decrease the tendered quantities. Bidders should be prepared to accept order for reduced quantity without any extra charges.

6.2 Any discount/ revised offer submitted by a bidder on its own shall be accepted provided it is received on or before the due date and time of offer/bid submission (Part-I) if system allow. The discount shall be applied on pro- rata basis to all items unless specified otherwise by the bidder. Conditional discounts shall not be considered for evaluation of tenders.

6.3 Unsolicited discounts/revised offers given after enquiry opening (i.e. Part-I bid opening) shall not be accepted.

6.4 In case there is no change in the technical scope and/or specifications and/or commercial terms & conditions, the bidder/s shall not be allowed to change his/their price bids after the due date (i.e. Part-I bid opening).

6.5 In case of changes in scope and/or technical specification and/or commercial terms & conditions, having price implications, techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. A cut-off date and time shall be given to all the techno-commercially acceptable bidders to submit the impact on their price bids.

6.6 In the event of any bidder, after finalizing the technical specification & scope of supply, opting to revise and submit their latest price bid instead of submitting impact on their price bid asked by BHEL, then their latest price bid shall prevail. However, in such condition their original price bid will necessarily be opened.

6.7 After technical & commercial examination of the offers received and clarifications obtained (if required), Part-II (Revised Price Bid/ Original Price Bid along with Price Impact and Discount, if any) shall be opened, for which the date and time shall be intimated to technically and commercially acceptable bidders in case of public opening. BHEL may opt to finalize the prices through Reverse Auction amongst technically and commercially acceptable bidders. BHEL reserves the right to open the earlier price bids, if any, submitted by the bidder(s), if required.

6.8 No correspondence shall be entertained from the tenderers after opening of Part-II (Price bid), except clarifications (if any) asked by BHEL in writing.

IMPORTANT NOTE

Kindly ensure the timely submission of your offer on GeM Portal to avoid any ambiguity or internet error issue etc.

For and on behalf of BHEL, Hardwar

**PRE-QUALIFICATION REQUIREMENT**
Jacking Oil Pump AC/DC Motor Assembly.DOCUMENT NO.
STE/JOP/PQR/20231053
Rev: 00 Dt: 25.07.23**A. Brief Introduction about the equipment: -**

Jacking oil pump (JOP) with AC & DC motors are positive displacement pump-motor set and are used for supply of Jacking/Lifting Oil (ISO VG 46) to Steam Turbines of 210MW /250MW/270MW/ 300MW/500MW/600MW rating.

B. Acceptance Criterion for Vendor

1. For each Material Code in Table-1, Vendor/its principal* should have experience of engineering, manufacturing, testing, supply and running of at least two Jacking/Lifting Oil Pump-motor assembly set satisfying all of the following criteria: -
 - a. Pump type shall be any one of **Vane/Screw/Gear/Axial-Piston**. **Yes/No**.
 - b. Supplied pump motor set is mounted on Concrete floor or top of steel Oil Tank.
 - c. Flow rate of supplied pump $\geq x$ LPM with Discharge Pressure of pump $\geq y$ bar (x and y are defined as in Table-1). **Yes/No**.
 - d. Supplied pump motor set is used to supply Jacking oil to Turbine and Generator bearings of power plant rating greater than 150 MW. **Yes/No**.
 - e. Pump motor assembly is supplied in last 7 Years (From date of issuance of Enquiry) in a power plant that has been commissioned at least one year before date of issuance of Enquiry. **Yes/No**.

TABLE-1 (Value of x and y)

Material Code	Description	Value of x (LPM)	Value of y (bar)
W90311919456	Jacking oil pump AC motor Assembly	100 to 250	150
W90311919464	Jacking oil pump DC motor Assembly	100 to 250	150

* In case any vendor is applying thru their principal, then a declaration from principal (on principal's letterhead) is required.

2. Vendor should have commissioned the pump set with AC motor (squirrel cage induction motor suitable for direct-on-line starting with continuous duty type (S1)) of 415V-AC, (+/-10%), 50Hz (+/-5%) & absolute sum variation 10% with starting current limited to 600% + (tolerances) as per IS: 12615-2011/ IEC 60034. **Yes/No**.
3. Vendor (Main pump supplier) & Sub vendor (Motor supplier) should have commissioned the above pump set with DC motor (Shunt or compound wound type having high torque characteristic suitable for Unidirectional/Bi-directional rotation at rated speed and output with continuous duty type (S1)) of 220V-DC (-15%, +10%) feeder supply with starting and field trimmer resistance for limiting the starting current of DC motor. **Yes/No**.

Deptt	Worked By	Checked By	Approved By
TLG	H Gupta <i>H Gupta</i>	HSDOGRA <i>HSDOGRA</i> 27/7/23	ANUJ JAIN <i>ANUJ JAIN</i> 27/7/23
CIE	LAXMI KANT MISHRA <i>LAXMI KANT MISHRA</i>	SATISH KUMAR <i>SATISH KUMAR</i> 27/7/23	VINOD KUMAR <i>VINOD KUMAR</i> 27/7/23

**BHARAT HEAVY ELECTRICALS LIMITED, HARIDWAR**

Turbine Layout Group

**PRE-QUALIFICATION REQUIREMENT
Jacking Oil Pump AC/DC Motor Assembly.**DOCUMENT NO.
STE/JOP/PQR/20231053
Rev: 00 Dt: 25.07.23**C. Submission of documents conforming to Clause B: -**

- Vendor to furnish copy of Purchase Order and dispatch documents of two executed Pump motor set.
- Vendor to furnish customer approved / end user certified copy of General Arrangement drawing, cross-sectional drg, characteristic curves, technical datasheet of pump of any one executed Pump motor set.
- Vendor to furnish detailed Motor Data Sheets along with GA drawings of Motor, Starting Resistance Box Details, Motor JB (junction box) details, Motor characteristic curves, Wiring diagrams and Type Test report for AC & DC Motors, etc of any one executed Pump motor set.

TABLE-2: TO BE SUBMITTED FILLED BY VENDORS ALONGWITH OFFER FOR EACH MATCODE.


Sl. no.	Description	Acceptance Criteria	Supply-1	Supply-2
1	Pump type	Vane/Screw/Gear/Axial Piston		
2	Flow rate (LPS)	X (as per Table-1)		
3	Discharge Pressure (bar)	Y (as per Table-1)		
5	Rating of Power Plant (MW)	>150 MW		
6	Application of Pump	Jacking Oil supply to Turbine bearings.		
7	End Customer Name		
8	Project name		
9	Purchase Order No. and Date		
10	Contact details, Telephone no's & Email id of End user		
12	Whether Vendor/Its Principle engineered, manufactured, Tested & Supplied this Pump.	Yes		
13	Date of commissioning of power plant			


Deptt	Worked By	Checked By	Approved By
TLG	H Gupta <i>H Gupta 27/7/23</i>	HSDOGRA <i>h Gupta 27/7/23</i>	ANUJ JAIN <i>Anuj 27/7/23</i>
CIE	LAXMI KANT MISHRA <i>LKM 27/7/23</i>	SATISH KUMAR <i>Satish 27/7/23</i>	VINOD KUMAR <i>Vinod 27/7/23</i>








**PRE-QUALIFICATION REQUIREMENT**
Jacking Oil Pump AC/DC Motor Assembly.DOCUMENT NO.
STE/JOP/PQR/20231053
Rev: 00 Dt: 25.07.23**Note: -**


- A. BHEL reserves the right to ask for more information / documents/ clarifications. Vendor's offer shall not be considered if vendor fails to furnish the document / information / clarifications as mentioned above or vendor doesn't meet the acceptance criteria as mentioned above. Vendor shall provide the information to BHEL in a timely manner so that project schedule doesn't hamper.
- B. In case of information / data furnished by the vendor found false/incorrect, BHEL reserves the right to reject their offer for the above item. Submission of fake/Fraudulent information shall be taken seriously.
- C. BHEL may visit the plants where the pumps are supplied & installed by vendor. Cost shall be borne by BHEL for these visits. Vendor shall facilitate with end-customer.


Deptt	Worked By	Checked By	Approved By
TLG	H Gupta <i>27/7/23</i>	HSDOGRA <i>27/7/23</i>	ANUJ JAIN <i>27/7/23</i>
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दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)	ST-39007											
			पृष्ठ 14 का 1 Page 1 of 14											
सामग्री सूची संख्या को अधिकृतित करता है	TECHNICAL SPECIFICATION FOR JACKING OIL PUMP SET (D.C.)													
1.0 INTENT OF SPECIFICATION:-														
THIS SPECIFICATION IS INTENDED TO COVER DESIGN, MANUFACTURE, ASSEMBLY, TESTING AND SUPPLY OF COMPLETE PUMPING SETS ALONG WITH BASE PLATE, ANCHOR BOLTS, LIFTING LUGS, COUPLING, SUCTION PIPE, SUCTION FILTER, STARTUP VALVE (IF REQUIRED BY VENDOR FROM PUMP SAFETY POINT OF VIEW) AND OTHER ACCESSORIES INCLUDING MOTOR AND THEIR COMMISSIONING AT POWER STATION.														
THE PUMPING SETS ARE INTENDED FOR OPERATION IN CONJUNCTION WITH STEAM TURBINES AND SHOULD BE SUITABLE FOR CONTINUOUS OPERATION AT AN AMBIENT TEMPERATURE OF 50°C + 90% HUMIDITY.														
2.0 FUNCTION:-														
JACKING OIL PUMP COMES IN OPERATION IN CONJUNCTION WITH THE BARRING OPERATION OF THE TURBINE.														
3.0 APPLICABLE CODE/STANDARD:-														
IS:4722, VDMA 24284, IS: 2253, IS:2254, IS:3202 IS:12075														
4.0 OIL SPECIFICATION:-														
THE MEDIUM HANDELED IS TURBINE OIL OF VISCOSITY CLASS ISO VG46. THE OIL CAN BE SERVO PRIME 46 OF INDIAN OIL CORPORATION OR TURBOL 46 OF BHARAT PETROLEUM OR SHELL TURBOL 46 OF BHARAT SHELL LTD.														
<table style="width:100%; border: none;"> <tr> <td style="width:50%;">KINEMATIC VISCOSITY AT 65°C/20°C</td> <td style="width:50%;">: 16 cs/100 cs</td> </tr> <tr> <td>SPECIFIC GRAVITY AT 65°C</td> <td>: 0.8488</td> </tr> <tr> <td>FLASH POINT</td> <td>: 200°C (min)</td> </tr> <tr> <td>OPERATIONAL TEMPERATURE</td> <td>: 65°C</td> </tr> <tr> <td>POUR POINT</td> <td>: -6.6°C (max.)</td> </tr> </table>					KINEMATIC VISCOSITY AT 65°C/20°C	: 16 cs/100 cs	SPECIFIC GRAVITY AT 65°C	: 0.8488	FLASH POINT	: 200°C (min)	OPERATIONAL TEMPERATURE	: 65°C	POUR POINT	: -6.6°C (max.)
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5.0 PUMP SPECIFICATION:-														
5.1 IDENTIFICATION NO. TO BE MENTIONED ON NAME PLATE AS FOLLOWS:- MAV 32 AP001														
हस्ताक्षर एवं दिनांक SIGN & DATE	दिनांक एवं हस्ताक्षर SIGNATURE & DATE													
सामग्री सूची संख्या INVENTORY NO.														
सहमत विभाग AGREED DEPTT.	नाम NAME	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	अनुवादक TRANSLATED BY	निर्माणकर्ता WORKED BY										
TSX	B.Choudhary	28/01/14	-	HIMANSHU GUPTA										
QAX	Vibhuti Shah	28/01/14	-	HIMANSHU GUPTA										
CIE	Nirbhay Kumar	28/01/14	-	HIMANSHU GUPTA										
स्वीकृति : (A.B.GUPTA) AGM														
निमाण : PED														
जारी : TSX														
दिनांक : 28/01/14														




दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)		ST-39007																																																																
				पृष्ठ 14 का 2 Page 2 of 14																																																																
सामग्री सूची संख्या को INVENTORY NO.	5.2 TYPE : SCREW/VANE TYPE POSITIVE DISPLACEMENT DESIGN TEMPERATURE = 100°C , OPERATING TEMPERATURE = 65°C																																																																			
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	<table border="1"> <thead> <tr> <th>VARIANT NUMBER</th> <th>NORMAL DISCHARGE CAPACITY (Litre/Min.)</th> <th>NORMAL DISCHARGE PRESSURE (Bar)</th> </tr> </thead> <tbody> <tr><td>VAR. 1</td><td>1.26</td><td>120</td></tr> <tr><td>VAR. 2</td><td>1.80</td><td>140</td></tr> <tr><td>VAR. 3</td><td>1.68</td><td>189</td></tr> <tr><td>VAR. 4</td><td>1.25</td><td>182</td></tr> <tr><td>VAR. 5</td><td>2.25</td><td>182</td></tr> <tr><td>VAR. 6</td><td>1.53</td><td>178</td></tr> <tr><td>VAR. 7</td><td>1.33</td><td>182</td></tr> <tr><td>VAR. 8</td><td>1.27</td><td>182</td></tr> <tr><td>VAR. 9</td><td>1.84</td><td>178</td></tr> </tbody> </table>		VARIANT NUMBER	NORMAL DISCHARGE CAPACITY (Litre/Min.)	NORMAL DISCHARGE PRESSURE (Bar)	VAR. 1	1.26	120	VAR. 2	1.80	140	VAR. 3	1.68	189	VAR. 4	1.25	182	VAR. 5	2.25	182	VAR. 6	1.53	178	VAR. 7	1.33	182	VAR. 8	1.27	182	VAR. 9	1.84	178	<table border="1"> <thead> <tr> <th>VARIANT NUMBER</th> <th>NORMAL DISCHARGE CAPACITY (Litre/Min.)</th> <th>NORMAL DISCHARGE PRESSURE (Bar)</th> </tr> </thead> <tbody> <tr><td>VAR. 10</td><td>1.70</td><td>175</td></tr> <tr><td>VAR. 11</td><td>1.30</td><td>155</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			VARIANT NUMBER	NORMAL DISCHARGE CAPACITY (Litre/Min.)	NORMAL DISCHARGE PRESSURE (Bar)	VAR. 10	1.70	175	VAR. 11	1.30	155																								
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PUMP SHALL BE SUITABLE FOR MOUNTING VERTICALLY ON THE OIL TANK. BASE PLATE OF PUMP SHALL MATCH THE COUNTER FLANGE PROVIDED ON THE TANK AS PER SKETCH ON PAGE 14. SMOOTH FUNCTIONING IS ENSURED BY MAINTAINING OIL LEVELS AS DEPICTED IN THE ARRANGEMENT ON PAGE NO. 13.																																																																				
5.3 DURING INITIAL START UP IN WINTER, OIL TEMPERATURE MAY GO AS BELOW AS 20°C.																																																																				
6.0 MOTOR:- A SUITABLE MOTOR CONFORMING TO THE PUMP REQUIREMENTS SHALL BE SUPPLIED. FOR DETAILS ON MOTOR, REFER ANNEXURE-I ON PAGE NO.8.																																																																				
7.0 DESIGN AND CONSTRUCTION OF PUMP:- ALL MATERIALS USED IN THE CONSTRUCTION OF THE PUMPS SHALL BE SELECTED FROM THE RANGE OF MATERIAL MOST APPROPRIATELY SUITABLE FOR THE PURPOSE AND SERVICE CONDITIONS. THE BIDDER SHALL FURNISH MATERIAL SPECIFICATION FOR ALL THE COMPONENTS ALONG WITH THE OFFER TO BHEL FOR THEIR REVIEW AND ACCEPTANCE BY BHEL/ITS CUSTOMER. BHEL/ITS CUSTOMER RESERVES THE RIGHT TO ASK FOR CHANGES IN MATERIAL. THE SIZE SHALL BE STANDARDISED SO AS TO ENSURE INTERCHANGEABILITY.																																																																				
THE SUCTION, DISCHARGE AND DRAINAGE SIZES AND TYPE OF CONNECTIONS. SUCTION- Ø60.3X4 TYPE OF CONNECTION BUTT WELDED. DISCHARGE- Ø33.4X4.5 TYPE OF CONNECTION BUTT WELDED. DRAINAGE INLET- Ø33.4X3.4 TYPE OF CONNECTION BUTT WELDED. DRAINAGE OUTLET- Ø33.4X3.4 TYPE OF CONNECTION BUTT WELDED (FLANGED CONNECTION DIN: 2633 IS TO BE SUPPLIED WITH COUNTER FLANGE, O'RING, BOLTS, NUTS AND WASHER).																																																																				
7.1 SPECIAL TOOLS AND TACKLES ONE SET OF TOOLS REQUIRED FOR ERECTION, OPERATION AND MAINTENANCE OF THE PUMPING SETS SHALL BE SUPPLIED TOGETHER WITH EACH PUMP. LIST OF THESE TOOLS SHALL BE SUBMITTED ALONG WITH THE OFFER.																																																																				
7.2 THE MATERIALS OF CONSTRUCTION OF THE PUMPS SHALL BE SUCH AS TO RESIST CORROSION AND EROSION AND SHALL GIVE A LONG TROUBLE FREE SERVICE.																																																																				
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SUPERSEDES INVENTORY NO.	सामग्री सूची संख्या को अधिकतम करता	<p>7.3 THE SUPPLIER SHALL ALSO FURNISH THE METHOD AND FREQUENCY OF LUBRICATION OF THE BEARINGS AND QUANTITY AND TYPE OF LUBRICANT REQUIRED FOR NORMAL OPERATION. BUT LUBRICATION OF BEARINGS WITH THE OIL BEING HANDLED IS PREFERRED.</p> <p>7.4 THE DESIGN SHALL BE SUCH AS TO KEEP THE FRICTIONAL LOSS AND WEAR CAUSED BY END THRUST TO THE MINIMUM. IT WILL ALSO ENSURE MINIMUM WEAR AND CAVITATION IN MECHANICAL SEALS AND BEARINGS. LONG AND TROUBLE FREE SERVICE SHALL BE ENSURED. THE ROTORS OF THE PUMP SHOULD BE DESIGNED IN SUCH A WAY SO THAT MINIMUM VIBRATIONS ARE EXPERIENCED. THE SOUND PRESSURE LEVEL OF PUMP MOTOR SET SHOULD NOT BE GREATER THAN 85 dBA TO A REFERENCE OF 0.0002 MICRO BAR WHEN MEASURED AT A DISTANCE OF 1.5 METERS ABOVE FLOOR LEVEL AND ONE METERS HORIZONTALLY FROM THE BASE OF THE EQUIPMENT AND VIBRATIONS ARE IN THE PERMISSIBLE RANGE AS PER VDI 2056.</p> <p>7.5 SEALS MUST COMPLY WITH THE FOLLOWING PROPERTIES:</p> <p>(a) READY ACCESS AND AMENABILITY FOR MAINTENANCE WORK.</p> <p>(b) NO CONTAMINATION OF THE MEDIUM FROM MATERIAL ABRADED FROM THE SEALS.</p> <p>(c) NO SEEPAGE OF LUBRICANTS INTO THE FLOW MEDIUM.</p> <p>(d) MINIMUM LEAKAGE LOSSES WITH THEIR CONTROLLED REMOVAL.</p> <p>7.6 TO FACILITATE TRANSPORT AND ERECTION, LIFTING HOOKS OR ERECTION EYES SHALL BE FITTED AT SUITABLE POINTS ON THE COMPONENTS. THEIR LOCATIONS MUST BE SHOWN ON THE DIMENSIONAL DRAWING.</p> <p>7.7 PUMP BEARINGS SHALL BE DESIGNED SO AS TO ASSURE 50,000 hrs CONTINUOUS SERVICE FOR FRICTION BEARINGS AND 30,000 hrs FOR BALL AND ROLLER BEARINGS.</p> <p>7.8 THE MECHANICAL DESIGN SHALL ALLOW EASY ACCESS TO VARIOUS PARTS FOR CARRYING OUT MAINTENANCE WORK.</p> <p>7.9 THE DISCHARGE BRANCH OF THE PUMP SHALL BE TAKEN OUT 100 MM ABOVE THE BASE PLATE BY THE SUPPLIER.</p> <p>7.10 THE PUMPS SHALL BE PROVIDED WITH DRAINAGE AND VENTING DEVICES.</p> <p>7.11 ALL SYSTEM PARTS CARRYING OIL SHALL BE OF OIL TIGHT CONSTRUCTION, COMPRESSION-TYPE FITTINGS ARE NOT PERMISSIBLE.</p> <p>7.12 FOR SCREW/VANE PUMPS RUNNING AT SUBCRITICAL SPEEDS, IT SHALL BE ENSURED THAT THE CRITICAL SPEED LIES ABOVE THE MAXIMUM SPEED ATTAINABLE DURING OPERATION WITH A MINIMUM MARGIN ON 15% OF RATED SPEED. FOR PUMPS RUNNING AT SUPER CRITICAL SPEEDS, IT SHALL BE ENSURED THAT THERE IS A DIFFERENCE OF SUFFICIENT MAGNITUDE (NOT LESS THAN 20%) BETWEEN THE OPERATING SPEED AND THE BORDER IN CRITICAL SPEEDS. ALLOWANCES SHALL BE MADE FOR THE TYPE OF COUPLING BETWEEN THE PUMP AND MOTOR WHILE CALCULATING THE CRITICAL SPEEDS.</p>											
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स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग एवं अपरिचित रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए													
दिनांक एवं हस्ताक्षर SIGN & DATE 18/2/14													
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SUPERSEDES INVENTORY	<p>7.13 COUPLING SUITABLE COUPLING WITH GUARDS SHALL BE PROVIDED FOR COUPLING PUMP WITH MOTOR. IT SHALL BE DESIGNED TO FACILITATE EASY ALIGNMENT. ONE SET OF COUPLING BOLTS SHALL BE SUPPLIED IN SPARE. COUPLING BETWEEN PUMP AND MOTOR SHOULD BE SUITABLE FOR LIFTING THE MOTOR WITH OR WITHOUT LIFTING COMPLETE ASSEMBLY WITH PUMP.</p> <p>7.14 FOUNDATION THE PUMP SHALL BE MOUNTED ON THE OIL TANK AND HUNG FROM BED PLATE AT THE TANK TOP INTO THE TANK. FOR FURTHER DETAILS REFER PAGE NO. 13 & 14. ALL THE SEATING MACHINED SURFACES OF BED PLATE TO BE MAINTAINED FOR 0.5 mm FLATNESS.</p> <p>8.0 QUALITY ASSURANCE, INSPECTION AND TESTING</p> <p>(a) THE MANUFACTURER SHALL CONDUCT ALL TESTS REQUIRED TO ENSURE ALL THE COMPONENTS/PART OF THE JACKING OIL PUMP OFFERED, CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION AND IN COMPLIANCE WITH REQUIREMENTS OF APPLICABLE CODES AND STANDARDS.</p> <p>(b) THE BIDDER SHALL SUBMIT ALONG WITH HIS OFFER QUALITY PLAN.</p> <p>8.0.1 THE TESTING MEDIUM SHALL BE TURBINE OIL (AS SPECIFIED IN POINT NO.4 AT PAGE NO.1).</p> <p>8.1 THE PARTICULARS OF THE PROPOSED SHOP TESTS AND PROCEDURES FOR THE TESTS SHALL BE SUBMITTED TO BHEL / ITS CUSTOMER FOR APPROVAL ALONGWITH QUALITY PLAN.</p> <p>8.2 THE MATERIAL SHALL BE DISPATCHED ONLY AFTER INSPECTION AND CLEARANCE OF MATERIAL BY BHEL OR ITS CUSTOMER AND APPROVAL OF TEST CERTIFICATE BY BHEL / ITS CUSTOMER.</p> <p>8.3 THE MINIMUM TESTS/ CHECKS TO BE CARRIED OUT ON THE JACKING OIL PUMP AS ENVISAGED BY BHEL ARE GIVEN BELOW. THIS IS, HOWEVER, NOT INTENDED TO FORM A COMPREHENSIVE TESTING PROGRAMME AS IT IS SUPPLIERS RESPONSIBILITY TO PREPARE THE DETAILED QUALITY PLAN, WHICH SHOULD ALSO INCLUDE TESTS/CHECKS CARRIED OUT BY SUPPLIER AS A PART OF THEIR NORMAL PRACTICE. THIS QUALITY PLAN IS SUBJECT TO THE APPROVAL OF BHEL / ITS CUSTOMER AND BHEL / ITS CUSTOMER RESERVES THE RIGHT TO ASK FOR ANY MORE CHECKS AT THE TIME OF QUALITY PLAN FINALIZATION.</p> <p>8.3.1 TESTING OF MATERIALS</p> <p>THE MATERIAL OF EACH COMPONENT SHALL BE TESTED AS PER RELEVANT SPECIFICATION FOR ITS CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES, VIZ. YS, UTS, IMPACT, % ELONGATION % RA ETC. NDT, UT ON SHAFT, MPI ON SCREW/VANES & CASING SHALL BE CARRIED OUT TO ENSURE FREEDOM FROM SURFACE AND SUB-SURFACE DEFECTS.</p> <p>8.3.2 FOLLOWING TESTS SHALL BE CARRIED OUT DURING VARIOUS STAGES OF MANUFACTURE AT MANUFACTURER WORKS.</p> <p>(a) CHECK FOR DIMENSIONS OF ALL COMPONENT PARTS INCLUDING SURFACE FINISH, AXIAL AND RADIAL RUN OUT OF SHAFT ETC.</p> <p>(b) NON-DESTRUCTIVE EXAMINATION: UT FOR SCREW /VANES BLANKS AND DPT/MPI ON SCREWS/VANES TO BE CARRIED OUT TO ENSURE SURFACE/SUB-SURFACE DEFECTS.</p>				
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सामग्री सूची संख्या INVENTORY NO.	स्वत्वधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयुक्त एवं अप्रयुक्त रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।	COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	हस्ताक्षर एवं दिनांक SIGN & DATE	हस्ताक्षर एवं दिनांक SIGN & DATE	हस्ताक्षर एवं दिनांक SIGN & DATE	हस्ताक्षर एवं दिनांक SIGN & DATE	
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SUPERSEDES INVENTORY सामग्री सूची संख्या को अधिकतम करता	12.0 CLEANING, PAINTING, CONSERVATION & PACKING: THE SURFACE SHALL BE CLEANED & PREPARED FOR APPLICATION OF THE COATINGS BY BLASTING WITH NON-SILICATIC ABBRASIVE AGENTS. THE PROTECTIVE COATING SHOULD BE OIL RESISTANT TO PREVENT COTAMINATION OF OIL SPECIFIED TO PREVENT THE DETERIORATION OF THE COATING ITSELF. THE SUPPLIER SHALL GIVE EXACT AND PRECISE DETAILS ABOUT THE MEASURES ENVISAGED BY HIM FOR SURFACE PROTECTION, WHICH SHALL BE CHECKD AND APPROVED BY BHEL. INSTRUCTIONS SHOULD BE ISSUED REGARDING RECONSERVATION, DECONSERVATION ALONGWITH SPECIFICATION OF MATERIAL TO BE USED FOR ABOVE PURPOSE. 100% QUANTITY OF COATING MATERIAL SHALL BE SUPPLIED ALONG WITH THE PUMP FOR RECONSERVATION AND DECONSERVATION AT SITE DURING STORAGE. ANY SPECIFIC INSTRUCTION TO BE FOLLOWED DURING STORAGE AT SITE TO AVOID ANY SEIZING ETC SHALL ALSO BE INTIMATED. ALL SUCH INSTRUCTIONS SHALL BE MADE AVAILABLE TO SITE INCHARGE IN A SEPARATE COVER (NOT PACKED WITH PUMP PACKAGE). THE SUPPLIER SHALL BE RESPONSIBLE FOR ALL LOSS OR DAMAGE DURING TRANSPORTATION, HANDLING AND STORAGE DUE TO IMPROPER PACKING.				
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स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत भारती इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।		13.1 SUPPLIER TO PERFORM TWO VISIT AT SITE SUPERVISION OF VENDER REQUIRED DURING ERECTION AND COMMISSIONING AT SITE. 13.1.1 FIRST VISIT TO CHECK AND REPLACE MOTOR'S BEARINGS, IF REQUIRED PUMP'S SUCTION AND DISCHARGE O-RINGS AND TO CHECK THE CONDITION OF THE PUMP SET BEFORE INSTALLATION OF PUMP/MOT OIL FILLING. 13.1.2 SECOND VISIT TO SUPERVISE THE COMMISSIONING OF PUMP SET ALONG WITH FTR.			
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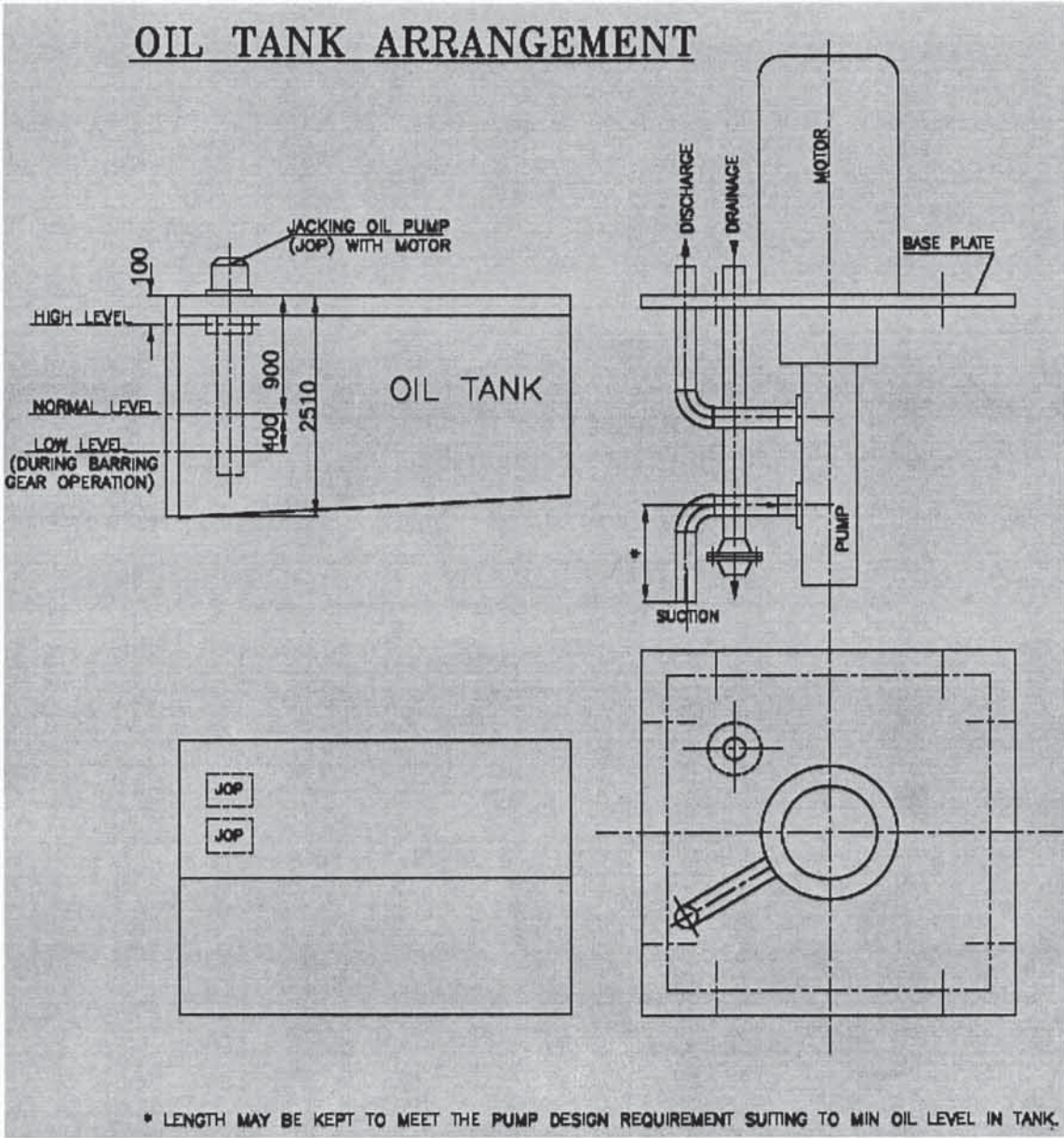




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दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)		ST-39007	
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SUPERSEDES INVENTORY समीची सूची संख्या को अधिकारित करती	M5.0 SPECIAL REQUIREMENTS: M5.1 SEPARATE TERMINAL BOX FOR WINDING (ARMATURE AND FIELD) AND SPACE HEATERS SHALL BE PROVIDED. THE MOTOR WOULD OPERATE IN AN ENVIRONMENT OF OIL FUMES. M5.2 THE MOTOR SHALL BE RE-WOUNDABLE. M5.3 THE MOTOR SHALL HAVE ON LINE GREASING FACILITY. M5.4 THE MOTOR CONSTRUCTION SHALL BE SUITABLE FOR EASY DISASSEMBLY AND REASSEMBLY. M5.5 MOTOR SHALL BE PAINTED WITH PAINT SUITABLE FOR WORKING CONDITION AND ITS COLOUR SHALL BE INTIMATED LATER ON. M5.6 THE MOTOR SHALL BE THOROUGHLY DEGREASED AND SHARP EDGES AND SCALES REMOVED AND TREATED WITH ONE COAT OF PRIMER AND TWO COATS OF ENAMEL PAINT. FAN SHALL ALSO BE PAINTED TO WITHSTAND CORROSION. M5.7 MOTOR BEARINGS (DE & NDE) SHALL BE SEALED TYPE TO AVOID FREQUENT RE-GREASING. M5.8 LIMITS OF MECHANICAL VIBRATIONS SEVERITY SHALL BE LIMITED TO VIBRATION GRADE "R" (REDUCED) AS PER IS: 12075. M6.0 TESTS AT MANUFACTURER'S WORKS:- (i) MOTOR AFTER COMPLETE ASSEMBLY SHALL BE SUBJECTED TO BOTH TYPE AND ROUTINE TESTS AS PER IS: 4722. TYPE TEST SHOULD NOT BE MORE THAN 5 YEARS OLD w.r.t. DATE OF ORDERING. (ii) IN ADDITION THE FOLLOWING TESTS SHALL ALSO BE CARRIED OUT. (a) DEGREE OF PROTECTION TEST TO CONFORM TO THE SPECIFIED DEGREE OF PROTECTION (TYPE TEST). (b) 20% OVERSPEED TEST FOR 2 MINUTES (ROUTINE TEST). (c) MEASUREMENT OF VIBRATION (ROUTINE TEST) AS PER IS: 12075. (d) MEASUREMENT OF NOISE AS PER IS: 12065. MOTOR NOISE LEVEL SHALL BE LIMITED SO AS TO ACHIEVE PUMP-MOTOR SET NOISE LEVEL AS GIVEN IN CLAUSE 7.4 ON PAGE-3. M7.0 DATASHEET WITH FOLLOWING POINTS TO BE FURNISHED BY BIDDER ALONG WITH OFFER:- THESE SHALL BE SUPPLIED IN TWO COPIES EACH. M7.1 TYPE AND FRAME SIZE. M7.2 STARTING TIME IN SECONDS: M7.2.1 WITH 100% VOLTAGE AT TERMINALS. M7.2.2 WITH 85% VOLTAGE AT TERMINALS. M7.2.3 WITH 80% VOLTAGE AT TERMINALS. M7.3 SAFE STALL TIME AT 100% RATED VOLTAGE UNDER HOT CONDITION. M7.4 MOTOR GD VALUE. M7.5 WEIGHT OF MOTOR / ROTOR M7.6 EXPECTED LIFE OF BEARING. M7.7 TYPE AND SIZE OF CABLE FOR WHICH GLAND IS PROVIDED IN THE TERMINAL BOX. M7.8 MOTOR KW RATING CALCULATION. W.R.T PUMP REQUIREMENT. M7.9 VALUE OF STARTING RESISTANCE / RESISTANCES. M7.10 DATA IN RESPECT OF ALL ITEMS MENTIONED AT PARA M1.0 TO M5.0 OF ANNEXURE-I. M8.0 DOCUMENTS TO BE FURNISHED WITHIN FOUR WEEKS OF PLACEMENT OF ORDER. M8.1 SIX HARD COPIES AND ONE SOFT COPY (IN PDF FORMAT) OF MOTOR DATA SHEET AND G.A. DRAWING.				
कॉपीराइट और कॉन्फिडेंटियल 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.					
स्वत्वधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की संपत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।					
दिनांक एवं हस्ताक्षर SIGN & DATE 8/2/14	REV. NO. 12				
समीची सूची संख्या INVENTORY NO. P-5474	निर्माणकर्ता WORKED BY H.GUPTA		8/2/14	8/2/14	
	जांचकर्ता CHECKED BY ANUJ JAIN		8/2/14		


दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)		ST-39007	
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सामग्री सूची संख्या INVENTORY NO.	सामग्री सूची संख्या को अधिकृत करता है SUPERSEDES INVENTORY NO.	M8.2 DRAWING SHOWING TERMINAL DETAIL OF ALL TERMINALS AND LOCATION AND DIMENSION OF TERMINAL BOXES. M8.3 ROTOR WEIGHT AND TOTAL MOTOR WEIGHT. M8.4 CHARACTERISTIC CURVES OF THE MOTOR. M9.0 SIX COPIES OF TESTS CARRIED OUT AS PER CLAUSE NO. 6.0 ON EACH MOTOR SHALL BE FURNISHED TO BHEL FOR SCRUTINY AND APPROVAL. ONLY ON ACCEPTANCE FROM BHEL SIDE, MOTOR CAN BE CONSIDERED SUITABLE FOR DISPATCH.			
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.		ANNEXURE-II DATA TO BE FURNISHED BY BIDDER ALONG WITH OFFER FOR JACKING OIL PUMP			
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयुक्त एवं अप्रयुक्त रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए		A1.0 EQUIPMENT AND SERVICES OFFERED PLEASE STATE WHETHER THE FOLLOWING EQUIPMENT SERVICE AS SPECIFIED IN THE DATA SHEETS ARE OFFERED OR NOT.			
		A1.1 PUMP AS PER SPECIFICATION YES/NO A1.2 MOTOR/MAKE YES/NO A1.3 NECESSARY INSTRUMENTS, TEST CONNECTIONS. YES/NO A1.4 BASE PLATE AS PER DRAWING. YES/NO A1.5 COMPANION FLANGES YES/NO A1.6 SPARE PARTS YES/NO A1.7 MAINTENANCE AND SPECIAL ERECTION TOOLS. YES/NO A1.8 COMMISSIONING OF THE SET. YES/NO A1.9 NO. OF PUMPS OFFERED. YES/NO			
		A2.0 DESIGN AND PERFORMANCE. A2.1 DESIGNED CAPACITY OF EACH PUMP. M ³ /hour A2.2 NORMAL DISCHARGE PRESSURE A2.3 EFFICIENCY A2.4 RATED SPEED A2.5 PERFORMANCE GUARANTEED WHEN INSTALLED AS PER GIVEN ARRANGEMENT. YES/NO A2.6 PUMP b.h.p./Kw AT RATED CAPACITY A2.7 MAXIMUM ALLOWABLE SUCTION LIFT (FOR MINIMUM NPSH REQUIRED) A2.8 MAXIMUM DISCHARGE PRESSURE FOR WHICH PUMP IS SUITABLE A2.9 PARTY SHALL INFORM THE FILTERATION LEVEL OF THE FLOW MEDIA FOR PROPER FUNCTIONING OF PUMP.			
हस्ताक्षर एवं दिनांक SIGN & DATE		A3.0 MATERIAL OF CONSTRUCTION A3.1 CASING A3.2 DRIVING AND DRIVEN SPINDLE SCREW A3.3 BASE PLATE A3.4 WEARING RINGS			
सामग्री सूची संख्या INVENTORY NO.	REV. NO. 12	निर्माणकर्ता WORKED BY		H.GUPTA	8/2/14
सामग्री सूची संख्या INVENTORY NO.	REV. NO. 12	जांचकर्ता CHECKED BY		ANUJ JAIN	8/2/14


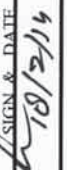


दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)	ST-39007			
			पृष्ठ 14 का 12 Page 12 of 14			
SUPERSEDES INVENTORY	सामग्री सूची संख्या को अधिकतम करता	A3.5 TYPE OF BEARINGS USED A3.6 TYPE OF COUPLING A3.7 PACKING A4.0 CONNECTIONS A4.1 SUCTION SIZE A4.2 DISCHARGE SIZE A5.0 DRAWINGS A5.1 GENERAL ARRANGEMENT AND SECTIONAL DRAWING YES/NO ENCLOSED WITH OFFER. A6.0 WEIGHT SCHEDULE A6.1 WEIGHT OF PUMP A6.2 WEIGHT OF MOTOR A7.0 CHARACTERISTIC CURVES A7.1 POWER CONSUMPTION / DISCHARGE PRESSURE A7.2 DISCHARGE QUANTITY / DISCHARGE PRESSURE A7.3 DISCHARGE QUANTITY / EFFICIENCY A8.0 ANY DEVIATION TAKEN AGAINST SPECIFICATION. YES/NO A9.0 DEVIATIONS TAKEN AS MENTIONED HERE A10.0 HYDRAULIC TEST PRESSURE				
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company		CROSS REFERRED STANDARDS: IS:5 , IS:2253 , IS:2254 , IS:3202 , IS: 4722, IS: 12075, VDMA: 24284.				
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।		दिनांक SIGN & DATE 8/2/14				
सामग्री सूची संख्या INVENTORY NO. P-5474	REV. NO. 12		निर्माणकर्ता WORKED BY H.GUPTA		8/2/14	
			जांचकर्ता CHECKED BY ANUJ JAIN		8/2/14	


दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)		ST-39007 पृष्ठ 14 का 13 Page 13 of 14		
समुपरी सूची संख्या को अधिलिखित करना	SUPERSEDES INVENTORY					
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	<div data-bbox="391 327 997 369" data-label="Section-Header"> <h2 style="text-align: center;">OIL TANK ARRANGEMENT</h2> </div>  <p style="text-align: center;">* LENGTH MAY BE KEPT TO MEET THE PUMP DESIGN REQUIREMENT SUITING TO MIN OIL LEVEL IN TANK.</p>					
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रयोग एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।	<div data-bbox="440 1094 862 1388" data-label="Diagram"> </div> <div data-bbox="886 348 1390 1430" data-label="Diagram"> </div>					
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

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)		ST-39003																	
				पृष्ठ 13 का 1 Page 1 of 13																	
SUPERSEDES INVENTORY NO. सामग्री सूची संख्या को अधिकारिता करता है	TECHNICAL SPECIFICATION FOR JACKING OIL PUMP SET (A.C.)																				
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company	1.0 INTENT OF SPECIFICATION:- THIS SPECIFICATION IS INTENDED TO COVER DESIGN, MANUFACTURE, ASSEMBLY, TESTING AND SUPPLY OF COMPLETE PUMPING SET WITH BASE PLATE, LIFTING LUGS, COUPLING, SUCTION PIPE, DISCHARGE PIPE AND STARTUP VALVE (IF REQUIRED BY VENDOR FROM PUMP SAFETY POINT OF VIEW). OTHER ACCESSORIES INCLUDING MOTOR AND THEIR COMMISSIONING AT POWER STATION. THE PUMPING SETS ARE INTENDED FOR OPERATION IN CONJUNCTION WITH STEAM TURBINES AND SHOULD BE SUITABLE FOR CONTINUOUS OPERATION AT AN AMBIENT TEMPERATURE OF 50°C + 90% HUMIDITY.																				
	2.0 FUNCTION:- JACKING OIL PUMP COMES IN OPERATION IN CONJUNCTION WITH THE BARRING OPERATION OF THE TURBINE.																				
	3.0 APPLICABLE CODE/STANDARD:- IS:4722, IS:325, IS:2253, IS:2254, IS:3202 IS:4029, VDI:2056, VDMA 24284 .																				
	4.0 OIL SPECIFICATION:- THE MEDIUM HANDLED IS TURBINE OIL OF VISCOSITY CLASS ISO VG46. THE OIL CAN BE SERVO PRIME 46 OF INDIAN OIL CORPORATION OR TURBOL 46 OF BHARAT PETROLEUM OR SHELL TURBOL 46 OF BHARAT SHELL LTD. <table border="0"> <tr> <td>KINEMATIC VISCOSITY AT 65°C/20°C</td> <td>: 16 cs/100 cs</td> </tr> <tr> <td>SPECIFIC GRAVITY AT 65°C</td> <td>: 0.8488</td> </tr> <tr> <td>FLASH POINT</td> <td>: 200°C (min)</td> </tr> <tr> <td>OPERATIONAL TEMPERATURE</td> <td>: 65°C</td> </tr> <tr> <td>POUR POINT</td> <td>: -6.6°C (max.)</td> </tr> </table>					KINEMATIC VISCOSITY AT 65°C/20°C	: 16 cs/100 cs	SPECIFIC GRAVITY AT 65°C	: 0.8488	FLASH POINT	: 200°C (min)	OPERATIONAL TEMPERATURE	: 65°C	POUR POINT	: -6.6°C (max.)						
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हस्ताक्षर एवं दिनांक SIGN & DATE 18/2/14	दिनांक एवं हस्ताक्षर SIGNATURE & DATE	<table border="1"> <tr> <td>नाम NAME</td> <td>दिनांक एवं हस्ताक्षर SIGNATURE & DATE</td> </tr> <tr> <td>CIE</td> <td>Nirbhay Kumar</td> </tr> <tr> <td>QAX</td> <td>Vibhuti Shah</td> </tr> <tr> <td>TSX</td> <td>B.Choudhary</td> </tr> <tr> <td>सहमत विभाग AGREED DEPTT.</td> <td>नाम NAME</td> </tr> <tr> <td></td> <td>दिनांक एवं हस्ताक्षर DATE & SIGNATURE</td> </tr> <tr> <td>REV.NO. 13</td> <td>SUPERSEDES</td> </tr> <tr> <td>Dt. 28.01.14</td> <td></td> </tr> </table>				नाम NAME	दिनांक एवं हस्ताक्षर SIGNATURE & DATE	CIE	Nirbhay Kumar	QAX	Vibhuti Shah	TSX	B.Choudhary	सहमत विभाग AGREED DEPTT.	नाम NAME		दिनांक एवं हस्ताक्षर DATE & SIGNATURE	REV.NO. 13	SUPERSEDES	Dt. 28.01.14	
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दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक PRODUCT STANDARD (STEAM TURBINE ENGINEERING)	ST-39003																																																													
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सामग्री सूची संख्या को INVENTORY NO	SUPERSEDES INVENTORY NO	5.2 TYPE :-SCREW OR VANE TYPE POSITIVE DISPLACEMENT DESIGN TEMPERATURE = 100°C , OPERATING TEMPERATURE = 65°C																																																														
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PUMP SHALL BE SUITABLE FOR MOUNTING VERTICALLY ON THE MAIN OIL TANK. BASE PLATE OF PUMP SHALL MATCH THE COUNTER FLANGE PROVIDED ON THE TANK AS PER SKETCH ON PAGE 13. SMOOTH FUNCTIONING IS ENSURED BY MAINTAINING OIL LEVELS AS DEPICTED IN THE ARRANGEMENT ON PAGE NO. 12.																																																																
5.3 DURING INITIAL START UP IN WINTER, OIL TEMPERATURE MAY GO AS BELOW AS 20°C.																																																																
6.0 MOTOR:- A SUITABLE MOTOR CONFORMING TO THE PUMP REQUIREMENTS SHALL BE SUPPLIED. FOR DETAILS ON MOTOR, REFER ANNEXURE-I ON PAGE NO. 7.																																																																
7.0 DESIGN AND CONSTRUCTION OF PUMP:- ALL MATERIALS USED IN THE CONSTRUCTION OF THE PUMPS SHALL BE SELECTED FROM THE RANGE OF MATERIAL MOST APPROPRIATELY SUITABLE FOR THE PURPOSE AND SERVICE CONDITIONS. THE BIDDER SHALL FURNISH ALONG WITH THE OFFER, MATERIAL SPECIFICATION FOR ALL THE COMPONENTS TO BHEL FOR THEIR REVIEW AND ACCEPTANCE BY BHEL/ITS CUSTOMER. BHEL/ITS CUSTOMER RESERVES THE RIGHT TO ASK FOR CHANGES IN MATERIAL. THE SIZE SHALL BE STANDARDIZED SO AS TO ENSURE INTERCHANGEABILITY. THE SUCTION, DISCHARGE AND DRAINAGE SIZES AND TYPE OF CONNECTIONS SHALL BE AS FOLLOWS. SUCTION- Ø60.3X4 TYPE OF CONNECTION BUTT WELDED. DISCHARGE- Ø33.4X4.5 TYPE OF CONNECTION BUTT WELDED. DRAINAGE INLET- Ø33.4X3.4 TYPE OF CONNECTION BUTT WELDED. DRAINAGE OUTLET- Ø33.4X3.4 TYPE OF CONNECTION BUTT WELDED (FLANGED CONNECTION DIN: 2633 IS TO BE SUPPLIED WITH COUNTER FLANGE, O-RING, BOLTS, NUTS, AND WASHER).																																																																
7.1 SPECIAL TOOLS AND TACKLES ONE SET OF TOOLS REQUIRED FOR ERECTION, OPERATION AND MAINTENANCE OF THE PUMPING SETS SHALL BE SUPPLIED TOGETHER WITH EACH PUMP. LIST OF THESE TOOLS SHALL BE SUBMITTED ALONG WITH THE OFFER.																																																																
हस्ताक्षर एवं दिनांक SIGN & DATE 18/12/14	REV. NO. 13	निर्माणकर्ता WORKED BY H. GUPTA	8/2/14																																																													
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सामग्री सूची संख्या को प्रतिबिम्बित करना	SUPERSEDES INVENTORY	<p>7.2 THE MATERIALS OF CONSTRUCTION OF THE PUMPS SHALL BE SUCH AS TO RESIST CORROSION AND EROSION AND SHALL GIVE LONG TROUBLE FREE SERVICE.</p> <p>7.3 THE SUPPLIER SHALL ALSO FURNISH THE METHOD AND FREQUENCY OF LUBRICATION OF THE BEARINGS AND QUANTITY AND TYPE OF LUBRICANT REQUIRED FOR NORMAL OPERATION. BUT LUBRICATION OF BEARING WITH THE OIL BEING HANDLED IS PREFERRED.</p> <p>7.4 THE DESIGN SHALL BE SUCH AS TO KEEP THE FRICTIONAL LOSS AND WEAR CAUSED BY END THRUST TO THE MINIMUM. IT WILL ALSO ENSURE MINIMUM WEAR AND CAVITATION IN MECHANICAL SEALS AND BEARINGS. LONG AND TROUBLE FREE SERVICE SHALL BE ENSURED. THE ROTORS OF THE PUMP SHOULD BE DESIGNED IN SUCH A WAY SO THAT MINIMUM VIBRATIONS ARE EXPERIENCED. THE SOUND PRESSURE LEVEL OF PUMP MOTOR SET SHOULD NOT BE GREATER THAN 85 dBA TO A REFERENCE OF 0.0002 MICRO BAR WHEN MEASURED AT A DISTANCE OF 1.5 METERS ABOVE FLOOR LEVEL AND ONE METERS HORIZONTALLY FROM THE BASE OF THE EQUIPMENT AND VIBRATIONS ARE IN THE PERMISSIBLE RANGE AS PER VDI 2056.</p> <p>7.5 SEALS MUST COMPLY WITH THE FOLLOWING PROPERTIES:-</p> <p>(a) READY ACCESS AND AMENABILITY FOR MAINTENANCE WORK.</p> <p>(b) NO CONTAMINATION OF THE MEDIUM FROM MATERIAL ABRADED FROM THE SEALS.</p> <p>(c) NO SEEPAGE OF LUBRICANTS INTO THE FLOW MEDIUM.</p> <p>(d) MINIMUM LEAKAGE LOSSES WITH THEIR CONTROLLED REMOVAL.</p> <p>7.6 TO FACILITATE TRANSPORT AND ERECTION, LIFTING HOOKS OR ERECTION EYES SHALL BE FITTED AT SUITABLE POINTS ON THE COMPONENTS. THEIR LOCATIONS MUST BE SHOWN ON THE DIMENSIONAL DRAWING.</p> <p>7.7 PUMP BEARINGS SHALL BE DESIGNED SO AS TO ASSURE 50,000 hrs CONTINUOUS SERVICE FOR FRICTION BEARINGS AND 30,000 hrs FOR BALL AND ROLLER BEARINGS.</p> <p>7.8 MECHANICAL DESIGN SHALL ALLOW EASY ACCESS TO VARIOUS PARTS FOR CARRYING OUT MAINTENANCE WORK.</p> <p>7.9 THE DISCHARGE BRANCH OF THE PUMP SHALL BE TAKEN OUT 100 MM ABOVE THE BASE PLATE BY THE SUPPLIER.</p> <p>7.10 THE PUMPS SHALL BE PROVIDED WITH DRAINAGE AND VENTING DEVICES.</p> <p>7.11 ALL SYSTEM PARTS CARRYING OIL SHALL BE OF OIL TIGHT CONSTRUCTION, COMPRESSION-TYPE FITTINGS ARE NOT PERMISSIBLE.</p> <p>7.12 FOR PUMPS RUNNING AT SUBCRITICAL SPEEDS, IT SHALL BE ENSURED THAT THE CRITICAL SPEED LIES ABOVE THE MAXIMUM SPEED ATTAINABLE DURING OPERATION WITH A MINIMUM MARGIN ON 15% OF RATED SPEED. FOR PUMPS RUNNING AT SUPER CRITICAL SPEEDS, IT SHALL BE ENSURED THAT THERE IS A DIFFERENCE OF SUFFICIENT MAGNITUDE (NOT LESS THAN 20%) BETWEEN THE OPERATING SPEED AND THE BORDER IN CRITICAL SPEEDS. ALLOWANCES SHALL BE MADE FOR THE TYPE OF COUPLING BETWEEN THE PUMP AND MOTOR WHILE CALCULATING THE CRITICAL SPEEDS.</p>		
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेतु इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।		COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.		
सामग्री सूची संख्या P-5134	REV. NO. 13	निर्माक एवं हस्ताक्षर SIGN & DATE  10/2/14	निर्माणकर्ता WORKED BY H. GUPTA	 8/2/14
		जांचकर्ता CHECKED BY ANUJ JAIN	 8/2/14	


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<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> सामग्री सूची संख्या INVENTORY </div>	<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> SUPERSEDES INVENTORY </div>	7.13 COUPLING SUITABLE COUPLING WITH GUARDS SHALL BE PROVIDED FOR COUPLING PUMP WITH MOTOR. IT SHALL BE DESIGNED TO FACILITATE EASY ALIGNMENT. ONE SET OF COUPLING BOLTS SHALL BE SUPPLIED IN SPARE. COUPLING BETWEEN PUMP AND MOTOR SHOULD BE SUITABLE FOR LIFTING THE MOTOR WITH OR WITHOUT LIFTING COMPLETE ASSEMBLY.			
		7.14 FOUNDATION THE PUMP SHALL BE MOUNTED ON THE MAIN OIL TANK AND HUNG FROM BED PLATE AT THE TANK TOP INTO THE TANK. FOR FURTHER DETAILS REFER PAGE NO. 12 & 13. ALL THE SEATING MACHINED SURFACES OF BED PLATE TO BE MAINTAINED FOR 0.5 mm FLATNESS.			
<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company. </div>		8.0 QUALITY ASSURANCE, INSPECTION AND TESTING			
		(a) THE MANUFACTURER SHALL CONDUCT ALL TESTS REQUIRED TO ENSURE ALL THE COMPONENTS/ PART OF THE JACKING OIL PUMP OFFERED, CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION AND IN COMPLIANCE WITH REQUIREMENTS OF APPLICABLE CODES AND STANDARDS. (b) THE BIDDER SHALL SUBMIT QUALITY PLAN ALONG WITH HIS OFFER.			
<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए। </div>		8.0.1 THE TESTING MEDIUM SHALL BE TURBINE OIL (AS SPECIFIED IN POINT NO.4 AT PAGE NO.1).			
		8.1 THE PARTICULARS OF THE PROPOSED SHOP TESTS AND PROCEDURES FOR THE TESTS SHALL BE SUBMITTED TO BHEL / ITS CUSTOMER FOR APPROVAL ALONG WITH QUALITY PLAN.			
<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए। </div>		8.2 THE MATERIAL SHALL BE DISPATCHED ONLY AFTER INSPECTION AND CLEARANCE OF MATERIAL BY BHEL OR ITS CUSTOMER AND APPROVAL OF TEST CERTIFICATE BY BHEL / ITS CUSTOMER.			
		8.3 THE MINIMUM TESTS/CHECKS TO BE CARRIED OUT ON THE JACKING OIL PUMP AS ENVISAGED BY BHEL ARE GIVEN BELOW. THIS IS, HOWEVER, NOT INTENDED TO FORM A COMPREHENSIVE TESTING PROGRAMME AS IT IS SUPPLIERS RESPONSIBILITY TO PREPARE THE DETAILED QUALITY PLAN, WHICH SHOULD ALSO INCLUDE TESTS/CHECKS, CARRIED OUT BY SUPPLIER AS A PART OF THEIR NORMAL PRACTICE. THIS QUALITY PLAN IS SUBJECT TO THE APPROVAL OF BHEL / ITS CUSTOMER. BHEL / ITS CUSTOMER RESERVES THE RIGHT TO ASK FOR ANY MORE CHECKS AT THE TIME OF QUALITY PLAN FINALIZATION.			
<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> हस्ताक्षर एवं दिनांक SIGN & DATE </div>		8.3.1 TESTING OF MATERIALS			
		THE MATERIAL OF EACH COMPONENT SHALL BE TESTED AS PER RELEVANT SPECIFICATION FOR ITS CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES, VIZ. YS, UTS, IMPACT, % ELONGATION % RA Etc. TO ENSURE FREEDOM FROM SURFACE AND SUB-SURFACE DEFECTS, NDT & UT SHALL BE CARRIED OUT ON SHAFT, NDT, MPI ON SCREWS/VANES AND CASING ALSO BE CARRIED OUT. THE WHOLE RESPONSIBILITY LIES WITH VENDOR OF TESTING THE MATERIAL AS PER RELEVANT STANDARD.			
<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> सामग्री सूची संख्या INVENTORY NO </div>		8.3.2 FOLLOWING TESTS SHALL BE CARRIED OUT DURING VARIOUS STAGES OF MANUFACTURE AT MANUFACTURER WORKS.			
		(a) CHECK FOR DIMENSIONS OF ALL COMPONENT PARTS INCLUDING SURFACE FINISH, AXIAL AND RADIAL RUN-OUT OF SHAFT ETC. (b) NON-DESTRUCTIVE EXAMINATION: - UT FOR SCREW/VANE BLANKS AND DPT/MPI ON SCREWS/VANES TO BE CARRIED OUT TO ENSURE SURFACE/SUB-SURFACE DEFECTS.			
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2-5194		जांचकर्ता CHECKED BY		ANUJ JAIN	8/2/14


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समीची श्रेणी संख्या INVENTORY NO.	SUPERSEDES INVENTORY	(c) CHECK THE CONDITION OF THE OIL SEALS AND ANY SEEPAGE OF OIL THROUGH SEALS ETC. (d) HYDRAULIC TESTING OF THE CASING AND OTHER PRESSURE PARTS SHALL BE AS PER VDMA 24284. (e) PERFORMANCE TEST WITH RESPECTIVE INDIVIDUAL JOB MOTOR FOR VERIFICATION OF PUMP CHARACTERISTICS, VIZ. DISCHARGE AT THE GIVEN PRESSURE, SCHEDULE OF POWER CONSUMPTION AS PER VDMA 24284, NOISE AND VIBRATION LEVEL AS PER VDI 2056. (f) STRIP DOWN TEST TO CHECK THE CONDITION OF BEARING, MECHANICAL CLEARANCES, AND AXIAL PLAY OF SHAFT ETC. 8.3.3 AFTER TESTING THE PUMP, ALL THE SURFACES AND INTERNALS SHALL BE THOROUGHLY CLEANED, DRIED AND CONSERVED. ALL METALLIC SURFACES EXCEPT BRIGHT PARTS EXPOSED TO WEATHER SHALL BE GIVEN A SUITABLE PRIMING COAT AND THEN TWO COATS OF APPROVED PAINTS. ENSURE ASSEMBLY OF ALL THE COMPONENTS OF PUMP AS ONE UNIT AND PACK IN WATER AND DUST PROOF PACKAGE. THE PACKAGES SHOULD BE SUFFICIENTLY STRONG TO SAFEGUARD AGAINST ANY DAMAGE DURING TRANSIT AND IS SAFE FOR TWO YEARS IN A VERY DAMP ATMOSPHERE. 8.3.4 TEST CERTIFICATES INDICATING THE ACTUAL TEST RESULTS OF MATERIAL TESTING, NDT, HYDRAULIC TEST, PERFORMANCE TEST, STRIP DOWN EXAMINATION Etc. SHALL BE FURNISHED FOR BHEL INFORMATION. 9.0 PRE-APPROVAL DOCUMENTS AT THE TIME OF OFFER 9.1 ASSEMBLY DRAWING WITH PART LISTS, NOZZLE SIZES AND THEIR COORDINATES, BASE PLATE DETAILS AND CROSS SECTION ARRANGEMENT ALONG WITH STATIC LOADING. 9.2 CALCULATIONS WITH NECESSARY DRAWINGS (TORQUE/SPEED CHARACTERISTICS Etc), POWER REQUIREMENTS, TORQUE SETTING VALUE FOR MOTOR TRIP, PERMISSIBLE TORQUE VALUE FOR KEY AND POWER SHAFT. 9.3 MAXIMUM MAGNETIC AND NON-MAGNETIC PARTICLE SIZE, WHICH CAN PASS THOROUGH PUMP SCREW/VANE CLEARANCE WITHOUT DAMAGING THE PUMP SHALL BE SPECIFIED IN THE OFFER. 9.4 QUALITY PLAN WITH DETAILS OF QUALITY LEVELS AND MANUFACTURING TOLERANCES. THIS SHOULD GENERALLY CONFORM TO VDMA 24284. GENERALLY ACCEPTED ENGINEERING PRACTICES, IN PARTICULAR VDMA CODES AND STANDARDS OR EQUIVALENT SHALL BE APPLIED AND TAKEN INTO ACCOUNT FOR DESIGN OF SCREW/VANE PUMPS. THE CODES OF STANDARDS APPLIED IN EACH CASE SHALL BE SPECIFIED IN THE OFFER. 9.5 FOR DOCUMENTATION ON MOTOR, PLEASE REFER ANNEXURE-I. EXAMINATION OF THE PRE-APPROVED DOCUMENTS BY BHEL SHALL NOT RELIEVE THE MANUFACTURER AND HIS SUBCONTRACTORS OF THEIR RESPONSIBILITIES. 9.6 THE PRE-APPROVED DOCUMENTS SHALL FORM THE BASIS FOR THE ORDER. NO CHANGES SHALL BE MADE WITHOUT APPROVAL FROM BHEL. 10.0 DOCUMENTS TO BE SUPPLIED AFTER THE PLACEMENT OF ORDER: THESE SHALL BE SUPPLIED IN SOFT COPY VIA MAIL OR BY CD AS PER FOLLOWING SCHEDULE: 10.1 CONTRACTUAL DRAWINGS - 4 WEEKS 10.2 OVERHAUL AND SPARE PARTS LISTS - 4 WEEKS 10.3 EQUIPMENT DESCRIPTION - 4 WEEKS			
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सुपरसेड INVENTORY	समग्री सूची संख्या को अतिरिक्त कटपत्र	<p>10.4 TEST CERTIFICATE OF ALL TESTS AS PER QUALITY PLAN, DRAWINGS DURING VARIOUS STAGES OF MANUFACTURE. ALSO REFER CLAUSE 8.2 AND 8.3.4 ABOVE. - BEFORE DISPATCH</p> <p>10.5 LIST OF TOOLS AND TACKLES - 4 WEEKS</p> <p>10.6 THE STATIC AND DYNAMIC LOADING DETAILS ON SUPPORT/FOUNDATION SHOULD BE FURNISHED. - 4 WEEKS</p> <p>10.7 FOR DOCUMENTATION ON MOTOR, PLEASE REFER ANNEXURE I. - 4 WEEKS</p> <p>10.8 O & M MANUALS (10 HARD COPIES+2CD)</p> <p>11.0 <u>NAME PLATE IDENTIFICATION MARKINGS SHOULD BE AS FOLLOWS:</u></p> <p>11.1 TYPE / DESIGNATION</p> <p>11.2 MANUFACTURER</p> <p>11.3 MANUFACTURER'S WORKS NO.</p> <p>11.4 YEAR OF MANUFACTURING</p> <p>11.5 PURCHASER'S ORDER NO.</p> <p>11.6 VOLUMETRIC FLOW (l/min)</p> <p>11.7 DISCHARGE PRESSURE (Bar/MWC)</p> <p>11.8 OPERATING TEMPERATURE (°C)</p> <p>11.9 FLOW MEDIUM.</p> <p>11.10 SPEED.</p> <p>11.11 BILINGUAL IN HINDI AND ENGLISH LANGUAGES.</p> <p>11.12 THE PUMP DATA SHEETS, GA DRAWING, CHARACTERISTIC CURVES, AND CROSS SECTIONAL DRAWING SHALL BE REQUIRED TO BE APPROVED BY BHEL/BHEL's CUSTOMER/CUSTOMER'S CONSULTANT.</p> <p>11.13 KKS IDENTIFICATION i.e. MAV31AP001 & MAV32AP001.</p> <p>12.0 <u>CLEANING, PAINTING, CONSERVATION & PACKING:</u></p> <p>THE SURFACE SHALL BE CLEANED & PREPARED FOR APPLICATION OF THE COATINGS BY BLASTING WITH NON-SILICATIC ABRASIVE AGENTS. THE PROTECTIVE COATING SHOULD BE OIL RESISTANT TO PREVENT CONTAMINATION OF OIL SPECIFIED TO PREVENT THE DETERIORATION OF THE COATING ITSELF. THE SUPPLIER SHALL GIVE EXACT AND PRECISE DETAILS ABOUT THE MEASURES ENVISAGED BY HIM FOR SURFACE PROTECTION, WHICH SHALL BE CHECKED AND APPROVED BY BHEL.</p> <p>INSTRUCTIONS SHOULD BE ISSUED REGARDING RECONSERVATION, DECONSERVATION ALONG WITH SPECIFICATION OF MATERIAL TO BE USED FOR ABOVE PURPOSE. 100% QUANTITY OF COATING MATERIAL SHALL BE SUPPLIED ALONG WITH THE PUMP FOR RECONSERVATION AND DECONSERVATION AT SITE DURING STORAGE. ANY SPECIFIC INSTRUCTION TO BE FOLLOWED DURING STORAGE AT SITE TO AVOID ANY SEIZING ETC. SHALL ALSO BE INTIMATED. ALL SUCH INSTRUCTIONS SHALL BE MADE AVAILABLE TO SITE INCHARGE IN A SEPARATE COVER (NOT PACKED WITH PUMP PACKAGE).</p> <p>THE SUPPLIER SHALL BE RESPONSIBLE FOR ALL LOSS OR DAMAGE DURING TRANSPORTATION, HANDLING AND STORAGE DUE TO IMPROPER PACKING.</p>				
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समग्री सूची संख्या INVENTORY NO	हस्ताक्षर एवं दिनांक SIGN & DATE	REV. NO. 13 <div style="text-align: right;"> 8/2/14 </div>				
समग्री सूची संख्या INVENTORY NO	REV. NO. 13	निर्माणकर्ता WORKED BY	H. GUPTA		8/2/14	
		जांचकर्ता CHECKED BY	ANUJ JAIN		8/2/14	

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सामग्री सूची संख्या INVENTORY NO.	SUPERSEDES INVENTORY	13.0 GENERAL <p>SUPPLIER TO CLEARLY MENTION THE DEVIATION TAKEN AGAINST SPECIFICATION IN THEIR OFFER. SUPPLIER SHALL ALSO FILL IN THE BLANK DATA SHEET AS PER ANNEXURE-II AND SUBMIT THE SAME ALONG WITH THE OFFER. THE OFFER MAY NOT BE CONSIDERED IF ALL THE TECHNICAL PARTICULARS AND INFORMATION CALLED FOR IN THE SPECIFICATION ARE NOT SUBMITTED ALONG WITH THE OFFER.</p>			
सामग्री सूची संख्या को अधिकृत किया जाता है	COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	13.1 SUPPLIER TO PERFORM TWO VISIT AT SITE:- <p>SUPERVISION OF VENDER REQUIRED DURING ERECTION AND COMMISSIONING AT SITE.</p> <p>13.1.1 FIRST VISIT TO CHECK AND REPLACE MOTOR'S BEARINGS, PUMP'S SUCTION AND DISCHARGE O-RING (IF REQUIRED) AND TO CHECK THE CONDITION OF THE PUMP SET BEFORE INSTALLATION OF PUMP/MOT OIL FILLING.</p> <p>13.1.2 SECOND VISIT TO SUPERVISE THE COMMISSIONING OF PUMP SET.</p>			
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।	14.0 GUARANTEE <p>14.0.1 THE SUPPLIER SHALL GUARANTEE TROUBLE FREE AND SATISFACTORY OPERATION OF THE EQUIPMENT FOR A PERIOD OF 12 MONTHS AFTER THE INSTALLATION AND COMMISSIONING OR FOR A PERIOD OF 18 MONTHS FROM THE DAY THE EQUIPMENT LEAVES THE SUPPLIER'S WORKS WHICHEVER IS EARLIER.</p> <p>14.0.2 THE SUPPLIER SHALL GUARANTEE THE CAPACITY, HEAD AND EFFICIENCY OF THE PUMP AS PER THE TESTED CHARACTERISTIC WITH OIL.</p> <p>14.0.3 IF DURING ERECTION AT SITE ANY DEFICIENCY IN A PART IS DETECTED, BHEL SITE REPRESENTATIVE SHALL PREPARE THE ASSESSMENT REPORT AND A COPY OF THE SAME SHALL BE FORWARDED TO THE SUPPLIER. THE SUPPLIER SHALL REPLACE/RECTIFY THE CONCERNED ITEMS FREE OF CHARGE. THE SUPPLIER IF HE SO DESIRE MAY DEPUTE HIS REPRESENTATIVE TO SITE OTHERWISE THE FINDING OF BHEL REPRESENTATIVE SHALL BE FINAL AND BINDING ON THE SUPPLIER OF PUMPING SET.</p> <p>14.0.4 THE SUPPLIER SHALL REPAIR /REPLACE THE DEFECTIVE PARTS AT HIS OWN COST DURING THE GUARANTEE PERIOD.</p>				
दिनांक एवं हस्ताक्षर SIGN & DATE	15.0 SPARES <p>THE SUPPLIER SHALL QUOTE ITEM WISE PRICE OF RECOMMENDED SPARES FOR 3 YEARS AND 5 YEARS OPERATION RESPECTIVELY.</p>	ANNEXURE - I SPECIFICATION OF A.C. MOTOR FOR JACKING OIL PUMP			
सामग्री सूची संख्या INVENTORY NO.	REV. NO. 13	<p>M1.0 A SUITABLE MOTOR CONFORMING TO THE JACKING OIL PUMP REQUIREMENT SHALL BE SUPPLIED. THE MOTOR SHALL CONFORM TO IS:325, IS:2253, IS:2254, IS: 3202, IS: 4029, IS 12615:2011 AND IS: 4722 OR EQUIVALENT BS SPECIFICATION. THE MOTOR SHALL MATCH THE REQUIREMENTS OF DRIVEN EQUIPMENT IN ALL RESPECTS. THE MOTOR SHALL ALSO MEET THE FOLLOWING REQUIREMENTS BROADLY. THE MOTOR SHALL MEET ALL INDIAN STATUTORY REQUIREMENTS.</p> <p>M2.0 APPLICATION TO DRIVE JACKING OIL PUMP FOR SUPPLYING HIGH PRESSURE OIL TO TURBINE BEARINGS.</p> <p>M3.0 TYPE OF MOTOR: SQUIRREL CAGE, INDUCTION MOTOR.</p> <p>M3.1 KW RATING IT SHALL HAVE AT LEAST 15% RESERVE CAPACITY OVER AND ABOVE REQUIRED POWER TO DRIVE THE PUMP WHEN IT IS DISCHARGING MAX. QUANTITY.</p>			
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सामग्री सूची संख्या INVENTORY NO. P-5134	SUPERSEDES INVENTORY	<p>M3.2 KW ACTUALLY REQUIRED BY DRIVEN EQUIPMENT : PUMP CAPACITY UNDER SPECIFIED OPERATING /START UP</p> <p>M3.3 RATED VOLTAGE : 415V FREQUENCY : 50HZ</p> <p>M3.4 PERMISSIBLE VOLTAGE & FREQUENCY : $\pm 10\%$ VOLT VARIATION UNDER NORMAL RUNNING : $\pm 5\%$ FREQUENCY CONDITIONS COMBINED VARIATION. : 10% (SUM OF ABSOLUTE VALUES)</p> <p>M3.5 MINIMUM VOLTAGE REQUIRED UNDER STARTING : 80% RATED CONDITIONS TO BRING DRIVEN EQUIPMENT UPTO RATED SPEED.</p> <p>M3.6 NO. OF PHASES : 3 PHASE</p> <p>M3.7 TYPE OF DUTY : CONTINUOUS</p> <p>M3.8 FULL LOAD SPEED : IT SHALL BE COMMENSURATE WITH PUMP SPEED AS PER DESIGN.</p> <p>M3.9 FULL LOAD CURRENT : AS PER DESIGN</p> <p>M3.10 STARTING CURRENT : NOT TO EXCEED 600% OF RATED (EXCLUSIVE OF IS: TOLERANCES)</p> <p>M3.11 STARTING TORQUE : 1.3 TIMES (min.) OF RATED TORQUE.</p> <p>M3.12 BREAK DOWN TORQUE : 2.05 TIMES (min.) OF RATED VALUE.</p> <p>M3.13 EFFICIENCY AT FULL LOAD : IE2 AS PER IS 12615:2011</p> <p>M3.14 POWER FACTOR AT FULL LOAD : 0.85 (min.)</p> <p>M3.15 MOTOR SHALL BE DESIGNED TO WITHSTAND THE VOLTAGE AND TORQUE STRESSES DEVELOPED DUE TO THE DIFFERENCE BETWEEN THE MOTOR RESIDUAL VOLTAGE AND INCOMING SUPPLY VOLTAGE EQUAL TO 150% OF THE RATED MOTOR VOLTAGE DURING FAST CHANGEOVER OF BUSES.</p> <p>M4.0 <u>STARTING DATA</u></p> <p>M4.1 STARTING:DOL START AS WELL AS STAR DELTA.</p> <p>M4.2 ACCELERATION TIME WITH FULL LOAD CONNECTED : 3.5\pm0.5 SECONDS</p> <p>M4.3 LOCKED ROTOR WITHSTAND TIME UNDER HOT CONDITIONS AT RATED VOLTAGE 2.5 SECONDS MORE THAN STARTING TIME.</p> <p>M4.4 PERMISSIBLE STARTING DUTY : 3 STARTS EQUALLY SPREAD OVER AN HOUR & 2 CONSECUTIVE STARTS FROM HOT CONDITION WITHOUT ANY INJURIOUS HEATING TO WINDINGS.</p> <p>M4.5 OVERLOAD (% OF FULL LOAD) THAT CAN BE CARRIED BY MOTOR WITHOUT IMPAIRING OVERALL PERFORMANCE AND PERIOD FOR WHICH THIS OVERLOAD IS APPLICABLE. : MOTOR SHALL BE CAPABLE OF RUNNING AT FULL LOAD AT 80% OF RATED VOLTAGE FOR FIVE MINUTES AND 70% OF RATED VOLTAGE FOR 1 SEC.</p> <p>M4.6 LOCATION : INDOOR</p> <p>M4.7 CLASS OF INSULATION : CLASS F, FUNGUS RESISTANT, TROPICALISED AS PER IS: 3202, WITH TEMP. RISE LIMITED TO THAT OF CLASS B.</p> <p>M4.8 <u>MECHANICAL CONSTRUCTION</u></p> <p>M4.8.1 SHAFT DISPOSITION MOUNTING : VERTICAL/FLANGE MOUNTED</p> <p>M4.8.2 METHOD OF CONNECTION TO DRIVEN EQUIPMENT. : FLANGE FLEXIBLE COUPLING.</p>			
हस्ताक्षर एवं दिनांक SIGN & DATE 8/2/14	COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way, detrimental to the interest of the company.				
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सामग्री सूची संख्या INVENTORY NO. P-5134	REV. NO. 13	निर्माणकर्ता WORKED BY H. GUPTA			
		जांचकर्ता CHECKED BY ANUJ JAIN			
		8/2/14			

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SUPERSEDES INVENTORY सामग्री सूची संख्या को अधिकारित करना	M4.8.3 DIRECTION OF ROTATION AND CORRESPONDING TERMINAL DESIGNATION. : TO SUIT PUMP M4.8.4 ENCLOSURE AND VENTILATION : TOTALLY ENCLOSED FAN COOLED IP-55. M4.8.5 BEARING : THRUST BEARING, MIN. STANDARD LIFE NOT LESS THAN 30,000 WORKING HOURS. M4.8.6 GROUNDING DEVICE : SUITABLE ARRANGEMENT SHALL BE PROVIDED FOR EARTHING THE MOTOR AT TWO SEPARATE AND DISTINCT CONNECTION POINTS. DESIGN OF EARTHING CONDUCTOR SHALL BE AS PER IS: 4722. M4.8.7 TERMINAL CONNECTORS FOR STATOR LEADS TYPE AND NUMBER. : 6, NEUTRAL SHALL BE CONNECTED EXTERNALLY IN THE TERMINAL BOX. M4.9 TERMINAL BOX : TERMINAL BOX SHALL BE PROVIDED WITH DOUBLE COMPRESSION TYPE BRASS CABLE GLANDS (Nickel Chromium PLATED HEAVY DUTY, CONFIRMING TO BS:6121) AND COPPER CABLE LUGS TO MATCH OWNER'S ALUMINUM CABLES, THE SIZE OF WHICH SHALL BE INTIMATED LATER. TERMINAL BOX SHALL BE CAPABLE OF BEING ROTATED THROUGH 180° IN STEPS OF 90°. IT SHALL HAVE A DEGREE OF PROTECTION OF IP-55. IT SHALL ALSO BE SUITABLE TO WITHSTAND THE FAULT LEVEL OF 50 KA FOR 0.25 SECONDS. M4.10 WHETHER PHASES SEGREGATED : NO. M4.11 SPACE HEATERS : TO BE PROVIDED. M4.12 RATED VOLTAGE FOR SPACE HEATERS : 240 VOLTS M5.0 SPECIAL REQUIREMENTS: M5.01 THE MOTOR SHALL BE RE-WOUNDABLE. M5.02 THE MOTOR SHALL HAVE ON LINE GREASING FACILITY. M5.03 THE MOTOR CONSTRUCTION SHALL BE SUITABLE FOR EASY DISASSEMBLY AND REASSEMBLY. M5.04 THE MOTOR SHALL BE SUITABLE FOR WORKING IN AN ENVIRONMENT OF OIL FUMES WITHOUT ANY HAZARD. M5.05 SEPARATE TERMINAL BOX FOR SPACE HEATERS SHALL BE PROVIDED. M5.06 MOTOR SHALL BE PAINTED WITH PAINT SUITABLE FOR WORKING CONDITION AND ITS COLOR SHALL BE INTIMATED LATER ON. M5.07 THE MOTOR SHALL BE THOROUGHLY DEGREASED AND SHARP EDGES AND SCALES REMOVED AND TREATED WITH ONE COAT OF PRIMER AND TWO COATS OF ENAMEL PAINT. MOTOR FAN ALSO BE PAINTED TO WITHSTAND CORROSION. M5.08 MOTOR BEARINGS (DE & NDE) SHALL BE SEALED TYPE TO AVOID FREQUENT RE-GREASING.				
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हस्ताक्षर एवं दिनांक SIGN & DATE 10/2/14	REV. NO. 13				
सामग्री सूची संख्या INVENTORY NO. P-5134	निर्माणकर्ता WORKED BY H. GUPTA		जांचकर्ता CHECKED BY ANUJ JAIN	8/2/14	8/2/14

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SUPERSEDES INVENTORY	M5.09 LIMITS OF MECHANICAL VIBRATIONS SEVERITY SHALL BE LIMITED TO VIBRATION GRADE "R" (REDUCED) AS PER IS: 12075.												
सामग्री सूची संख्या को अधिकतम करीब	M6.00 TESTS AT MANUFACTURER'S WORKS:-												
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	(i) BOTH TYPE & ROUTINE TEST ARE TO BE PERFORMED ON COMPLETE PUMP MOTOR ASSEMBLY AS PER IS: 4722. TYPE TEST SHOULD NOT BE MORE THAN 5 YEARS OLD w.r.t. DATE OF ORDERING. (ii) IN ADDITION THE FOLLOWING TESTS SHALL ALSO BE CARRIED OUT:												
	(a) ADDITIONAL TYPE TESTS:												
	DEGREE OF PROTECTION TEST TO CONFORM TO THE SPECIFIED DEGREE OF PROTECTION. IN CASE THE TEST IS ALREADY CARRIED ON THE SAME FRAME SIZE OF MACHINE, THEN TEST REPORT SHOULD BE FURNISHED.												
	(b) ADDITIONAL ROUTINE TESTS:												
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग एवं इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग	i. 20% OVER SPEED TEST FOR 2 MINUTES. ii. MEASUREMENT OF VIBRATION AS PER IS: 12075. iii. MEASUREMENT OF NOISE AS PER IS: 12065. MOTOR NOISE LEVEL SHALL BE LIMITED SO AS TO ACHIEVE PUMP-MOTOR SET NOISE LEVEL AS GIVEN IN CLAUSE 7.4 ON PAGE-3.												
	M7.0 DATASHEET/CHARACTERISTICS DOCUMENTS AS PER FOLLOWING DATA TO BE SUPPLIED WITH OFFER:-												
	THE OFFER SHOULD BE ACCOMPANIED WITH FOLLOWING DOCUMENTS IN TWO COPIES. THE OFFER WILL NOT BE CONSIDERED IF ALL THESE DOCUMENTS ARE NOT SUPPLIED.												
	M7.1 CHARACTERISTICS AT 80% , 100% AND 110% VOLTAGES:												
हस्ताक्षर एवं दिनांक SIGN & DATE 8/10/2014	M7.1.1 STARTING CURRENT V/S TIME.												
	M7.1.2 TORQUE V/S SLIP.												
	M7.1.3 THERMAL WITHSTANDS CHARACTERISTIC FOR HOT AND COLD CONDITION.												
	M7.2 TYPE AND FRAME SIZE.												
	M7.3 STARTING TIME.												
	M7.3.1 WITH 100% VOLTAGE AT TERMINAL.												
	M7.3.2 WITH 85 % VOLTAGE AT TERMINAL.												
	M7.3.3 WITH 80 % VOLTAGE AT TERMINAL.												
	M7.4 SAFE STALL TIME AT 100 % RATED VOLTAGE UNDER HOT CONDITION.												
	M7.5 POWER (KW) RATING CALCULATION w.r.t. PUMP REQUIREMENT.												
	M7.6 EXPECTED LIFE OF BEARING.												
	M7.7 DATA IN RESPECT OF ALL ITEMS MENTIONED AT PARA M1.0 TO M5.0 OF ANNEXURE I.												
	M8.0 DOCUMENTS TO BE FURNISHED WITHIN FOUR WEEKS OF PLACEMENT OF ORDER (FOR BHEL OR THEIR CUSTOMER'S APPROVAL):-												
	M8.1 SIX HARD COPIES AND ONE SOFT COPY (IN PDF FORMAT) OF MOTOR DATA SHEET AND G.A. DRAWING.												
M8.2 DRAWING SHOWING TERMINAL DETAIL OF ALL TERMINALS AND LOCATION AND DIMENSION OF TERMINAL BOXES.													
M8.3 ROTOR WEIGHT AND TOTAL MOTOR WEIGHT.													
सामग्री सूची संख्या INVENTORY NO P-5734	REV. NO. 13	<table border="1"> <tr> <td>निर्माणकर्ता WORKED BY</td> <td>H. GUPTA</td> <td>Hgmr</td> <td>8/2/14</td> </tr> <tr> <td>जांचकर्ता CHECKED BY</td> <td>ANUJ JAIN</td> <td>Ajain</td> <td>8/2/14</td> </tr> </table>				निर्माणकर्ता WORKED BY	H. GUPTA	Hgmr	8/2/14	जांचकर्ता CHECKED BY	ANUJ JAIN	Ajain	8/2/14
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SUPERSEDES INVENTORY सामग्री सूची संख्या को अधिकृतित करता	M8.4 CHARACTERISTIC CURVES OF THE MOTOR. M9.0 SIX COPIES OF TESTS CARRIED OUT AS PER CLAUSE NO. 6.0 ON EACH MOTOR SHALL BE FURNISHED TO BHEL FOR SCRUTINY AND APPROVAL. ONLY ON ACCEPTANCE FROM BHEL SIDE, MOTOR CAN BE CONSIDERED SUITABLE FOR DISPATCH.																															
<p style="text-align: center;">ANNEXURE-II DATA TO BE FURNISHED BY BIDDER ALONG WITH OFFER FOR JACKING OIL PUMP</p>																																
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.	A1.0 <u>EQUIPMENT AND SERVICES OFFERED</u> PLEASE STATE WHETHER THE FOLLOWING EQUIPMENT SERVICE AS SPECIFIED IN THE DATA SHEETS ARE OFFERED OR NOT.																															
	<table border="0"> <tr> <td>A1.1</td> <td>PUMP AS PER SPECIFICATION</td> <td>YES/NO</td> </tr> <tr> <td>A1.2</td> <td>MOTOR/MAKE</td> <td>YES/NO</td> </tr> <tr> <td>A1.3</td> <td>NECESSARY INSTRUMENTS, TEST CONNECTIONS.</td> <td>YES/NO</td> </tr> <tr> <td>A1.4</td> <td>BASE PLATE AS PER DRAWING.</td> <td>YES/NO</td> </tr> <tr> <td>A1.5</td> <td>COMPANION FLANGES</td> <td>YES/NO</td> </tr> <tr> <td>A1.6</td> <td>SPARE PARTS</td> <td>YES/NO</td> </tr> <tr> <td>A1.7</td> <td>MAINTENANCE AND SPECIAL ERECTION TOOLS.</td> <td>YES/NO</td> </tr> <tr> <td>A1.8</td> <td>COMMISSIONING OF THE SET.</td> <td>YES/NO</td> </tr> <tr> <td>A1.9</td> <td>NO. OF PUMPS OFFERED.</td> <td>YES/NO</td> </tr> </table>					A1.1	PUMP AS PER SPECIFICATION	YES/NO	A1.2	MOTOR/MAKE	YES/NO	A1.3	NECESSARY INSTRUMENTS, TEST CONNECTIONS.	YES/NO	A1.4	BASE PLATE AS PER DRAWING.	YES/NO	A1.5	COMPANION FLANGES	YES/NO	A1.6	SPARE PARTS	YES/NO	A1.7	MAINTENANCE AND SPECIAL ERECTION TOOLS.	YES/NO	A1.8	COMMISSIONING OF THE SET.	YES/NO	A1.9	NO. OF PUMPS OFFERED.	YES/NO
A1.1	PUMP AS PER SPECIFICATION	YES/NO																														
A1.2	MOTOR/MAKE	YES/NO																														
A1.3	NECESSARY INSTRUMENTS, TEST CONNECTIONS.	YES/NO																														
A1.4	BASE PLATE AS PER DRAWING.	YES/NO																														
A1.5	COMPANION FLANGES	YES/NO																														
A1.6	SPARE PARTS	YES/NO																														
A1.7	MAINTENANCE AND SPECIAL ERECTION TOOLS.	YES/NO																														
A1.8	COMMISSIONING OF THE SET.	YES/NO																														
A1.9	NO. OF PUMPS OFFERED.	YES/NO																														
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।	A2.0 <u>DESIGN AND PERFORMANCE.</u> <table border="0"> <tr> <td>A2.1</td> <td>DESIGNED CAPACITY OF EACH PUMP.</td> <td>M³ /hour</td> </tr> <tr> <td>A2.2</td> <td>NORMAL DISCHARGE PRESSURE</td> <td></td> </tr> <tr> <td>A2.3</td> <td>EFFICIENCY</td> <td></td> </tr> <tr> <td>A2.4</td> <td>RATED SPEED</td> <td></td> </tr> <tr> <td>A2.5</td> <td>PERFORMANCE GUARANTEED WHEN INSTALLED AS PER GIVEN ARRANGEMENT.</td> <td>YES/NO</td> </tr> <tr> <td>A2.6</td> <td>PUMP b.h.p./Kw AT RATED CAPACITY</td> <td></td> </tr> <tr> <td>A2.7</td> <td>MAXIMUM ALLOWABLE SUCTION LIFT (FOR MINIMUM NPSH REQUIRED)</td> <td></td> </tr> <tr> <td>A2.8</td> <td>MAXIMUM DISCHARGE PRESSURE FOR WHICH PUMP IS SUITABLE.</td> <td></td> </tr> <tr> <td>A2.9</td> <td>PARTY SHALL INFORM THE FILTRATION LEVEL OF THE FLOW MEDIA FOR PROPER FUNCTIONING OF PUMP.</td> <td></td> </tr> </table>					A2.1	DESIGNED CAPACITY OF EACH PUMP.	M ³ /hour	A2.2	NORMAL DISCHARGE PRESSURE		A2.3	EFFICIENCY		A2.4	RATED SPEED		A2.5	PERFORMANCE GUARANTEED WHEN INSTALLED AS PER GIVEN ARRANGEMENT.	YES/NO	A2.6	PUMP b.h.p./Kw AT RATED CAPACITY		A2.7	MAXIMUM ALLOWABLE SUCTION LIFT (FOR MINIMUM NPSH REQUIRED)		A2.8	MAXIMUM DISCHARGE PRESSURE FOR WHICH PUMP IS SUITABLE.		A2.9	PARTY SHALL INFORM THE FILTRATION LEVEL OF THE FLOW MEDIA FOR PROPER FUNCTIONING OF PUMP.	
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हस्ताक्षर एवं दिनांक SIGN & DATE 18/2/14	A3.0 <u>MATERIAL OF CONSTRUCTION</u> <table border="0"> <tr> <td>A3.1</td> <td>CASING</td> <td></td> </tr> <tr> <td>A3.2</td> <td>DRIVING AND DRIVEN SPINDLE SCREW</td> <td></td> </tr> <tr> <td>A3.3</td> <td>BASE PLATE</td> <td></td> </tr> <tr> <td>A3.4</td> <td>WEARING RINGS</td> <td></td> </tr> <tr> <td>A3.5</td> <td>TYPE OF BEARINGS USED</td> <td></td> </tr> <tr> <td>A3.6</td> <td>TYPE OF COUPLING</td> <td></td> </tr> <tr> <td>A3.7</td> <td>PACKING</td> <td></td> </tr> </table>					A3.1	CASING		A3.2	DRIVING AND DRIVEN SPINDLE SCREW		A3.3	BASE PLATE		A3.4	WEARING RINGS		A3.5	TYPE OF BEARINGS USED		A3.6	TYPE OF COUPLING		A3.7	PACKING							
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सामग्री सूची संख्या INVENTORY NO P-5134	A4.0 <u>CONNECTIONS</u> <table border="0"> <tr> <td>A4.1</td> <td>SUCTION SIZE</td> <td></td> </tr> <tr> <td>A4.2</td> <td>DISCHARGE SIZE</td> <td></td> </tr> </table>					A4.1	SUCTION SIZE		A4.2	DISCHARGE SIZE																						
	A4.1	SUCTION SIZE																														
A4.2	DISCHARGE SIZE																															
A5.0 <u>DRAWINGS</u> A5.1 GENERAL ARRANGEMENT AND SECTIONAL DRAWING ENCLOSED WITH OFFER.		YES/NO																														
REV. NO. 13		निर्माणकर्ता WORKED BY H. GUPTA	8/2/14																													
		जांचकर्ता CHECKED BY ANUJ JAIN	8/2/14																													

दिनांक एवं हस्ताक्षर SIGN & DATE		<p style="text-align: center;">उत्पाद मानक</p> <p style="text-align: center;">PRODUCT STANDARD (STEAM TURBINE ENGINEERING)</p>	ST-39003		
SUPERSEDES INVENTORY	पृष्ठ 13 का 12 Page 12 of 13				
सामग्री अंकी	<p>A6.0 WEIGHT SCHEDULE</p> <p>A6.1 WEIGHT OF PUMP</p> <p>A6.2 WEIGHT OF MOTOR</p> <p>A6.3 WEIGHT OF PUMP WITH MOTOR AND BASE FRAME.</p> <p>A7.0 CHARACTERISTIC CURVES</p> <p>A7.1 POWER CONSUMPTION / DISCHARGE PRESSURE</p> <p>A7.2 DISCHARGE QUANTITY / DISCHARGE PRESSURE</p> <p>A7.3 DISCHARGE QUANTITY / EFFICIENCY</p> <p>A8.0 ANY DEVIATION TAKEN AGAINST SPECIFICATION. YES/NO</p> <p>A9.0 DEVIATIONS TAKEN AS MENTIONED HERE</p> <p>A10.0 HYDRAULIC TEST PRESSURE</p>				
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स्वत्वाधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत भारती इलेक्ट्रिकल्स की संपत्ति है इसका प्रयोग एवं आभारका रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।					
हस्ताक्षर एवं दिनांक SIGN & DATE	<p style="text-align: center;"><u>OIL TANK ARRANGEMENT</u></p>				
सामग्री सूची संख्या INVENTORY NO.	REV. NO. 13	निर्माणकर्ता WORKED BY जांचकर्ता CHECKED BY	H. GUPTA ANUJ JAIN	 	8/2/14 8/2/14



उत्पाद मानक

ST-39003

PRODUCT STANDARD
(STEAM TURBINE ENGINEERING)

पृष्ठ 13 का 13

Page 13 of 13

दिनांक एवं हस्ताक्षर
SIGN & DATE

SUPERSEDES
INVENTORY

समग्री सूची संख्या
को अधिकतम करनी

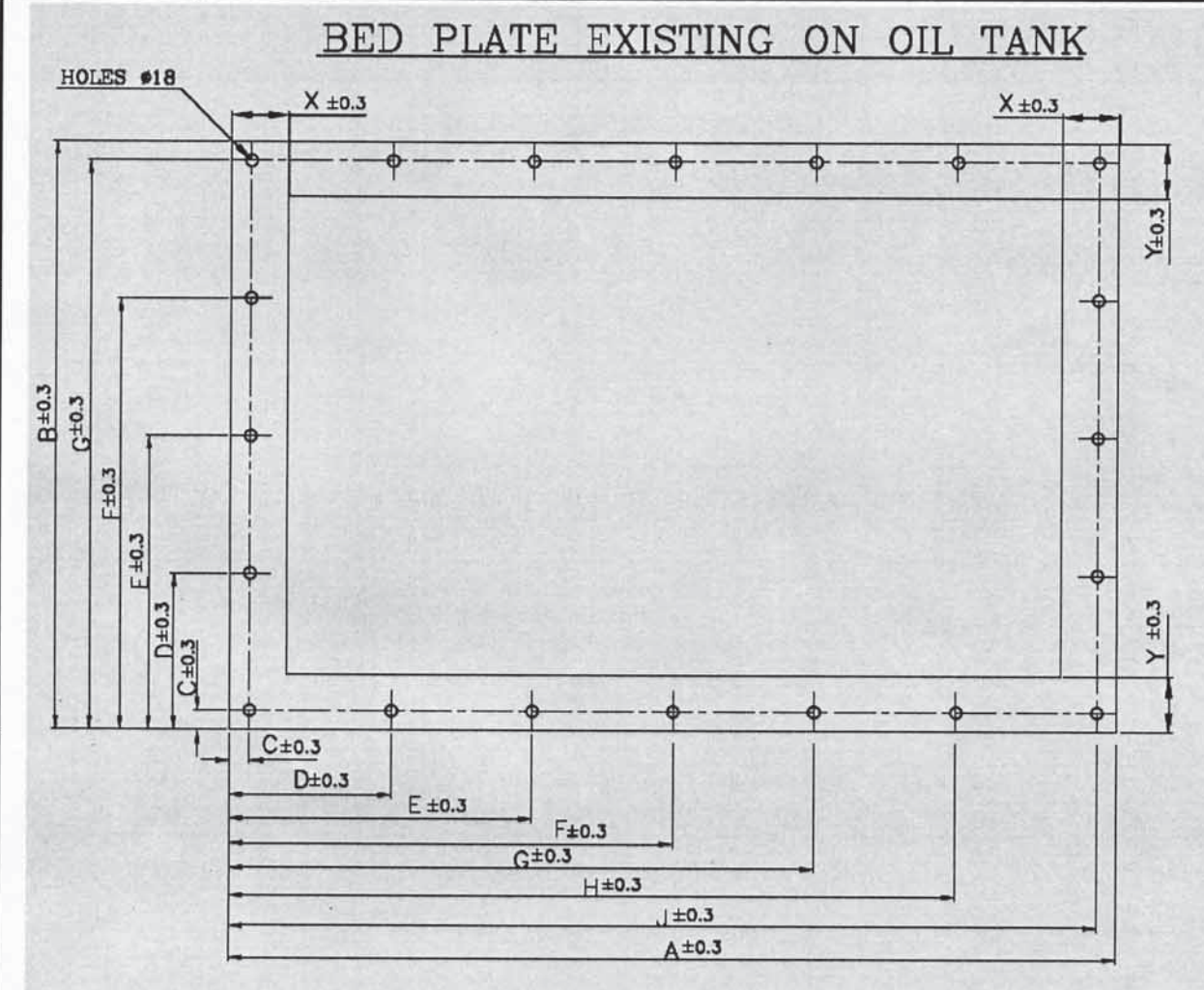
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स्वत्वाधिकार एवं गोपनीय

इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए

हस्ताक्षर एवं दिनांक
SIGN & DATE

समग्री सूची संख्या
INVENTORY NO



BED PLATE TYPE	A±0.3	B±0.3	C±0.3	D±0.3	E±0.3	F±0.3	G±0.3	H±0.3	J±0.3	X±0.3	Y±0.3	NO. OFF HOLES
AA	700	700	50	250	450	650	-	-	-	80	80	12
BB	700	700	35	245	455	665	-	-	-	60	60	12
CC	1320	900	30	240	450	660	870	1080	1290	85	85	20

Note:- Bed Plate type "AA" to be supplied unless otherwise specified in tender.

CROSS REFERRED STANDARDS: IS:325, IS:2253, IS:2254, IS:3202, IS:4027, IS 12615:2011
IS:4722, IS:12065, IS:12075, VDMA:24284.

REV. NO. 13

निर्माणकर्ता
WORKED BY

H. GUPTA

H. Gupta


8/2/14

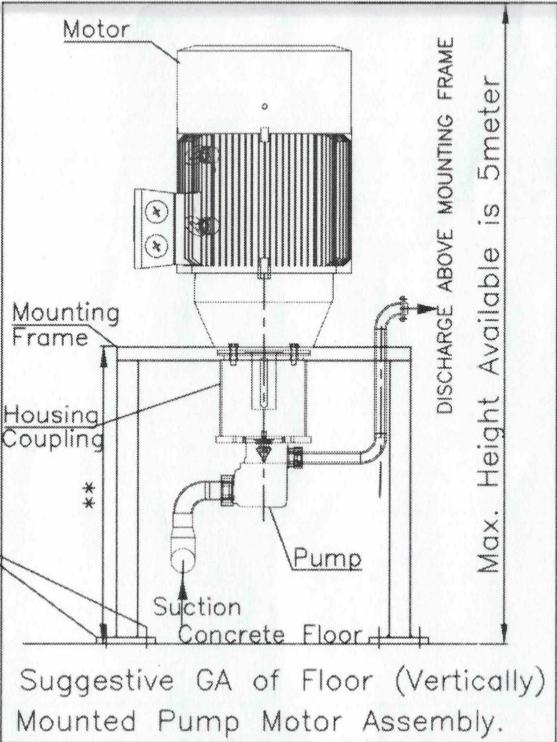
जांचकर्ता
CHECKED BY


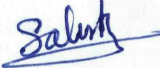

ANUJ JAIN


Anuj Jain

8/2/14

SIGN & DATE		<h1 style="text-align: center;">JACKING OIL PUMP MOTOR (AC) ASSEMBLY</h1>	Document No.
			4-11919-BOI-14
SUPERSEDES INVENTORY NO.			Rev. No. - 00

COPYRIGHT AND CONFIDENTIAL THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETERIMENTAL TO THE INTEREST OF THE COMPANY.	ADDITIONAL SPECIFIC REQUIREMENTS WITH REFERENCE TO ST39003: 1. THESE SPECIFIC REQUIREMENTS SHALL SUPERSEDE THE RELEVANT CLAUSES MENTIONED IN SPECIFICATION ST39003. 2. SUGGESTIVE SUCTION AND DISCHARGE SIZES AND TYPE OF CONNECTIONS:- SUCTION: $\phi 88.9 \times 3.05$, MAT-ASTM A312 A304, BUTT WELDED. DISCHARGE: $\phi 60.3 \times 8.74$ MAT-ASTM A312 A304, FLANGED (OF SUITABLE RATING). 3. PUMP MOTOR SET SHALL BE MOUNTED VERTICALLY AS SHOWN IN SUGGESTIVE ARRANGEMENT BELOW ON A MOUNTING FRAME WHICH SHALL BE KEPT ON CONCRETE FLOOR. THE APPROXIMATE AREA AVAILABLE AT SITE IS 1800X700MM. THE SUPPLIER SHALL ENSURE THAT PUMP MOTOR SET ASSEMBLY FOR BOTH AC & DC SET SHALL FIT INTO THIS AREA. SUPPLIER SHALL FURNISH GA OF SAME AS A PART OF OFFER FOR BHEL REVIEW. 4. SCOPE OF SUPPLY SHALL BE; PUMP, MOTOR, STARTER PANEL, JUNCTION BOX, COUPLING, HOUSING (IF REQUIRED) MOUNTING FRAME, BASE PLATE, SUCTION & DISCHARGE PIPING/FITTINGS, DISCHARGE FLANGE, COUNTER FLANGE, NUT, BOLT, WASHER, CABLE GLANDS, 1 SET OF O-RING, SEAL, GASKETS, BASE PLATE & ANCHOR BOLTS FOR FIXING THE MOUNTING FRAME ON CONCRETE FLOOR AND ANY OTHER ITEM DEEMED FIT BY PUMP SUPPLIER FOR CORRECT FUNCTIONING OF THE PUMP. OIL SHALL BE AVAILABLE AT PUMP SUCTION FROM MAIN OIL TANK WITH POSITIVE GRAVITY HEAD OF 3 TO 5 METER (ABOVE ATMOSPHERE). 5. NON DESTRUCTIVE EXAMINATION: UT FOR SCREW/VANE/GEAR/PISTON AND DPT/MPI ON THESE TO BE CARRIED OUT TO ENSURE FREEDOM FROM SURFACE/SUB-SURFACE DEFECTS. 6. ALL OUTDOOR MOTOR TERMINAL/ POWER JUNCTION BOX SHALL BE IP 65. 7. AC MOTORS (LT) SHALL BE ENERGY EFFICIENT IE-3 COMPLIANCE. 8. PAINT SHADE SHALL BE RAL 7032 FOR INDOOR AND OUTDOOR EQUIPMENT. 9. PROVISION FOR REMOVING/LIFTING PUMP MOTOR SET FROM MOUNTING FRAME SHOULD BE AVAILABLE. 10. ** MARKED DIMENSION IS TO BE KEPT MINIMUM. 11. AC & DC MOTORS SHALL BE SOURCED FROM REPUTED SUPPLIERS. 12. LOCKED MOTOR ROTOR WITHSTAND TIME UNDER HOT CONDITION SHOULD AT LEAST 5 SECS AT HIGHEST VOLTAGE FOR AC MOTOR.
	 <p style="text-align: center;">Suggestive GA of Floor (Vertically) Mounted Pump Motor Assembly.</p>

INVENTORY NO.	SIGN & DATE	<div style="text-align: right;">    CIE </div>

SIGN & DATE		<h1 style="text-align: center;">JACKING OIL PUMP MOTOR (DC) ASSEMBLY</h1>	Document No.
			4-11919-B0I-15
SUPERSEDES INVENTORY NO.			Rev. No. - 00

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ADDITIONAL SPECIFIC REQUIREMENTS WITH REFERENCE TO ST39007:

- THESE SPECIFIC REQUIREMENTS SHALL SUPERSEDE THE RELEVANT CLAUSES MENTIONED IN SPECIFICATION ST39007.
- SUGGESTIVE SUCTION AND DISCHARGE SIZES AND TYPE OF CONNECTIONS:-
 SUCTION: $\varnothing 88.9 \times 3.05$, MAT-ASTM A312 A304, BUTT WELDED.
 DISCHARGE: $\varnothing 60.3 \times 8.74$ MAT-ASTM A312 A304, FLANGED (OF SUITABLE RATING).
- PUMP MOTOR SET SHALL BE MOUNTED VERTICALLY AS SHOWN IN SUGGESTIVE ARRANGEMENT BELOW ON A MOUNTING FRAME WHICH SHALL BE KEPT ON CONCRETE FLOOR. THE APPROXIMATE AREA AVAILABLE AT SITE IS 1800X700MM. THE SUPPLIER SHALL ENSURE THAT PUMP MOTOR SET ASSEMBLY FOR BOTH AC & DC SET SHALL FIT INTO THIS AREA. SUPPLIER SHALL FURNISH GA OF SAME AS A PART OF OFFER FOR BHEL REVIEW.
- SCOPE OF SUPPLY SHALL BE;
 PUMP, MOTOR, STARTER PANEL, JUNCTION BOX, COUPLING, HOUSING (IF REQUIRED) MOUNTING FRAME, BASE PLATE, SUCTION & DISCHARGE PIPING/FITTINGS, DISCHARGE FLANGE, COUNTER FLANGE, NUT, BOLT, WASHER, CABLE GLANDS, 1 SET OF O-RING, SEAL, GASKETS, BASE PLATE & ANCHOR BOLTS FOR FIXING THE MOUNTING FRAME ON CONCRETE FLOOR AND ANY OTHER ITEM DEEMED FIT BY PUMP SUPPLIER FOR CORRECT FUNCTIONING OF THE PUMP.
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- NON DESTRUCTIVE EXAMINATION: UT FOR SCREW/VANE/GEAR/PISTON AND DPT/MPI ON THESE TO BE CARRIED OUT TO ENSURE FREEDOM FROM SURFACE/SUB-SURFACE DEFECTS.
- ALL OUTDOOR MOTOR TERMINAL/ POWER JUNCTION BOX SHALL BE IP 65.
- PAINT SHADE SHALL BE RAL 7032 FOR INDOOR AND OUTDOOR EQUIPMENT.
- PROVISION FOR REMOVING/LIFTING PUMP MOTOR SET FROM MOUNTING FRAME SHOULD BE AVAILABLE.
- ** MARKED DIMENSION IS TO BE KEPT MINIMUM.
- AC & DC MOTORS SHALL BE SOURCED FROM REPUTED SUPPLIERS.
- LOCKED MOTOR ROTOR WITHSTAND TIME UNDER HOT CONDITION SHOULD AT LEAST 5 SECS AT HIGHEST VOLTAGE FOR AC MOTOR.

SIGN & DATE

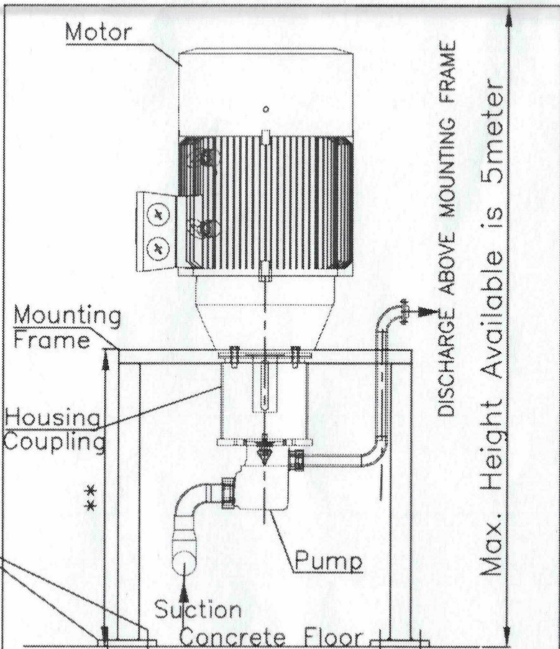
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Annexure-1

INTEGRITY PACT**Between**

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

and

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

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for _____

_____ (hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

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

Section 1- Commitments of the Principal

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

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

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

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

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

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

Section 4 - Compensation for Damages

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

Section 5 - Previous Transgression

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

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

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

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

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

Section 8 -Independent External Monitor(s)

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

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

Section 9 - Pact Duration

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

Section 10 - Other Provisions

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

For & On behalf of the Principal
(Office Seal)

Place _____

Date _____

Witness: _____
(Name & Address) _____

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

Witness: _____
(Name & Address) _____

Certificate

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated 28.05.2018, we hereby certify that we M/s _____(supplier name) are local supplier meeting the requirement of minimum local content (50%) as defined in above orders for the material against Enquiry No. _____

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

We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and Signature of Supplier