



BHARAT HEAVY ELECTRICALS LIMITED

HEEP HARIDWAR INDIA-PIN 249403

FAX NO: 0091 1334 226462

PHONE NO: 0091 1334 284593

Enq. No. : T/T206/2017/0016W/3

M/s.....

Sub: Sub: BHEL-HEEP/OPEN-TENDER (Turbine Component) / 2019

Dear Sir,

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

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

TENDER NO. : T/T206/2017/0016W/3				
TENDER OPENING DATE : 30/12/2019				
SL. NO.	ITEM CODE	ITEM DESCRIPTION	QTY(NO)	DELIVERY SCHEDULE
1	W97311441145	FILTER	2	30.03.2020

SPECIAL INSTRUCTIONS

1. BHEL STANDARD PAYMENT TERM i.e "PAYMENT AFTER RECEIPT AND ACCEPTANCE OF MATERIAL/ITEM AT HEEP, BHEL-STORE" AS **PER GENERAL INSTRUCTION AND STANDARD TERMS & CONDITION (GISTC)** SHALL BE APPLICABLE.
2. LOADING ON ACCOUNT OF DEVIATION IN BHEL STANDARD PAYMENT TERMS SHALL BE DONE AS PER EXTANT RULES OF BHEL HARIDWAR
3. Vendor to specifically confirm the acceptance of Penalty, Risk purchase, Force majeure clause & Settlement of disputes / arbitration as mentioned at Sl No. "9(a), 18, 19 and 21" respectively of attached GISTC (Version Apr-2019, Rev: 04). If you do not confirm the same in part I of the offer, then it shall be considered as accepted and no further clarification shall be asked in this regard.
4. THE QUOTATION SHOULD BE VALID FOR A MINIMUM PERIOD OF 120 DAYS EFFECTIVE FROM THE DATE OF OPENING OF TENDER.
5. VENDOR TO QUOTE BEST POSSIBLE DELIVERY IN THE OFFER. DELIVERY IS NOT SACROSANCT. EARLY DELIVERY IS ALSO ACCEPTABLE.
6. THE TOTAL QUANTITY MAY UNDERGO CHANGE AT THE TIME OF ORDERING.
7. FOR THIS PROCUREMENT, PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 15.06.2017, 28.05.2018 & 29.05.2019 AND SUBSEQUENT ORDERS ISSUED BY THE RESPECTIVE NODAL MINISTRY SHALL BE APPLICABLE EVEN IF ISSUED AFTER ISSUE OF THIS NIT BUT BEFORE FINALIZATION OF CONTRACT / PO / WO AGAINST THIS NIT. IN THE EVENT OF ANY NODAL MINISTRY PRESCRIBING HIGHER OR LOWER

PERCENTAGE OF PURCHASE PREFERENCE AND / OR LOCAL CONTENT IN RESPECT OF THIS PROCUREMENT, SAME SHALL BE APPLICABLE.

8. VENDOR TO SPECIFICALLY CONFIRM IF THEY ARE LOCAL SUPPLIER OR NOT AS PER ABOVE MENTIONED NOTIFICATION. ACCORDINGLY THE LOCAL SUPPLIER AT THE TIME OF TENDER, BIDDING OR SOLICITATION SHALL BE REQUIRED TO PROVIDE SELF-CERTIFICATION THAT THE ITEM OFFERED MEETS THE MINIMUM LOCAL CONTENT AND SHALL GIVE DETAILS OF THE LOCATION(S) AT WHICH THE LOCAL VALUE ADDITION IS MADE.
9. OFFER OF NON-LOCAL VENDORS MAY BE IGNORED AS PER THE PROVISIONS OF THE ABOVE MENTIONED GOVT. NOTIFICATION.
10. ALL THE BIDDERS/VENDORS MUST ENSURE COMPLIANCE OF THE GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS/GISTC (VERSION: APRIL -2019, REV. 04).
11. ALL VENDORS TO PROVIDE POINT WISE REPLY/CONFIRMATION ALONG WITH RELEVANT SUPPORTING DOCUMENTS TO EACH AND EVERY POINT OF PRE-QUALIFYING REQUIREMENTS/PQR (ANNEXURE-2) FOR ALL ENQUIRY ITEMS. NON-COMPLIANCE OF THESE MAY LEAD TO REJECTION OF OFFER AS THESE ARE ESSENTIAL CONDITION FOR PARTICIPATING IN TENDER ENQUIRY.
12. VENDOR TO ENSURE THAT THEIR QUOTED RATES ARE NOT MORE THAN THOSE QUOTED FOR ANY OTHER CUSTOMER INCLUDING OTHER BHEL UNITS.
13. IF THE VENDOR DOES NOT CONFIRM ANY OF THE ABOVE SPECIAL INSTRUCTIONS, THEN THE SAME SHALL BE PRESUMED TO BE ACCEPTABLE/CONFIRMED.

Please submit your offer only for the above requirement subject to our GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC: Version April-2019, Rev: 04). Please visit our site www.bhelhwr.co.in for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries. All the bidders/vendors must ensure compliance of these GISTC. GISTC can also be referred by login to B2B Portal for Registered Vendors.

The tender documents can be downloaded from the web sites www.bhel.com / www.bhelhwr.co.in

After downloading the tender documents from the website, while submitting the tender as detailed in "Instruction to Bidders", intending vendors must submit **Tender Fee of INR 2,000/- (INR two thousand only)** in the form of Pay Order / Demand Draft (drawn in favor of 'BHEL HARIDWAR') only. It may be noted that if hard copy of any tender document is required, then the same may be collected against copy of Pay Order / Demand Draft of requisite tender fee (while original to be submitted with Part-I). **However, if no hard copy of any tender document is required from BHEL, no Tender Fee is required to be submitted.**

Vendors must also remit the requisite **EMD (Earnest Money Deposit) of INR 60,000/- (INR Sixty Thousand only)** in the form of Pay Order / Demand draft (drawn in favor of 'BHEL HARIDWAR'). In case of foreign bidders e-payment may also be accepted as EMD. **If EMD is not submitted along with the offer then the offer may be out rightly rejected.**

For E-Payment, the RTGS details are mentioned as 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	Name: Sh. Sudhir Sharma Design: Chief Manager (IBD) Contact No. +91 1334 224201 Phone: +91 1334 226125 Fax: +91 1334 226512

Please submit separate drafts for EMD and tender fee in an envelope super-scribed with bold letters "EMD & Tender Fee" to be submitted with Part-I.

Micro & Small Enterprises (MSEs) are exempted from submission of EMD and/or Tender fees. Documents as detailed in GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC) are to be submitted for availing exemption from submission of Tender Fees & EMDs.

Central / State – PSUs / Government departments are exempted from submission of EMD subject to approval by BHEL management.

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

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

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

The date for opening of tender shall be 30.12.2019. Tenders will be received up to 1.45 P.M. on 30.12.2019 and opened on the same day at 2.00 P.M. in the Tender Room. Please note that tender received after due date & time (1.45PM on 30.12.2019) will not be REPEAT will not be opened. BHEL will not be responsible for any type of postal / courier delay.

Bids shall be opened at 2 PM on the due date in the presence of authorized representative of the bidders who may like to be present. The authorized representative should bring authority letter from their parent company (Manufacturer) for the specific tender no. attending the bid opening.

Amendments/Corrigendum, if any, will be hosted only on the websites mentioned above. Other terms and conditions will be as per tender documents.

Unregistered vendors may please visit our website www.bhel.com for filling-up Supplier Registration Form (SRF).

BHEL will not be responsible for any type of postal delay / incomplete information from vendor.

IN CASE YOU ARE NOT MAKING AN OFFER AGAINST THIS ENQUIRY, THEN PLEASE ARRANGE TO SEND A LETTER OF REGRET.

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

INSTRUCTIONS TO BIDDERS FOR OPEN TENDER

1.0 DEFINITION

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

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

2.0 TECHNICAL QUALIFICATION

Enclosed format – **Annexure-2 (Pre-Qualifying Requirements/PQR)** to be submitted. **It is the mandatory requirement. Offer of vendors not meeting these requirements may not be considered.**

3.0 ESSENTIAL INSTRUCTIONS

1. Un-registered vendors may be approved by BHEL, if found suitable, on the basis of data furnished by them in Supplier Registration Form (SRF) for Foreign Vendors or Indigenous Vendors (as applicable). Vendor Registration Form shall be filled only by unregistered vendors on our website www.bhel.com.
2. BHEL team may visit the vendor(s) works for verification of capability and capacity claimed in tender documents/offer(s).
3. The tenders shall be submitted in **two parts** in separate envelopes as described below on or before the due date. Vendor Registration Form shall be submitted by unregistered vendors only.

i. Part I - Envelope I

A. Tender Fee & EMD (Earnest Money Deposit) enclosed in sub-envelope (a)

Or

Valid certificate/Document towards exemption of Tender fee and/or EMD (applicable for Micro and small Enterprises, Central / State – PSUs / Government departments, PMD vendors etc.)

B. Pre-Qualifying Requirements (PQR) – Annex. 2 enclosed in sub-envelope (b)

C. Vendor Registration Form (Applicable for those vendors who are not registered with BHEL, Haridwar) – **Annex. 4 for Foreign Vendors / Annex. 5 for Indian Vendors enclosed in sub-envelope (c)**

D. NDA (Non-Disclosure Agreement) – Annex. 6 enclosed in sub-envelope (d)

E. Envelop II - Techno -Commercial Bid – It should be the copy of Price Bid without the price part

ii. Part II - Envelop III - Price Bid

Note: All the individual envelopes should indicate Tender no. and date of opening of Part-I.

All three envelopes [Envelope I (containing sub-envelopes a, b, c & d), Envelope II & Envelope III] to be put in a single covering envelope indicating tender no., due date and the name of vendor (with address, e- mail id & contact details). Offer should be complete in all respect (i.e. Part-I & Part-II).

4. Part-I will be opened on the date and time specified in the tender notice in the presence of those vendors who wish to attend.
5. Part-II (Price Bids) along with supplementary price bids, if necessary, will be opened on a later date of only those vendors whose techno-commercial bid along with PQRs will be found acceptable.
6. Currency exchange rate will be applicable on the date of opening of Part-I for evaluation purpose.
7. Depending upon the delivery suitability, BHEL reserves the right to split order on more than one vendor.
8. Foreign and Indigenous bidders against open tender will necessarily have to obtain class – III DSCs. Procedure for application available on www.bhel.com.
9. **Please submit your offer only for the above requirement subject to our GENERAL INSTRUCTIONS AND STANDARD TERMS & CONDITIONS (GISTC: Version April-2019, Rev: 04). Please visit our site www.bhelhwr.co.in for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries. All the bidders/vendors must ensure compliance of these GISTC. GISTC can also be referred by login to B2B Portal for Registered Vendors.**

REFERENCES:

Annexure-1 (POR: Pre-Qualifying Requirements)

Annexure-2 (Format for CA Certificate - Applicable for MSE vendors)

Annexure-3 (Compliance sheet)

Annexure-4 (NDA: Non- Disclosure and Proprietary Information Agreement)

Annexure-5 (GISTC: General Instructions and Standard Terms & Conditions, Version April-2019, Rev: 04)

Please visit our site www.bhelhwr.co.in for General Instructions and Standard Terms & Conditions (GISTC) for Tender Enquiries.

Annexure-6 (Self Certification: for Local Supplier)

Annexure-7 (Technical Specification)

Annexure-8 (Drawing)

Annexure-1
Experience list format

Sl. No.		BHEL requirement	Steam Turbine unit -1 (To be filled by vendor)
1.	Name of the project/customer and its Location		
2.	Client name and its address, Fax no. & Tel. No.		
3.	Name and designation of the responsible person in client's organization & e-mail address		
4.	Contract (P.O.) No. & Date		
5.	Name plate rating in MW of unit	*	
6.	Date of Supply		
7.	Brief Scope of work		
8.	Manufactured by		
9.	Max. operating Pressure	$\geq 100 \text{ Kg/cm}^2$	
10.	Material of Filter	Stainless Steel	
11.	Mesh size	$\leq 25 \text{ microns}$	
12.	Flow	$\geq 3.22 \text{ dm}^3/\text{sec}$	
13.	Pressure drop for max. flow	$\leq 0.2 \text{ Kg/cm}^2$ in clean condition	
14.	Differential Pressure Switch cum indicator across filter	Pr. Range: 0-0.8 bar Power supply range: 24VDC	
15.	Change over valve	Ball valve type	
16.	Operating medium	Fire Resistant Fluid (FRF)	
17.	Application	used in governing system application of Steam turbine	
18.	Copy of G.A. drawing & datasheet of Duplex Filter duly mentioned with all applicable dimensions.	To be furnished by the vendor	
19.	Copy of purchase order, test certificates & commissioning protocols <u>or</u> client /end user certificate	To be furnished by the vendor	
20.	Whether item is in successful operation for a minimum period of 1 year as on date of BHEL enquiry	To be confirmed by the vendor	

Note:

(i)- Vendor to fill the applicable data in the format given above.

(ii)- Further the data against sl. no. 5 (marked as *) is required for reference.

Pre-qualification requirements of "Duplex Filter, Mat. code W97311441145" for indent no. 20170016 Rev. 03

Sl. No.	Pre-qualification requirements	Vendor Response (Yes/No)
1	1. The vendor should have the experience of manufacturing, testing & supply of "Duplex Filter with Differential Pressure switch" used in governing system application of Steam turbine, at one Steam Turbine unit, with technical parameters listed at point no. i to viii below. The vendor to confirm. i) Max. Operating Pressure: $\geq 100 \text{ Kg/cm}^2$ ii) Operating medium: Fire Resistant Fluid (FRF) iii) Flow Across Filters: $\geq 3.22 \text{ dm}^3/\text{sec}$ iv) Pressure drop for max. flow: $\leq 0.2 \text{ Kg/cm}^2$ in clean condition v) Mesh Size: ≤ 25 microns vi) Material of Duplex filter shall be stainless steel. vii) Change over valve shall be Ball valve type viii) Differential Pressure Switch cum indicator across filter: Range 0-0.8 bar In support of experience, vendor to submit details of their past supply in the experience list format as per Annexure-1 (copy enclosed).	
2	The vendor should have the experience of satisfactory operation of supplied "Duplex Filter with Differential Pressure switch" (referred at point 1 above) for at least one Steam turbine unit, for minimum one year as on date of enquiry. The vendor to confirm. In support of above vendor to submit the following: A. GA drawing & datasheet; B. Either of the following: a- Copy of Purchase orders, Test reports of the project and Commissioning protocols at project site; OR b- Certificates of satisfactory operation from their client / End user.	

Note:

- Against vendor's replies, 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 (mentioned above from sl. no. 1 & 2).

[Signature]
Engineer/CIE 19/11/19

[Signature]
15/11/2019
Sr. Engineer/STE-TG

[Signature]
16/11/19
Manager (STE-TG)

[Signature]
DGM/CIE 19/11/19

[Signature]
DGM/STE-TG

Certificate by Chartered Accountant on letter head

This is to Certify that M/S
 (hereinafter referred to as 'company') having its registered office at
 is registered under MSMED Act 2006, (Entrepreneur
 Memorandum No (Part-II) dtd:.....
 Category: (Micro/Small). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the
 latest audited financial year as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 :
 Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006.
 Rs.....Lacs

(Strike off whichever is not applicable)

The above investment of Rs.....Lacs is within permissible limit of
 Rs.....Lacs forMicro / Small (Strike off which is not applicable)
 Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is
 (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such
 enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published
 in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:



(Signature)

Name -

Membership number -

Seal of Chartered Accountant

ANNEXURE- 3**COMPLIANCE SHEET FOR TECHNICAL/COMMERCIAL TERMS AND CONDITIONS FOR TWO PART TENDER****PLEASE FILL THIS ANNEXURE & ATTACH WITH YOUR TECHNO-COMMERCIAL BID.**

You are requested to kindly confirm /clarify the following:-

S.No.	Description	Your Confirmation
1.	Vendor to confirm that they meet each & every clause of our Specifications/Drawings.	
2.	If “No” to serial number 1, vendor to specify each deviated clause & submit in a separate sheet.	
3.	Vendor to list out on a separate sheet any activity which is outsourced. Please furnish details of out sourced vendor.	
4.	Validity: confirm that validity of the offer shall be 120 days from the date of tender opening	
5.	Confirm that un-priced part of price bid is enclosed with techno-commercial offer.	
6.	Confirm that prices have been quoted on C & F basis (For Foreign vendors)	
7.	Confirm that Loading Port has been mentioned.	
8.	Confirm that prices have been quoted on FOR BHEL Haridwar basis. (For Indigenous vendor)	
9.	Confirm that prices shall be firm and fixed throughout delivery period.	
10.	Confirm that preferably payment term shall be “100% payment after receipt and acceptance of material”.	
11.	LD Penalty shall be applicable as per GISTC.	
12.	Confirm that all test certificates / Guarantee certificates to be submitted as per BHEL specification. in TRIPLICATE along with dispatch documents	
13.	Right of acceptance – BHEL reserves the right to reject any or all 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 quantities without any extra charges. Vendor should also be prepared for giving discount in case of increase in quantity.	
14.	Confirm specifically that material shall be supplied as per tender documents.	
15.	No grace period in delivery is acceptable. Please quote delivery accordingly.	
16.	Ink signed order acceptance shall be furnished within 15 days of order placement.	
17.	Confirm if there is Indian agency commission included in your price.	
18.	Confirm to furnish quality plan in the enclosed format for BHEL review & approval.	
18.	1. Submit detailed quality plan in enclosed format for our review & approval . Quality plan has to be submitted along with offer . 2. Inspection by third party inspection agency (LRS/TUV/BV) for import and BHEL nominated agency TUV for indigenous vendor as per finally BHEL approved QP . 3. Scope of inspection agency shall be :- a. Witnessing of dimensional check (including check for joint plane color contact , feeler gauge tightness check). b. UT,DPT after babbiting . c. Usual check . and review of TCs for remaining in process checks & material TCs of items as per CBOM as per ordering drg and specification .	
19.	Please confirm your acceptance for Reverse Auctioning of these items.	

NON-DISCLOSURE AND PROPRIETARY INFORMATION AGREEMENT

BETWEEN

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

AND

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

BACKGROUND

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

WHEREAS

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

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

NOW, THEREFORE, the Parties have agreed as follows:

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

Information stored in electronic form on disk, tape, other storage media will be adequately marked if a proprietary legend displays when the information originally runs on a computer system and when the information is printed from its data file.

Proprietary Information also includes any information which can be obtained by examination, testing or analysis of any hardware or material substance or any component part of such hardware or material substance provided by the Disclosing Party even though the requirements in Clause 1 for marking and designation have not been fulfilled.

3. Each Party, to the extent of its rights to do so, shall disclose to the other only the Proprietary Information which the disclosing Party deems appropriate to fulfil the objectives of this Agreement. The Parties hereby represent that the disclosure of Proprietary Information by and between themselves shall be made in compliance with, and subject to the laws and regulations of the Disclosing Party's country.
4. The receiving Party hereby agrees and covenants that, from the effective date of this Agreement until the expiry date as per article 11 and the following period as per article 12, the Proprietary Information that either Party receives from the other shall:
 - a) be protected and kept in strict confidence by the receiving Party which must use the same degree of care it uses to protect its own confidential information and in no case less than a reasonable care;
 - b) be only disclosed to and used by those persons within the receiving Party's organization or that of its parent or controlled companies who have a need to know and solely for the purposes specified in this Agreement, and be treated by such persons or entities with the same degree of care and subject to the same restrictions;
 - c) to procure that each third party to whom Proprietary Information is disclosed under this Agreement is made aware of the provisions of this Agreement prior to such disclosure to it and that each such third party is

bound by obligations of confidentiality which are no less onerous than those contained in this Agreement;

- d) neither be disclosed nor caused to be disclosed or made available, either directly or indirectly, to any third Party or persons other than those mentioned in subparagraph b) above or other persons upon which both of the contractual Parties shall agree in an amendment to this Agreement;
- e) not to copy, reproduce or reduce to writing any part of such Proprietary Information except as may be reasonably necessary for the purpose referred to in the Recitals of this Agreement

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

- 5. Any Proprietary Information and copies thereof disclosed by either Party to the other shall remain the property of the disclosing Party and shall be immediately returned or destroyed by the receiving Party upon request.
- 6. The receiving Party shall have no obligations or restrictions with respect to any Proprietary Information for which the receiving Party can prove that:
 - a) is in or which comes into the public domain otherwise than as a result of a breach of this Agreement by any person to whom a disclosure of Proprietary Information is made as permitted under this Agreement or of any other duty of confidentiality relating to the Proprietary Information of which the Receiving Party has knowledge; or
 - b) it has been in its possession without restriction at the time of the disclosure, as evidenced by written documentation in its files; or
 - c) it has been lawfully received from a third Party without breach of this Agreement; or

- d) it has been or is published without violation of this Agreement; or
 - e) it has been independently developed in good faith by employees of the receiving Party who did not have access to the Proprietary Information; or
 - f) it has not been properly declared, designated or confirmed as Proprietary or Confidential; or
 - g) the protection period has expired according to articles 11 and 12 of this Agreement.
7. With respect to any exchange of Proprietary Information which may occur as a result of this Agreement, it is expressly understood and agreed that the persons listed in Exhibit 2 shall, on behalf of the respective Parties, be the exclusive individuals authorized to receive from and transmit to the other Party Proprietary Information under this Agreement. Each Party may replace at any time its respective authorized individuals identified in such Exhibit 2, within its own organization. Any such new designation by a Party shall be made by written notice to the other at the address indicated in such Exhibit 2.
8. Any Proprietary Information which is identified as "Classified Information", or whose export is subject to an export license, shall be identified as such by the disclosing Party at the time of disclosure and the disclosure, protection, use and handling thereof, shall remain subject to the security procedures and restrictions imposed by the disclosing Party's Government.
9. The disclosure of Proprietary Information under this Agreement by either Party to the other shall not be construed as granting to the receiving Party any right, whether express or implied by licence or otherwise, on the matters, inventions or discoveries to which such information pertains, or as granting any trademark, patents, copyrights, trade secret right or other form of intellectual property right.

10. Nothing in this Agreement may be construed as an obligation of either Party to disclose any Proprietary Information to the other, or to enter into any subsequent contractual relationship with such other Party.
11. This Agreement covers the exchange of Proprietary Information which may be made by either Party to the other until ten years from signing of the agreement or any extension thereto which may be agreed upon by the Parties in writing. Proprietary information relevant to the Program detailed in Exhibit 1, already made available to the other contractual Party before the effective date, shall also be protected under this Agreement.

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

12. The expiry of the period contemplated in Article 11 of this Agreement shall not relieve the receiving Party from complying with the obligations imposed by Article 4 here above with respect to the use and protection of the Proprietary Information, received prior the date of such expiry, for a period of ten (10) years after such expiry.
13. The Parties are independent contractors. Each will bear all costs and expenses in connection with this Agreement. This Agreement is intended to facilitate only the exchange of Proprietary Information and is not intended to be, and shall not be construed to create a teaming agreement, joint venture, association, partnership, or other business organisation or agency arrangement and no Party shall have the authority to bind the other without the other Party's separate prior written agreement .
14. This Agreement shall be governed by and shall be interpreted in accordance with the substantive federal laws of Switzerland excluding it's choice of law rules.

Irrespective of the foregoing each Party shall remain bound by the provisions of its own national laws and regulations with respect to the transfer or use of Classified Information or information whose export is subject to an export license.

15. All disputes among the Parties, in connection with or arising out of the existence, validity, construction, performance and termination of this Agreement (or any terms thereof), which the Parties are unable to resolve among themselves, shall be finally settled by an Arbitration. The Arbitration shall be held in Geneva (CH) in English language, in accordance with the rules of the ICC – International Chamber of Commerce by three arbitrators appointed in accordance with said rules.
16. The foregoing constitutes the entire Agreement among the Parties with respect to the subject matter hereof and supersedes and cancels all prior representations, negotiations, commitments, undertakings, communications, either oral or written, acceptances, understandings and agreements among the Parties with respect to or in connection with any of the matters to which such Agreement applies or refers.
17. Notices to _____(**Name of Vendor**) shall be made at the following address:

(Complete Address of Vendor)

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

Notices to BHEL shall be made at the following address:

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

Attention: Shri B.M.Bansal, General Manager- Materials Management

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

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

Date :

Signed for and on behalf of

Signed for and on behalf of

(Name of Vendor)

BHEL

By:

By:

Title:

Title:

Signature:

Signature:

EXHIBIT 1

to the

NON-DISCLOSURE AGREEMENT

between

_____ **(Name of Vendor)**

and

BHARAT HEAVY ELECTRICALS LIMITED

dated:

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

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

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

EXHIBIT 2

to the

NON-DISCLOSURE AGREEMENT

between

_____ **(Name of Vendor)**

and

Bharat Heavy Electricals Ltd.

dated:

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

For **(Name of Vendor)**

(Name of Person)

Tel.

Fax

Address.

(Name of Person)

Tel.

Fax

Address.

For Bharat Heavy Electricals Ltd.

(Name of Person)

Tel.

Fax

Address.

(Name of Person)

Tel.

Fax

Address.

As per 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, it is hereby certifying that we

.....
 (supplier name) are local supplier and will meet the requirement of minimum local content (50%) defined in as 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

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT STANDARD	ST46056																																				
			पृष्ठ का	Page 01 of 07																																			
समीची सही संख्या को INVENTORY NO.	TECHNICAL SPECIFICATION OF DUPLEX OIL FILTER																																						
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 :- The specification is intended to cover design, manufacturing, assembly, testing and supply of Duplex filter complete with commissioning spares (including one set of filter element and one set of all seal gaskets), special tools & tackles & differential pressure switch cum indicator (as per specification given in Annexure-1). The duplex filter is intended for operation in conjunction with Steam Turbines and should be suitable for operation at an ambient temperature of 60°C & 95% humidity.																																						
	2.0 FUNCTION :- One side of duplex filter comes in operation with the start of any one of the lubricating oil pumps and remains in service as long as any one of the lubricating oil pump runs. The other side of the duplex filter remains as a stand-by and is brought into operation when the running side gets saturated with dirt and other contaminants which is reflected by the differential pressure read across the inlet and outlet of filter. The stand by filter is kept in primed condition to facilitate the immediate change over. The change over device must prevent both the filters being off at the same time. The change over should be possible by the operation of single hand wheel.																																						
स्वत्वधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत भारती इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग एवं आश्रय प्राप्त से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।	3.0 OIL SPECIFICATION :- The specification of oil to be filtered complies with IS : 1012 or ISO VG 46. The equivalent grades of various oil suppliers are servoprim 46 of M/s Indian Oil Corporation and Turbinol - 47 of M/s Hindustan Petroleum Corporation.																																						
	Kinematic viscosity at 50°C : 28 CS Specific gravity at 50°C : 0.852 Flash point : 200°C (Min.) Operational temperature : 40°C Pour point : -6.0°C (Max.) 3.1 COMPLIANCE WITH NATIONAL STANDARD : NIL																																						
हस्ताक्षर एवं दिनांक SIGN & DATE	4.0 FILTER DATA :- Type : Duplex Inlet/Outlet Nozzles : Flanged																																						
	<table border="1"> <thead> <tr> <th>Variant no.</th> <th>01</th> <th>02</th> <th>03</th> <th>04</th> <th>05</th> <th>06</th> <th>07</th> <th>08</th> </tr> </thead> <tbody> <tr> <td>Capacity (M³/hr)</td> <td>40</td> <td>130</td> <td>250</td> <td>7</td> <td>60</td> <td>170</td> <td>6</td> <td>130</td> </tr> <tr> <td>Nozzle size Nb(mm)</td> <td>100</td> <td>125</td> <td>200</td> <td>25</td> <td>125</td> <td>150</td> <td>25</td> <td>150</td> </tr> <tr> <td>Design Pr. (Kg/cm²)</td> <td colspan="2">12</td> <td></td> <td>250</td> <td colspan="2">12</td> <td>250</td> <td>12</td> </tr> </tbody> </table>				Variant no.	01	02	03	04	05	06	07	08	Capacity (M ³ /hr)	40	130	250	7	60	170	6	130	Nozzle size Nb(mm)	100	125	200	25	125	150	25	150	Design Pr. (Kg/cm ²)	12			250	12		250
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Design Pr. (Kg/cm ²)	12			250	12		250	12																															
समीची सही संख्या INVENTORY NO.	Design Temperature : 50°C Actual pressure drop cleaned condition : 4000 mm wc (Including change over valve) Actual pressure drop saturated condition : 12000 mm wc for var. 01 to 06 and 08 42000 mm wc for var. 04 and 07 Quality of filtration : 37 micron																																						
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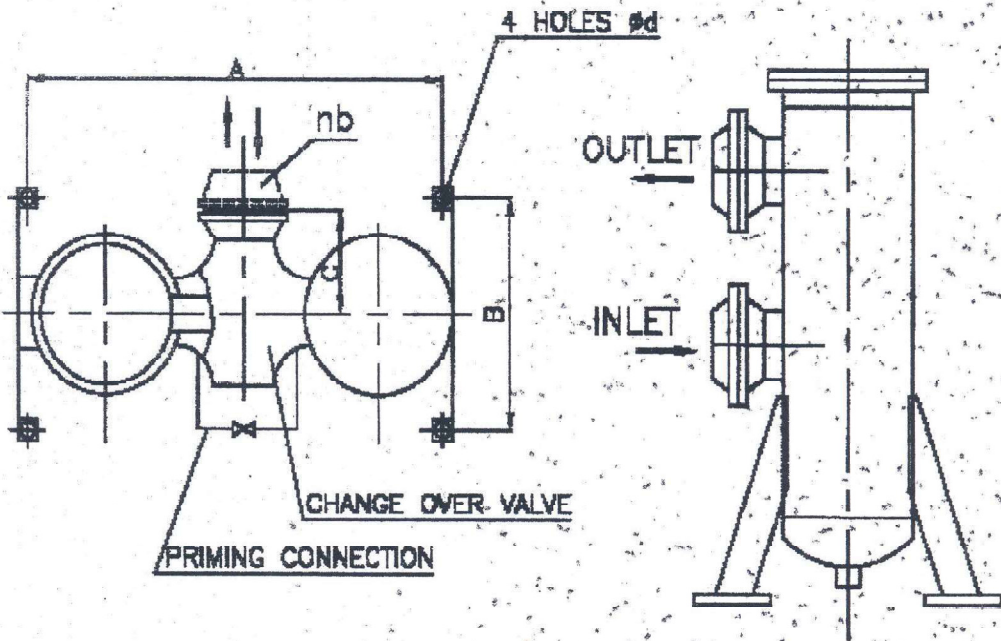
भेल एपि 	उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT STANDARD		ST46056											
			पृष्ठ का Page 02 of 07											
भेल एपि भेल एपि भेल एपि	SUPERSEDES INVENTORY NO.	5.0 DESIGN, MATERIAL & CONSTRUCTION OF FILTER :-												
भेल एपि भेल एपि भेल एपि		<table border="1"> <tr> <td>a) Filter element</td> <td colspan="2"> : Wire cloth of 25 micron to 40 micron : Material Stainless Steel : Pleated type filter Elements are not acceptable : Elements shall be cleanable type for reuse. </td> </tr> <tr> <td>b) Filter body</td> <td rowspan="3"> * </td> <td> : Seamless pipe ASTM A 106 Gr. B or equivalent for var. 01, 02, 03, 05, 06, 08 and ASTM A 105 or equivalent for var. 04 & 07. </td> </tr> <tr> <td>c) Change over Valve</td> <td> : Type Ball valve : Body Material ASTM 216 Gr. B or equivalent : Internals Stainless Steel </td> </tr> <tr> <td>d) Sealings</td> <td> : VITON </td> </tr> </table>			a) Filter element	: Wire cloth of 25 micron to 40 micron : Material Stainless Steel : Pleated type filter Elements are not acceptable : Elements shall be cleanable type for reuse.		b) Filter body	*	: Seamless pipe ASTM A 106 Gr. B or equivalent for var. 01, 02, 03, 05, 06, 08 and ASTM A 105 or equivalent for var. 04 & 07.	c) Change over Valve	: Type Ball valve : Body Material ASTM 216 Gr. B or equivalent : Internals Stainless Steel	d) Sealings	: VITON
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COPYRIGHTED 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 detrimental to the interest of the company.		Materials of other components shall be selected by the bidder. The materials of construction of filter shall be such as to resist corrosion & erosion and shall give a long trouble free service. No cast iron components shall be acceptable. BHEL/owner reserves the right to ask for changes in material. At suitable points on filter, lifting lugs shall be provided for ease of transportation & erection. Their locations must be shown on the dimensional drawings. Each side of the filter shall be provided with a vent connection suitable for pipe thread R1/4" and a drain connection suitable for pipe thread R1/2" for var. 01, 04 & 07 and R1" for var. 02, 03, 05, 06 & 08. Vent connections should necessarily be provided on the sides of each filter chamber top flange to facilitate removal of filter cover for cleaning/ maintenance without removal of vent piping connected to this connection. Priming line with a valve shall be provided between two filter chambers. The filter as per var. 01, 02, 03, 05, 06, 08 is envisaged to be mounted in a tray and the distance between legs of filter shall be above inlet connection. Other dimensions shown in the sketch are binding. The filter as per var. 04 & 07 shall be provided with suitable arrangement to support it with Main Oil Tank /steel structure.												
स्वत्वधिकार एवं गोपनीय भेल एपि भेल एपि भेल एपि		6.0 QUALITY ASSURANCE, INSPECTION AND TESTINGS :												
भेल एपि भेल एपि भेल एपि		6.1 The bidder shall submit quality plan along with his offer format for BHEL/Owner's approval. 6.2 The particulars of the proposed shop tests and procedures for the tests shall be submitted to BHEL/Owner for approval along with Quality Plan. 6.3 The filter shall be dispatched only after inspection, approval of test certificates and clearance from BHEL/Owner. 6.4 Wherever welding is involved, it is to be carried out by qualified welders and weld procedures are to be qualified as per ASME code section IX. 6.5 The minimum tests/checks to be carried out on the Duplex Oil Filter are given below. BHEL/Owner reserves the right to ask for any more checks at the time of Quality Plan finalisation.												
भेल एपि भेल एपि भेल एपि		6.5.1 Testing of materials: The material of body, spindle, disc seat, filter elements etc, shall be tested as per relevant standard for its chemical composition, mechanical properties viz. YS, UTS, impact, %age elongation, reduction in areas etc and NDT. The test certificates for all the tests indicating actual test results should be furnished. Supplier shall give the type and details of NDT to be carried out along with the offer. Material certificate of conformance & acceptable in case of M/s hydac & M/s EPE & BOLL & KIRCH. * Ductile cast iron (EN-GJS-400-18)												
भेल एपि भेल एपि भेल एपि	REV. NO. 03	निर्माणकर्ता WORKED BY M. SINGH	जांचकर्ता CHECKED BY SDR.	21/7/07 31/7/07										

SIGNATURE OF BIDDER SIGN & DATE		उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT STANDARD		ST46056	
				पृष्ठ का Page 03 of 07	
SUPERVISOR INVENTOR NO	6.5.2 All butt welds shall be subjected to 10% RT and all fillet welds to 100% MPI. All welding shall be carried out by qualified procedures and welders.				
6.5.3 Following tests shall be carried out during various stages of manufacturing at bidder's works:-	a) Check for dimensions of all the component. b) <u>Hydraulic Test</u> : The body of filters shall be tested at one and half times the design Pressure in fully assembled condition for 5 mts. c) <u>Seat leakage test</u> : It shall be carried out at the design pressure for 5 minutes. Acceptance norms shall be nil leakage. d) <u>Functional Test</u> : It shall demonstrate smooth operation of change over valve. e) <u>Verification of mesh size of element</u> : By recognised lab. f) <u>Collapsibility Test</u> : A type test at a differential pressure of 5.0 kg/cm ² for var 01,02,03,05,06 & 160.0 kg/cm ² for variant 04 & 07. This test shall be conducted as per ISO : 2941. g) <u>Pressure Drop Test</u> : As per ISO 3968. The pressure drop in clean condition should not exceed 0.4kg/cm ² including change over valve. This is type test.				
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used, copied, or disclosed, in any way, without the written permission of the company.	7.0 <u>DOCUMENTS:</u> A. <u>Along with offer</u> : i) Detailed catalogue with electrical contact rating. ii) Assembly drawing with part lists, material of each part, nozzle sizes & their coordinates, leg spacing, cross sectional arrangement incorporating overall dimensions. iii) Pressure loss curve for normal flow at different flow areas. iv) Details of priming connection, change over valve, differential pressure switch, flow direction indicator, etc. v) Quality plan. vi) Testing procedures. vii) List of commissioning spares which will include one set of all type of seals/gaskets & one filter element. viii) List of spares for 5 years of operation. ix) List of special erection/maintenance tools. x) Type test certificate for collapsibility test and pressure drop test shall be submitted along with the offer. B. <u>After Placement of order</u> i) Documents listed at 7.0(A) above (for approval) 4 weeks ii) O & M instructions 12 weeks iii) Instruction on conservation and deconservation. 12 weeks No. of copies shall be specified at the time of ordering. However if not specified, 10 copies shall be furnished by the bidder.				
स्वत्वाधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत भारती लि. की संपत्ति है। इसे बिना लिखित अनुमति के किसी भी व्यक्ति को प्रकट नहीं किया जाना चाहिए।	C. <u>Along with Dispatch</u> i) Detailed catalogue ii) Calibration & test certificates iii) Guarantee certificate iv) Type test certificate for degree of protection				
SIGN & DATE 31/7/07	REV. NO. 03	निर्माणकर्ता WORKED BY M. SINGH	31/7/07	प्राधिकर्ता CHECKED BY SDR.	31/7/07
INVENTORY NO P-5136					

दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT STANDARD	ST46056									
			पृष्ठ	का								
SUPERSEDES INVENTORY NO.		8.0 IDENTIFICATION : The name plate of filter shall have following information										
संपत्ति सूची संख्या को प्रतिबिम्बित करना है		i) Type/Designation : Duplex filter ii) Tag no.										
		<table border="1"> <tr> <td>Var.</td> <td>01 & 05</td> <td>02,03,06&08</td> <td>04 & 07</td> </tr> <tr> <td>Tag no.</td> <td>MAV43 BT001</td> <td>MAV42 BT001</td> <td>MAV35 BT001</td> </tr> </table>	Var.	01 & 05	02,03,06&08	04 & 07	Tag no.	MAV43 BT001	MAV42 BT001	MAV35 BT001		
Var.	01 & 05	02,03,06&08	04 & 07									
Tag no.	MAV43 BT001	MAV42 BT001	MAV35 BT001									
COPYRIGHT AND CONFIDENTIAL This 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.		iii) Nominal size of inlet / outlet nozzles iv) Press loss (in cleaned condition) v) Manufacturer's name vi) Medium vii) Purchase order no. viii) Month & year of manufacture										
		9.0 CLEANING, PAINTING, CONSERVATION & PACKING : The bidder shall give exact and precise details about the measures envisaged by him for surface protection. Painting of interior surface coming in contact with oil is prohibited. After testing of filter its internals shall be thoroughly cleaned, dried and conserved before packing. conservation shall be suitable for storing in saline atmosphere & for a period of 2 years before use. Filter shall be suitably packed for transportation. Instruction should be issued regarding reconsevation, deconsevation and storage of package										
		10.0 GENERAL : The bidder can make suitable offers even if there are minor deviations which do not effect the efficient functioning of the equipment. However the deviation must be clearly spelt 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.										
		11.0 GUARANTEE :										
		i) The supplier shall guarantee trouble free and satisfactory operation of the equipment for a period of 18 months after delivery or 12 months after commissioning-whichever is earlier. ii) The bidder shall guarantee the quality of filtration & pressure loss in cleaned and saturated conditions. iii) If during erection / commissioning at site and deficiency in parts is detected. BHEL site office shall prepare the assessment report and copy of the same shall be forwarded to the bidder. The bidder shall replace / rectify the concerned items free of charge. The bidder if he so desires may depute his representative to site at his own cost with in one week after receipt of the above report, shall be final & binding on bidder of Duplex filter.										
		12.0 DESPATCH : The equipment along with all accessories shall be dispatched to a destination to be specified after the placement of order.										
सामग्री सूची संख्या INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE	REV. NO.	<table border="1"> <tr> <td>निर्माणकर्ता WORKED BY</td> <td>M.SINGH</td> <td><i>M.Singh</i></td> <td>31/7/07</td> </tr> <tr> <td>जांचकर्ता CHECKED BY</td> <td>SDR</td> <td><i>SDR</i></td> <td>31/7/07</td> </tr> </table>		निर्माणकर्ता WORKED BY	M.SINGH	<i>M.Singh</i>	31/7/07	जांचकर्ता CHECKED BY	SDR	<i>SDR</i>	31/7/07
निर्माणकर्ता WORKED BY	M.SINGH	<i>M.Singh</i>	31/7/07									
जांचकर्ता CHECKED BY	SDR	<i>SDR</i>	31/7/07									
P-5136	13/8/07	03										

		उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT STANDARD		ST46056 पृष्ठ का Page 05 of 07	
SUPERSEDES INVENTORY NO		ANNEXURE-1			
सापेक्ष सूची संख्या को अधिनिर्दिष्ट करना है		DIFFERENTIAL PRESSURE SWITCH CUM INDICATOR :			
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 detrimental to the interest of the company.		1.0 The differential pressure switch shall consist of a calibrated indicator for indicating the differential pressure across each filter basket. Switch with electrical contacts shall be actuated when the differential pressure reaches preset value.			
3.0 Housing : Body material : Die cast aluminum alloy or stainless steel Degree of protection : IP 65 External surface : Finished with staving enamel		2.0 The differential pressure switch shall be suitable for Ambient temperature : 0-60°C and Relative humidity : 95%			
4.0 Sensing element type : Diaphragm/piston		5.0 Material of sensing element and other parts : Stainless steel AISI 304 or equivalent in contact with the service medium			
6.0 Differential pressure range : 0-1.2 kg/cm ² for var. 01,02,03,05,06 & 08 0-6 kg/cm ² for var. 04 & 07		7.0 Max. static pressure : one and half times design pressure			
8.0 Set point adjustment : The switching point shall be adjusted to operate at 0.9 kg/cm ² in pressure increasing direction for var. 01, 02, 03, 05, 06 & 08. for var. 04 & 07 the switching shall be set at 4.2 kg/cm ² . However, the set point for variants shall be adjustable over the specified differential pressure range. There shall be proper facility with suitable lockable arrangement for set point adjustment.		8.1 Switching repeatability : ± 1% of differential pressure range			
8.2 Accuracy : Equal or better than ± 2% at mid 50% of differential pressure range		9.0 Electrical contact : Contact type : Snap action micro switch/ Reed contact Contact material : Silver plated Contact rating : 0.25A / 120 V AC, 3W/ DC No. of Contact s : 1 No. change over type i. e. 1 SPDT Contact life : approx. (10) ⁶ switching cycles.			
10.0 Electrical connection : Cable entry shall be provided with cable gland complete with neoprene grommet. Terminals shall be suitable for cable termination of 0.5 mm ² cable core cross section.		11.0 Identification Tag : In addition to the instrument name plate, one separate stainless steel tag punched with tag no. MAV 43 CP 011 for variants 01 & 05, MAV 42 CP 013 for var. 02, 03, 06 & 08 and MAV 35 CP 016 for var. 04 & 07 shall be fastened with the switch, if not possible to engrave on instrument name plate.			
REV. NO. 03		निर्माणकर्ता WORKED BY M.SINGH		जांचकर्ता CHECKED BY SDR.	
INVENTORY NO. P-5136		31/7/07		31/7/07	

DESIGN & DATE SIGN. & DATE		उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT STANDARD		ST46056 पृष्ठ का Page 06. of 07	
SUPERSEDES INVENTORY NO.		12.0 Hydraulic impulse connection details = R1/4 DATA SHEET TO BE FURNISHED BY THE BIDDER OF DUPLEX FILTER			
प्रमाणित करने वाला अतिरिक्त प्रमाण		1.0 a) Differential pressure switch cum indicator Yes/ No b) Connected piping & valve Yes/ No 2.0 Priming valve & piping Yes/ No 3.0 Legs, flange connections & other dimensions as per sketch Yes/ No 4.0 Contract drawings & curves Yes/ No 5.0 Commissioning spares, O & M spares for five years of operation Yes/ No 6.0 Special erection/ Maintenance tools Yes/ No 7.0 Quality of filtration Micron's 8.0 Pressure loss at normal flow : a) In cleaned condition mm wc i) In the filter ii) In the valve b) In saturated condition (50% choked condition) mm wc 9.0 Material of components as per clause-5 Yes/ No 10.0 Weight of filter kg 11.0 Tests to be carried out : a) Chemical composition & Mechanical properties of components mentioned in clauses - 5 Yes/ No b) NDT Yes/ No c) Hydraulic test of body (filter & valve) Yes/ No d) Functional test Yes/ No e) Collapsibility test Yes/ No f) Mesh size verification from recognized lab Yes/ No g) Pressure drop test Yes/ No 12.0 Gross filtering area mm ² 13.0 Net filtering area mm ²			
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DESIGN & DATE SIGN. & DATE		LIST OF CROSS REFERRED STANDARD — NEXT PAGE			
INVENTORY NO. P-5136		REV. NO. 03		निर्माणकर्ता WORKED BY M.SINGH	
				31/7/07	
		जांचकर्ता CHECKED BY SDR		31/7/07	

दिनांक एवं हस्ताक्षर SIGN & DATE			उत्पाद मानक STEAM TURBINE ENGINEERING PRODUCT - STANDARD	ST46056	पृष्ठ का Page 07 of 07																																												
सार्वजनिक सूचना को अधिकृतित करता है	SUPERSEDES INVENTORY NO.	Cross referred standard:- IS:1012-1978 ISOV 46 ! ISO 2941, ISO 3968 AISI-321/316																																															
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दिनांक एवं हस्ताक्षर SIGN & DATE 13/8/17		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>08</td><td>150</td><td>1120</td><td>560</td><td>255</td><td>23</td><td rowspan="6">DIN 2633</td></tr> <tr> <td>06</td><td>200</td><td>1180</td><td>560</td><td>285</td><td>23</td></tr> <tr> <td>05</td><td>125</td><td>890</td><td>560</td><td>235</td><td>23</td></tr> <tr> <td>03</td><td>200</td><td>1315</td><td>560</td><td>285</td><td>23</td></tr> <tr> <td>02</td><td>125</td><td>890</td><td>560</td><td>235</td><td>23</td></tr> <tr> <td>01</td><td>100</td><td>785</td><td>320</td><td>235</td><td>18</td></tr> <tr> <td>VAR. NO.</td><td>nb</td><td>A</td><td>B</td><td>C</td><td>d</td><td>FLANGE DETAILS</td></tr> </table>				08	150	1120	560	255	23	DIN 2633	06	200	1180	560	285	23	05	125	890	560	235	23	03	200	1315	560	285	23	02	125	890	560	235	23	01	100	785	320	235	18	VAR. NO.	nb	A	B	C	d	FLANGE DETAILS
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सार्वजनिक सूचना को अधिकृतित करता है INVENTORY NO. P-5136	REV. NO. 03	निर्माणकर्ता WORKED BY M.SINGH		जांचकर्ता CHECKED BY SDR	31/7/17 31/7/17																																												

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

FORM DG 38(B)

88090-1411-3
ON DRAWING

1. TECHNICAL REQUIREMENTS:-

1.1 CHANGE OVER DOUBLE FILTER WITH STAR SCREEN SHALL BE OF TYPE 2.56.2.140.250.05.DN50; PN100 FROM M/S BOLL & KIRCH WEST GERMANY OR EQUIVALENT FROM ANY OTHER SUPPLIER, TO SUIT THE FOLLOWING DESIGN & MANUFACTURING REQUIREMENTS.

1.2 ONE NO. DIFFERENTIAL PRESSURE SWITCH AS PER BHEL DRAWING NO.:- 4-13376-71401 OR EQUIVALENT SHALL BE SUPPLIED LOOSE ALONG WITH THE FILTER.

2. DESIGN REQUIREMENTS:-

2.1 MAX. OPERATING PRESSURE 100 KG/CM²; TEST PRESSURE : 150 KG/CM²

2.2 OPERATING MEDIUM : FIRE RESISTANT FLUID ; VISCOCITY 33-48 M/SEC AT 40°C.

2.3 OPERATING TEMP : 65°C MAX RESPECTIVELY.

2.4 NORMAL WORKING PRESSURE : 36 KG/CM²

2.5 MAX. FLOW ACROSS FILTER : (a) FOR VAR. 00 = 3.22 dm³/SEC.
(b) FOR VAR. 01 = 1.16 dm³/SEC.

2.6 PRESSURE DROP FOR MAX.FLOW BOTH FOR VAR.00&VAR.01 ≤ 0.2 KG/CM² IN CLEAN CONDITION.

2.7 THE CHANGE OVER TO THE OTHER FILTER IS NECESSARY WHEN THE PRESSURE DROP ACROSS THE FILTER REACHES A VALUE OF 0.8 KG/CM²

3. MANUFACTURING REQUIREMENTS:-

3.1 MATERIALS :-
MATERIAL OF DIFFERENT PARTS OF THE DUPLEX FILTER COMING IN CONTACT WITH FIRE RESISTANT FLUID SUCH AS FILTER BODY, FILTER ELEMENT, VALVE BODY, CHANGE-OVER VALVE SEAT, VALVE DISCS, SPINDLE, FLANGES, PIPES, PIPE FITTING ETC. SHALL BE MADE OF STAINLESS STEEL OF SUITABLE GRADES PREFERABLY WITH S.S. TO GRADE 1.4571 (X10CRVN1810) OR AISI 321 MATERIAL OF OTHER PARTS SHALL BE SELECTED BY THE SUPPLIER. MATERIAL OF CONSTRUCTION OF FILTER SHALL BE SUCH AS TO RESIST CORROSION AND EROSION AND SHALL GIVE LONG TROUBLE FREE SERVICE. SUPPLIER TO FURNISH THE DETAIL MATERIAL LIST OF THESE COMPONENTS. AT THE TIME OF SUBMISSION OF TECHNICAL OFFER, CHANGE OVER VALVE CONSTRUCTION SHALL BE "BALL TYPE". LONG PLUG & PORT TYPE CONSTRUCTION OF CHANGE OVER VALVE SHALL NOT BE ACCEPTABLE. PRIME LINE WITH A VALVE BETWEEN TWO FILTER CHAMBERS AND A FLOW DIRECTION INDICATOR INDICATING THE SIDE OF FILTER IN OPERATION SHALL ALSO BE PROVIDED.

3.2 NOMINAL BORE (Nb) : 50

3.3 FLANGE DNom 50; Pnom 160 ACC. TO DIN 2638.

3.4 MAJOR DIMENSIONS ACCORDING TO VARIANT TABLE.

3.5 SCREEN AREA:1513cm²; MESH SIZE:0.025 FABRIC DESIGNATION NO.400/40 ONLY WITH UNION.

3.6 SEALINGS : VITON

3.7 COMPRESSION TYPE FITTINGS ARE NOT PERMITTED.

4. TECHNICAL DELIVERY CONDITIONS:-

SHALL GENERALLY BE ACC. TO B.H.E.L. SPECIFICATION NO. ST46056 UNLESS OTHERWISE SPECIFIED IN DRAWING. CLAUSE NO. 2,3,4,5 & 8ii) OF ST46056 SHALL NOT BE VALID. COLLAPSIBILITY TEST(AT DIFFERENTIAL PRESSURE OF 5Kg/cm²) AND PRESSURE DROP TEST INCLUDING CHANGE OVER VALVE(AT ≤ 0.2 Kg/cm²) AS CALLED AGAINST CL.6.5.3 f) & g) OF ST46056 SHALL BE CONDUCTED AS PER ISO 2941 & ISO 3968 RESPECTIVELY AND REPORT SHALL BE FURNISHED ONCE IN FIVE YEARS. THESE TESTS ARE TYPE TESTS.

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1-09232-292630
Ref. Drawing No.

Sign & Date

Inventory No

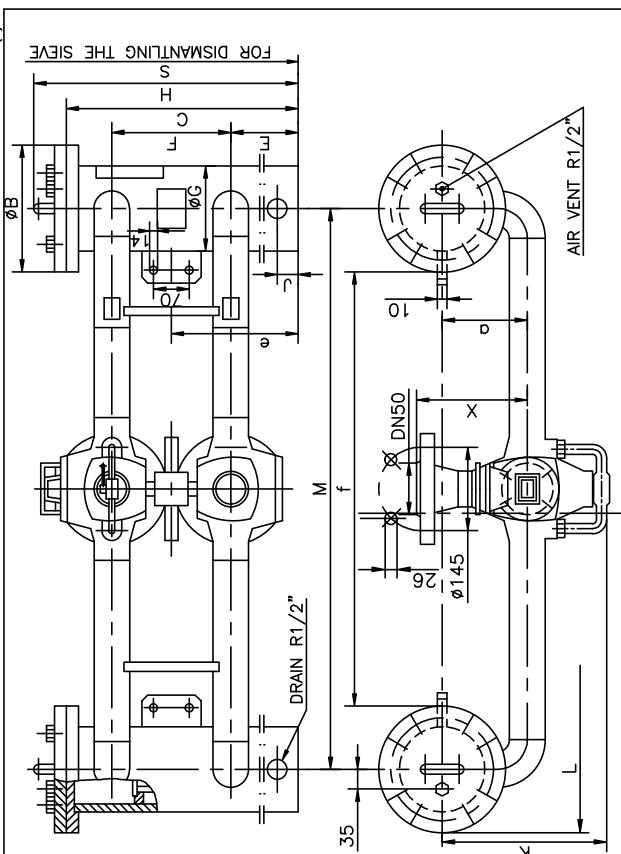


TABLE FOR SPARES:-

VAR.	DRG. NO.	CBOM NO.
00	4-11441-05035	81144105035/00
01	4-11441-05036	81144105036/00

5. IDENTIFICATION:-

IDENTIFICATION SHALL BE ACC. TO HW0400397.

VARIANT TABLE:-

VAR.	X	B	C	E	F	ØG	H	J	K	L	M	S	a	e	f	SCREEN AREA	MATERIAL CODE
00	185	210	483	175	200	139.1	575	50	350	1130	920	853	127	275	720	1513 cm ²	W97311441137
01	185	210	483	175	200	139.1	575	50	350	880	670	853	127	275	470	1513 cm ²	W97311441145

STEAM TURBINE

GMS No./ 0-11441-05000 (VAR.00&01)		C	B	O	M	STATUS OF DRG	
AGREED DEPT	NAME	SIGN	DATE				
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
BHARAT HEAVY ELECTRICALS LTD. RANIPUR, HARDWAR							
DEPT		STE	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM No.	NO. OF ITEMS
CODE 4011		NTS	NTS	120.00	0-11441-05000 (VAR.00&01)	066	75
TITLE :							
CARD CODE							
DRAWING NO.							
3-11441-05033							
SHEET No. 01							No. OF SHEETS 01

SIZE A3