

Open Tender Enquiry, terms and conditions

ITEM NAME: - “SPRING BASKET” (MACHINING)”

Details of items covered in Bid are as below: -

Item No.	Material Code	MATERIAL DESCRIPTION	Drawing	Qty (Lot Wise)	Delivery Schedule
1.	W90413501183	1 SET COMPRISES OF 7 NO. SPRING BASKET (MACHINING) AS PER DRG NO. 11350401070 VAR00 AS PER DOC NO TDC-M-11350401070 WEIGHT OF 1 NO SPRING BASKET 1716 KG	11350401070 REV: 02	1 (lot 1) 1 (lot 2) 1 (lot 3) 1 (lot 4) 1 (lot 5) 1 (lot 6) 1 (lot 7) 1 (lot 8)	30.09.2026 30.11.2026 30.12.2026 28.02.2027 30.04.2027 30.05.2027 30.08.2027 30.09.2027

QUALITY REQUIREMENTS: For 4 no. Quantity (Adani and Koderma Projects)

- ❖ VENDOR APPROVAL FROM END CUSTOMER IS REQUIRED. VENDOR TO SUBMIT CREDENTIALS IN THE ATTACHED FORMAT TO TAKE UP WITH END CUSTOMER FOR APPROVAL.
PRE-DISPATCH INSPECTION BY BHEL/BHEL TPIA & END CUSTOMER AS PER BHEL & END CUSTOMER APPROVED QP. VENDOR TO SUBMIT QP FOR BHEL & END CUSTOMER APPROVAL.

QUALITY REQUIREMENTS: For remaining quantity (~~3 no.~~)

- ❖ PRE-DISPATCH INSPECTION BY BHEL/BHEL TPIA & END CUSTOMER AS PER BHEL & END CUSTOMER APPROVED QP. VENDOR TO SUBMIT QP FOR BHEL & END CUSTOMER APPROVAL.

Note: - For Mahan Projects (2 no. quantity.), separate painting scheme will be applicable (available in attached documents).

EMD: As per clause 5A.1 & Clause 5B.1 of Amendment no. 04 of Purchase Policy-2013, EMD of Rs. 6 Lacs (refundable) & minimum 5 % Performance Security (form successful bidder) is applicable from bidders for this enquiry. (except Micro and Small Enterprises (MSEs) or Startups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT)).

Reverse Auction (RA):-Price bid to RA shall be conducted for only those bidders who qualifies PQR and whose techno-commercial bid is acceptable to BHEL. RA shall be conducted with option of RA with elimination of H1 bidder in line with BHEL Reverse Auction Guideline (SS&P Circular No. 08 of 2024-25 - RA Guidelines 2024).

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Open Tender Enquiry, terms and conditions

BHEL will reserve the right to inspect/test the material during/after manufacturing at suppliers' works, and/or at BHEL Site. In case of rejection at any stage, Supplier/Vendor shall be liable to replace the materials at his own cost.

Procedure for Bid submission: - Offer shall be submitted by the bidders in two parts

Bid Part - I Technical cum Commercial bid.

Bid Part - II Price bid

Both Part - I & Part - II of the offer to be uploaded on BHEL e-procurement site using Class III digital signature. Bidders to mandatorily put sign and seal on all the uploaded documents. The quotation should be uploaded on the site before due date / time.

Part-I of the bid shall contain complete details of the product offered, PQR qualification, MII certificate, FCA, acceptance to the specification and all techno commercial terms & conditions.

Part – II comprises BOQ/Price bid (GST extra).

Bid opening – Techno commercial bid (Part-I) of the offers shall be opened on the due date of tender opening on e-procurement portal. Clarifications if required on this part may be obtained from the bidders for their evaluation. The Price bid Part-II of such bidders alone shall be opened on a later date on e-procurement portal whose PQR qualification and techno-commercial bids are found acceptable. The date of 'Price bid- Part- II' shall be intimated to technically qualified bidders later.

Pre-qualification Criteria (mandatory for further consideration of offers)

Please note that offers of only those bidders who meet pre-qualification criteria shall be considered. Bidders to submit all supporting documents in compliance with each requirement.

III preferences shall be proposed to local suppliers as per revised 'Public Procurement (Preference to Make in India), Order, 2017 issued by DPIIT vide OM No. P-45021/2/2017- PP(BE-II) Part (4) Vol. II dated 19.07.2024 and subsequent order(s).

Bid evaluation: - The bids shall be evaluated on item wise total delivered cost to BHEL considering all duties/taxes/Cess etc. as could be applicable.

NOTE: In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders. In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L1 bidder(s) or their representative(s). Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

Delivery Period: - Vendor to quote delivery in weeks, quoted delivery period shall be used to place regularizing PO. The material is required at BHEL Haridwar and Bidders shall commit suitable delivery period on **FOR destination basis**. Delivery period in the purchase order shall be as per accepted delivery period quoted by the vendor or required delivery period by BHEL, whichever is later. Bidders may note that delivery beyond committed schedule will attract penalty for delayed performance.

Guarantee/Warranty certificate and Test Certificate to be provided along with the supply.

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Open Tender Enquiry, terms and conditions

10. Non-Disclosure Agreement

Unregistered vendors at BHEL Haridwar for this item may avail the soft copies of relevant specification / drawing by submitting the endorsed copy of attached 'Non-Disclosure Agreement' to either of the following e-mail IDs:

1. Virendra Singh- v_singh@bhel.in
2. Ghulam Shabbir- ghulam.shabbir@bhel.in

TECHNO- COMMERCIAL OFFER :

Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection. In the event of any Technical or Commercial queries, the same may please be addressed to the following BHEL concerned e-mail IDs before Part- I opening. -

1. Virendra Singh- v_singh@bhel.in
2. Ghulam Shabbir- ghulam.shabbir@bhel.in

Bidder to submit Techno- Commercial offer along with bid.

SCOPE OF SUPPLY & PRICE BASIS:

VENDORS TO QUOTE FIX/FIRM RATE WHICH SHOULD BE ON ALL- INCLUSIVE BASIS i.e. LOCAL LEVIES/TRANSPORTATION/LOADING- UNLOADING, P&F CHARGES AND NABL CHARGES ETC. UPTO FOR BHEL- HEEP HARIDWAR.

TRANSIT INSURANCE: BY BHEL.

NO PVC (PRICE VARIATION CLAUSE) SHALL BE CONSIDERED FOR THIS ENQUIRY AND SHALL BE PROCESSED WITH FIX/FIRM RATES i.e. INR/ Pieces.

Taxes & Duties: - Applicable 'GST' shall be extra.

(Note: - vendor to specify the applicable GST percentage; otherwise, 18% will be considered for evaluation purposes)

TAXES AND DUTIES: -

Bidder to inform % of EXCLUSIVE GST- _____ %

The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Supplier/Vendor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Supplier/Vendor.

Supplier/Vendor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

obligation of BHEL in respect of the tax liability to the Supplier/Vendor. Supplier/Vendor has to submit GST registration certificate of the concerned state. Supplier/Vendor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.

Supplier/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.

Supplier/Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, Supplier/Vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions. Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Supplier/Vendor: - a) Supply of goods and/or services have been received by BHEL. b) Original Tax Invoice has been submitted to BHEL. c) Supplier/Vendor has submitted all the documents required for processing of bill as per contract/purchase order/ work order. d) In cases where e-invoicing provision is applicable, Supplier/Vendor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder. e) Supplier/Vendor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return. f) Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the Supplier/Vendor. g) Supplier/Vendor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.

Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from Supplier/Vendor's bill or otherwise as deemed fit.

TDS as applicable under GST law shall be deducted from Supplier/Vendor's bill.

Supplier/Vendor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permit, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.

Supplier/Vendor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of Supplier/Vendor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.

In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Supplier/Vendor's due payment.

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Supplier/Vendor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Supplier/Vendor.

In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the Supplier/Vendor

VARIATION IN TAXES & DUTIES:

Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability. In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its Supplier/Vendor only and within the contractual delivery period only. In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/ Supplier/Vendor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

Income Tax: TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from Supplier/Vendor's bill.

Delivery period (in weeks) from PO date: _____

Bidders are requested to quote the best delivery meeting the delivery requirements. BHEL reserves the right to reject the offers not meeting BHEL's delivery requirement.

PAYMENT TERM:

FOR NON MSME Bidders- 100% payment shall be released within 90 days from the date of acknowledged receipt & acceptance of material at HEEP- BHEL stores and submission of billing documents.

FOR MSME Bidders- 100% payment shall be released within 45 days from the date of acknowledged receipt & acceptance of material at HEEP- BHEL stores and submission of billing documents.

FOR MEDIUM ENTERPRISES Bidders, 100% payment shall be released within 60 days upon receipt & acceptance of material at HEEP- BHEL stores and submission of billing documents.

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

MICRO AND SMALL ENTERPRISES (MSE): 3 Any Bidder falling under MSE category shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer.

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women Owned)
Micro			
Small			

Note: If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category. a) MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dated 09/11/2016 office of AS & DC, MSME) only if they submit along with the offer, attested copies of either Udyam Registration. Date to be reckoned for determining the deemed validity will be the last date of Technical Bid submission. No benefits shall be applicable for this enquiry if the above required documents are not uploaded at the time of bid submission. Documents submitted by the bidder shall be verified by BHEL for rendering the applicable benefits.

BREACH OF CONTRACT, REMEDIES AND TERMINATION:

The following shall amount to breach of contract: I. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time.

II. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period.

III. The Supplier/Vendor delivers equipment/ material not of the contracted quality.

IV. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause. V. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract.

VI. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.

VII. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor. VIII. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor.

IX. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.

X. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

Note-Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

REMEDIES IN CASE OF BREACH OF CONTRACT.

i) Wherein the period as stipulated in the notice issued as mentioned above has expired and Supplier/Vendor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.

ii) Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Supplier/Vendor. This amount shall be recovered by way of cashing the security instruments like performance bank guarantee etc. available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the Supplier/Vendor, retention amount, from the money due to the Supplier/Vendor etc. with BHEL) or the other legal remedies shall be pursued.

iii) wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be cashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:

iv) In case the amount recovered under as mentioned above is not sufficient to fulfil the amount recoverable then; a demand notice to deposit the balance amount within 30 days shall be issued to Supplier/Vendor.

v) If Supplier/Vendor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:

a) from dues available in the form of Bills payable to defaulted Supplier/Vendor against the same contract. b) If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Supplier/Vendor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.

vi) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier/Vendor.

vii) It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Supplier/Vendor for the purpose of estimation of damages.

viii) In addition to the above, imposition of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

Note: 1) The defaulting Supplier/Vendor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

(a) In case defaulted Supplier/Vendor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.

(b) In case defaulted Supplier/Vendor is The Partnership Firm, any firm comprising of same partners/ some of the same partners; or sole proprietorship firm owned by any partner(s) as a sole proprietor.

LD AGAINST DELAY IN EXECUTED SUPPLY IN CASE OF TERMINATION OF CONTRACT:

LD against delay in executed supply shall be calculated in line with LD clause mentioned below, for the delay attributable to Supplier/Vendor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of supply till termination of contract. Method for calculation of “LD against delay in executed supply in case of termination of contract” is given below. i. Let the time period from scheduled date of start of supply till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1

ii. Let the value of executed supply till the time of termination of contract= X iii. Let the Total Executable Value of supply for which inputs/fronTS were made available to Supplier/Vendor and were planned for execution till termination of contract = Y iv. Delay in executed supply attributable to Supplier/Vendor i.e. $T2 = [1 - (X/Y)] \times T1$ v. LD shall be calculated in line with LD clause of the Contract for the delay attributable to Supplier/Vendor taking “X” as Contract Value and “T2” as period of delay attributable to Supplier/Vendor.

LIQUIDATED DAMAGE:

Liquidated Damages, wherever referred under this Tender/Agreement, shall mean and refer to the damages, not in the nature of penalty, which the contractor agrees to pay in the event of delay in delivery of supplies, breach of contract etc. as the case may be. Liquidated Damages leviable upon the Supplier/Vendor is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by BHEL on account of delay/breach on the part of the Supplier/Vendor.

If the Seller/Service Provider fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract/PO, the Buyer/BHEL will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever.

ACTION AGAINST BIDDERS / VENDOR / SUPPLIER / CONTRACTOR IN CASE OF DEFAULT:

In order to protect the commercial interests of BHEL, BHEL shall act 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.

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS:

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com. If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, malpractices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860(Bhartiya Nyaya Samhita 2023) or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage: http://www.bhel.com/vender_registration/vender.php.

CONFLICT OF INTEREST:

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;

The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;

Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorized distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.

A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.

COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (XI) OF GFR 2017:

I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process. III. "Bidder from a country which shares a land border with India" for the purpose of this Clause means: - a. An entity incorporated established or registered in such a country; or b. A subsidiary of an entity incorporated established or registered in such a country; or c. An entity substantially controlled through entities incorporated, established or registered in such a country; or d. An entity whose beneficial owner is situated in such a country; or e. An Indian (or other) agent of such an entity; or f. A natural person who is a citizen of such a country; or g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above. IV. The beneficial owner for the purpose of (III) above will be as under: 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercises control through other means. Explanation a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company. b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements. 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership. 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person has ownership of or entitlement to more than fifteen percent of the property or capital or profits of the such association or body of individuals. 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official; 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership. V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person. Note: (i) The bidder shall provide undertaking for their compliance to this Clause, in the format provided (as attached). (ii) Registration of the bidder with Competent Authority should be valid at the time of submission of bids and at the time of acceptance of the bids.

SETTLEMENT OF DISPUTE:

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Supplier/Vendor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place

Sign and stamped by bidder

Open Tender Enquiry, terms and conditions

referred to Designated Engineer for amicable resolution by the parties. Designated Engineer (to be nominated by BHEL for settlement of disputes arising out of the contract) who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Supplier/Vendor who shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not. If after the Designated Engineer has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Supplier/Vendor being dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018.

CONCILIATION:

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the “Dispute”) shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. The proceedings of Conciliation shall broadly be governed by Part III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and provided in - “Procedure for conduct of conciliation proceedings” (as available in www.bhel.com)).

Note: Ministry of Finance has issued OM reference No. 1/2/24 dated 03.06.2024 regarding “Guidelines for Arbitration and Mediation in Contracts of Domestic Public Procurement. In the said OM it has been recommended that Government departments/ Entities/agencies are to encourage mediation under the Mediation Act. 2023. The said Act has not yet been notified by the Government. Therefore, the clause “Settlement of Disputes” shall be modified accordingly as and when the Mediation Act 2023 gets notified.

ARBITRATION:

Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided herein above or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the ‘Dispute’), then, either Party may, refer the disputes to Arbitral Institution (e.g. “IIAC” (India International Arbitration Centre) (identified by the contract issuing agency- HEEP- BHEL Haridwar) and such dispute to be adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution. A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the ‘Notice’) before referring the matter to arbitral institution. The Notice shall be addressed to the Head of the Region, Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any. After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institutions (by the contract issuing

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agency) and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.

The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules. The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be (identified by the contract issuing agency)- HEEP- BHEL Haridwar. Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at HEEP- BHEL Haridwar. Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor. It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores. In case the disputed amount (Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause. In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose. Disputes having cumulative value of less than 10 crores shall be resolved through arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.

JURISDICTION:

Subject to as mentioned above of this bid / contract, the Civil Court having original Civil Jurisdiction shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.

GOVERNING LAWS: The bid / contract shall be governed by the Law for the time being in force in the Republic of India.

FORCE MAJEURE:

"Force Majeure" shall mean circumstance which is: a) beyond control of either of the parties to contract, b) either of the parties could not reasonably have provided against the event before entering into the contract, c) having arisen, either of the parties could not reasonably have avoided or overcome, and d) is not substantially attributable to either of the parties And Prevents the performance of the contract, Such circumstances include but shall not be limited to: i. War, hostilities, invasion, act of foreign enemies. ii. Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war. iii. Riot, commotion or disorder by persons other than the

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contractor's personnel and other employees of the contractor and sub-contractors. iv. Strike or lockout not solely involving the contractor's personnel and other employees of the contractor and sub-contractors. v. Encountering munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity. vi. Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc. vii. Epidemic, pandemic etc.

The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, go-slow or similar labor difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.

If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event. Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not v) Constitute a default or breach of the Contract. vi) Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure. BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Supplier/Vendor cannot consider deemed short-closure after 1 year of imposition of Force Majeure.

CARTEL FORMATION:

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

FRAUD PREVENTION POLICY:

Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

- a. Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL.
- b. Buyer Added Bid Specific ATC
- c. NIC Bid Technical Conditions of Bid/Contract (TCC)

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NOTE: 1. In the event of our customer order covering this tender being cancelled /placed on hold /otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution. 2. BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL even after negotiation. Any deviation from the conditions specified in TECHNO-COMMERCIAL TERMS AND CONDITIONS, will lead to rejection of offer. 3. Any change in applicable rates of Tax or any other statutory levies (Direct / Indirect) or any new introduction of any levy by means of statute and its corresponding liability for the deliveries beyond the agreed delivery date for reasons not attributable to BHEL will be to vendors account. BHEL will not reimburse the same and any subsequent claim in this respect will be summarily rejected. 4. BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit. 5. The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the banned firms /principal/agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com. 6. Recovery / deduction as applicable as per Direct and Indirect taxes as notified by Govt. Of India from time to time will be made and information/certificate for such deduction/recoveries shall be provided by BHEL to the vendor.

Sign and stamped by bidder

PRE-QUALIFICATION REQUIREMENT

Item: Spring Basket Machined (800 MW) Drg No-11350401070 Matcode (W90413501183)

	Pre-Qualification Requirement	Required	Offered
1.0	<p>Experience:</p> <p>1.1 Vendors should have experience of Fabricating (cutting/bending/welding etc.) or Finished machining, and supplying of atleast 1 no. Assembly in last 15 year from the date of enquiry as per the following details:</p> <p>(i) Dimensions of job: LXBXH = 2mtX1.5mtX0.5mt and above.</p> <p>(ii) Weight: 1.5Tons and above</p> <p>1.2 Vendor to furnish certificate or documentary evidence against clause 1.1 from Customer/end user duly confirming that fabricated or machined assembly was supplied and used for Hydro/Thermal/Nuclear Power plant/ Capital goods/ Infrastructure application</p> <p>OR</p> <p>1.3 Vendor to furnish name of customer with complete contact details along with PO copy, type of manufacturing facility used for fabrication (assly/welding/pre-fabrication machining) or machining, supply documents, payment details and inspection documents of supplied fabricated assembly.</p>	Vendor to Comply & submit suitable evidence including technical specifications, drawings etc.	
2.0	<p>Facility:</p> <p>2.1 Vendor should have facilities for at least one of the below set in-house:-</p> <p>(a) Fabrication facilities as per Clause 3.1.1 to 3.1.4 of TDC-M-11350401070-00.</p> <p>(b) Machining facilities as per Clause 3.2.3 of applicable TDC-M-11350401070-00.</p> <p>2.2 Vendor has to submit relevant supporting documents for both the cases of in-house facilities and facilities allowed at sub-contractor's/sub-vendors works according to clause 3.0 of TDC-M-11350401070-00.</p>	Vendor to Comply & submit suitable evidence including technical specifications, technical brochure, photographs etc. of the in-house facilities. Or of facilities at sub-vendor works.	
3.0	Vendor to provide clause wise confirmation of the TDC-M-11350401070-00 specification.	Vendor to sign and submit clause wise confirmation of TDC.	
4.0	All PQR documents are to be stamped and signed in original by Vendor. In case documents and official stamp is in language other than English, documents and details of official stamp are to be translated in English and duly certified by Government agency/approved agency of Government/Embassy.	Vendor to Comply & submit suitable documents	
5.0	BHEL reserves the right to visit manufacturing facilities of vendor/vendors who provides relevant documents satisfying PQR Clause 1.0 to 2.0, to verify the information provided. In case the information provided by vendor is found to be false/ incorrect, their offer is liable to be rejected.	Vendor to provide consent during submission of documents.	

 HARIDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly	TDC-M-11350401070 REV.NO. 00 Page 1 of 6
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Finish Spring Basket for 800 MW TG as per DRAWING No.11350401070-00

1.0 SCOPE OF SUPPLY:

1.1 Finish Machined Spring Basket as per drawing no. -11350401070-00:

Spring Basket (Machining) as per BHEL drawing no. 11350401070 Var 00 with all components including materials as per Combined Bill of Material No. 11350401070 Var 00. It also includes fabrication of following Assemblies:

- 1.1.1** Spring Basket (welded) as per BHEL drawing no. 11350401071 Var 00 along with all components including materials as per Combined Bill of Material i.e. CBOM no. 11350401071 Var 00. No additional weld joints are allowed (apart from those mentioned in the drawings).

Scope includes procurement of materials, all stage operations including cutting, bending & NDT(RT/DPT/UT) testing during fabrication, pre-fabrication machining of components and also final machining of Spring Basket.


2.0 MATERIAL:

- 2.1** Material of components shall be as per BHEL specifications given in respective CBOMS mentioned in clause 1.
- 2.2** Any alternate material from CBOM, if proposed, shall be informed to BHEL along with offer for review. BHEL may accept or reject the alternate material proposal.
- 2.3** Shot blasted plates/ channels / angles shall be used for fabrication.
- 2.4** Plates of grade AA10119 above 12mm thickness must be in normalized condition.

3.0 MANUFACTURING REQUIREMENTS

3.1 Fabrication of Spring Basket –

- 3.1.1.** Vendor must have levelled bed plate having size: Length= 4000 mm, Breadth=4000 mm and above to fabricate the job (either levelled machined bed plate or bed plate constructed by steel plates is allowed but concrete floor not allowed).
- 3.1.2.** Vendor works must have EOT crane of 5Tons and above with Sufficient Hook height to suit job requirements.
- 3.1.3.** Vendor must have in-house adequate Heavy Welding & testing facilities/Setup capable of supporting the welding requirements facilities for fabrication of Spring Basket.
- 3.1.4.** Vendor must have in-house cutting facility for MS plate of thickness 70 mm and above.
- 3.1.5.** Vendor must have Suitable pre-fabrication machining facility to fulfill machining requirement of item no 2,3 & 4 of CBOM 11350401071-00 as per drg no. 41350401117, 41350401153, 41350401116 respectively.
- 3.1.6.** In case, Vendor has only Machining facility and subcontracting complete fabrication to sub-vendor or any of the Facility mentioned in cl no 3.1.5 is not available in-house with the vendor and it is sub-contracted by the vendor, the vendor shall furnish details of Sub-Vendor and facilities

 HARIDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly	TDC-M-11350401070 REV.NO. 00 Page 2 of 6
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available at sub-contractor's works along with offer and get approval from BHEL. BHEL reserves the right for rejection, if the facility is not up to the mark.

3.2. Machining of Spring Basket:

- 3.2.1 Vendor should have in-house facility for Machining of Spring Basket as per drg no 11350401070-00.
- 3.2.2 Machining of Spring Basket shall start only after inspection and clearance of Spring Basket (welded) as per drg no 11350401071-00 by BHEL/ BHEL nominated agency.
- 3.2.3 The vendor shall furnish technical specifications of following machining facilities for machining fabricated Spring Basket available in-house
 - 3.2.3.1 Vendor works must have EOT crane of 5Tons and above with Sufficient Hook height to suit job requirements.
 - 3.2.3.2 CNC Horizontal Boring machine with rotary table of minimum 3.7mx3.7m and proper head travel for machining of Spring Basket.
 - 3.2.3.3 Vertical Boring machine or Vertical Turning Lathe of suitable size and rotary table for machining wit floor size of 3.7mX3.7m and above, with Jaws & Vertical travel 700mm (min).
- 3.2.4 In case, vendor has only Fabrication facility and subcontracting complete Machining to sub-vendor or any of the Facility mentioned in cl no 3.2.3 is not available in-house with the vendor and it is sub-contracted by the vendor, the vendor shall furnish details of Sub-Vendor and facilities available at sub-contractor's works along with offer and get approval from BHEL. BHEL reserves the right for rejection, if the facility is not up to the mark.
- 3.2.5 All fasteners and technological shims required during machining are to be arranged by the vendor.

4.0 QUALITY REQUIREMENTS:

- 4.1 All dimensions and technical requirements as per BHEL drawings/standards are to be complied and recorded by vendor's quality control (QC) and to be submitted to BHEL for acceptance as per agreed stages. Vendor must ensure all technical requirements meets as mentioned in drawings/standards including surface finish, Size & Tolerances, geometrical accuracies, dimension mentioned as critical etc.
- 4.2 Any non-conformity to any dimension or Technical Requirements of Spring Basket (welded) and Spring Basket (Machining) is to be informed to BHEL on document duly certified by vendor's Quality Control for the approval of BHEL. Vendor shall proceed with the work only after decision given by BHEL on the non-conformity. BHEL reserves the right for rejection of non-conformity and will be final and binding on the vendor.
- 4.3 Testing as per HW0850199 and all the technical requirements mentioned in the Drawing.
- 4.4 Manufacturing Plan and Quality Plan is to be submitted to BHEL for approval along with the offer at enquiry stage. BHEL reserves the right to identify customer hold points (CHPs) in Quality Plan which will be

 HARIDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly	TDC-M-11350401070 REV.NO. 00 Page 3 of 8
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witnessed by BHEL / BHEL nominated agency and beyond which work will not proceed without clearance from BHEL.

- 4.5 All stage inspections should be followed as per quality plan/assembly requirement and its record should be kept by supplier.
- 4.6 Painting process and Quality instructions are to be included in Manufacturing and Quality plan.

5.0 QUALIFICATIONS OF MAN POWER:

- 5.1 Welding shall be carried out by qualified welders as per approved procedure from any of the following third-party agencies Lloyds, TUV, BVQI, EIL and RITES and as per ASME section-IX. Records of qualified welders, WPQ, are to be submitted to BHEL, Haridwar along with the offer.
- 5.2 NDT (Non-Destructive Test) shall be carried out by personnel qualified by ASNT / ISNT or equivalent. (Minimum Level-II qualified personnel required).
- 5.3 All the Instruments used for NDT must be Calibrated at the time of usage, with NABL/AERB accredited labs.

6.0 PROCEDURE QUALIFICATION:


- 6.1 Procedure Qualification Records (PQR) and Welding Procedure Specification (WPS) as per ASME Section-IX, approved from any of the following third-party agencies Lloyds, TUV, BVQI, EIL and RITES, are to be submitted to BHEL along with the offer.
- 6.2 BHEL approved welding consumables are to be used.

7.0 INSPECTION AT VENDOR'S WORKS:

- 7.1 Inspection / stage inspection shall be carried out by BHEL / BHEL nominated agency as per approved Quality Plan and drawings.

8.0 PAINTING & CONSERVATION AND IDENTIFICATION:




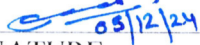
- 8.1 After fabrication, Spring Basket is to be thoroughly cleaned to prepare surface for painting by complete removal of rust, spatter, slag, oil / grease spots etc to meet requirements of Sa2.5 & surface profile of 50-60 microns.
- 8.2 After cleaning internal and external surfaces of Spring Basket are to be coated with one coat of Ethyl Self Curing Zinc Silicate Primer as per IS - 14946 with dry film thickness of 75 microns minimum. Minimum Metallic zinc in dry film must be 75% by weight. All weld seams are not to be painted & are to be protected from any coating.
- 8.3 After machining all components are to be thoroughly cleaned. There should be no chips inside any pocket of the Spring Basket.


 HARIDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly	TDC-M-11350401070 REV.NO. 00 Page 4 of 6
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- 8.4 All machined surfaces are to be suitably protected against rusting, dents, scratches, damage etc during handling at vendor's works and during transit to BHEL.
- 8.5 All openings / holes are to be plugged by wooded or any suitable material to prevent accumulation of machining chips, dust etc.
- 8.6 Painting process & Quality instructions as per special instruction of the Indent/PO.

9.0 TEST CERTIFICATES:

- 9.1 One hard copy and one soft copy of all test certificates like Material test certificates, NDT (Non-Destructive Test) reports, Dimensional reports, Hydraulic & Pneumatic test report, Painting report etc are to be submitted to BHEL for each assembly separately.


MTE	Ranjeet Kumar		06/12/24
EMT	Kapil Sharma		05/12/24
WT	Ravi Deshwal		05/12/24
EME	Vishwadeep Gupta		05/12/24
DEPTT.	NAME	SIGNATURE	DATE

 HARIDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly	TDC-M-11350401070 REV.NO. 00 Page 5 of 6
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ANNEXURE-I

List of drawings / standards to be referred

1. Drg. No. / CBOM..... 11350401070Var00
11350401071Var00
2. Material Specification..... As per CBOM
3. Classification of weld Groups..... HW0620099
4. Test Scope..... HW0850199
5. Preservation TG50008

 HARIDWAR	Technical Delivery Condition for procurement of fabricated / finish component / assembly	TDC-M-11350401070 REV.NO. 00 Page 6 of 6
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RECORDS OF CHANGES					
SL. NO.	PARA NO. / ANNEXURE NO.	DOC. NO. / REV. NO.	REISSUE/ REV. NO.	REVISION DATE	NATURE OF CHANGE
1.					



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

Table of Contents

S. No.	Title	Page No.
1	GENERAL	2
2	ORIGIN OF QUOTATION	2
3	SUBMISSION OF TENDER	2
4	TENDER OPENING	4
5	SPECIFICATION, DRAWINGS & STANDARD	4
6	PRICE SCHEDULE	4
7	REVERSE AUCTION	5
8	DELIVERY TERMS	5
9	LD FOR LATE DELIVERY	5
10	PAYMENT TERMS	6
11	TAXES & DUTIES	7
12	BANK GUARANTEE	10
13	GUARANTEE / WARRANTY AND CORRESPONDING REPAIRS / REPLACEMENT OF GOODS	11
14	QUALITY REQUIREMENT	11
15	VALIDITY	11
16	RIGHT OF ACCEPTANCE	11
17	TRANSIT INSURANCE	12
18	BREACH OF CONTRACT, REMEDIES AND TERMINATION	12
19	FORCE MAJEURE CLAUSE	15
20	CONSEQUENTIAL LOSS	16
21	NON-DISCLOSURE AGREEMENT	16
22	CARTEL FORMATION	16
23	SETTLEMENT OF DISPUTES / ARBITRATION	16
24	JURISDICTION	18
25	DEMURRAGE RESPONSIBILITY	19
26	CONDITIONS FOR AVAILING MSE BENEFITS	19
27	INFORMATION TO THE BIDDERS	20
28	MAKE IN INDIA (GOVT-NOTIFICATION)	20
29	RESTRICTIONS UNDER RULE 144(XI) OF GFR-2017	21
30	NOTE	22
31	Annexure-1 (Format for NDA-One Sided)	24
32	Annexure-2 (Format for NDA-Both Sided)	31
33	Annexure-3 (Format for Treatment of cases regarding conflict of interest)	36



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

1. GENERAL

These general terms & conditions shall apply to all Tender Enquiries, Notice Inviting Tenders, Request for Quotations concerning the supply of goods and / or rendering of services to Bharat Heavy Electricals Ltd, HEEP, Haridwar (hereinafter referred to as BHEL or the Purchaser). In case of placement of order, these conditions will become part of Purchase Order (P.O.) until unless the deviations are specifically agreed by BHEL.

2. ORIGIN OF QUOTATION

A bidder shall not have conflict of interest with other bidders. Bidders having a conflict of interest shall not be eligible to participate in the tender process.

In this regard, the declaration given in Annexure-3 regarding “Conflict of interest” is required to be submitted by bidders alongwith the tender, which should be signed by the authorized signatory of the bidder.

3. SUBMISSION OF TENDER

- a) Bid / Quotation must be enclosed in sealed cover on which tender enquiry number and the due date MUST BE written and be invariably sent under REGISTERED POST / SPEED POST / COURIER / Dropped in the Tender Box: addressed as follows:

Quotation against Enquiry No. _____

Dated: _____

Due on: _____

To,

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

Bid/Quotation can also be submitted through email communication at email address: tendercell.heep@bhel.in.

All vendors submitting their bids through e-mail are advised to have following clear subject line: -



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

1. Tender Enquiry Reference No. _____

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

Vendor to submit their bids as attachment (pdf format) with password protection and share the password through mail (tendercell.heep@bhel.in) after 1.45 pm (IST) on the day of bid opening. However, if no password is received up to 4.00 pm (IST) bids will not be opened and will be ignored. Submission of bids through email shall be considered as consent to open the bid without physically witnessing the event. The total size of the mail including both attachments must not exceed 25 MB.

- b) TENDER ROOM is located at: Room No. - 415, 4th Floor, Main Admin. Building, BHEL-HEEP, Haridwar. In case of Three/Two Part Bid, technical bid containing technical offer, duly signed and un-priced copy of the Price Bid should be kept in one envelope. Price Bid containing only the price should be kept in a separate envelope. All envelopes indicating Part-1 or Part-2 or Part-3 as the case may be to be put in a bigger envelope. Please note that un-priced bid should be the exact replica of price bid but without prices.
- c) The bid / quotation must be posted before due date, keeping allowance for postal transit time. Quotations sent by any mode but not received in time will be ignored. Tender received through authorized E-mail is also acceptable. However, in time submission of tender in tender box shall be the responsibility of the bidder, sent through any mode. Documents submitted with the offer / bid shall be signed and stamped in each page by authorized representative of the bidder.
- d) Any additional documents submitted by supplier / bidder, during processing of registration application/tender or after placement of order shall not be accepted unless it is submitted with forwarding letter and duly signed and stamped.
- e) The bids of the bidders who are on the debarred list and also the bids of the bidders, who engage the services of the debarred firms, shall be rejected. The list of firms debarred by BHEL is available on BHEL web site www.bhel.com. Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.
- f) Being PMD vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list.
- g) The bidders will submit Integrity Pact, duly signed by their authorized signatories, along with their bids wherever applicable as per tender terms.
- h) In case of open tender, technically qualified unregistered bidders may apply online for registration through <https://www.bhel.com/supplier-registration>.
- i) BHEL reserves the right to award tendered quantities among more than one bidder (after acceptance of L1 price by the other bidders). BHEL can also consider awarding of part of the tendered quantity to other than L-1 bidder at L1 counter offered rates, if the quantity offered by the L-1 bidder is less than the quantity tendered for.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- j) In case of e-Tendering (Online bidding through e-portal), offline bid submitted in hard copy or in any other form by the vendor / supplier will not be accepted and will be rejected outright. Only e-portal bid will be accepted.
- k) No interest shall be payable on the security deposit or any other money due to the supplier.

4. TENDER OPENING

Tender opening is scheduled to start in the Tender Room at 2:00 PM, on the due date. Therefore, bid/ quotations must reach this office/tender Box latest by 1:45 PM on due date. Only participating bidders are allowed to attend tender opening. **TENDERS RECEIVED AFTER THE SPECIFIED TIME OF THEIR 'SUBMISSION' WILL BE TREATED AS LATE TENDERS AND SHALL NOT BE CONSIDERED UNDER ANY CIRCUMSTANCES.** The bidders or their authorized representatives may be allowed to attend tender opening if duly authorized by their principals, through a tender specific letter on that particular day. General authorization letter is not acceptable.

5. SPECIFICATION, DRAWINGS & STANDARD

- a) Bidders must give their detailed specification in the quotation along with relevant technical literature/ catalogue etc. against the tender enquiry.
- b) The Bid should be accompanied with relevant copies of catalogues, drawings or specification as per tender enquiry. If these documents are not furnished, the offer is liable to be rejected.
- c) Wherever national / international (N/IN) standards are referred, the latest N/IN standards are to be followed. Mention year & date of standard revision that shall be followed for the supply.
- d) All Drawings and Standards are proprietary of BHEL. It must not be used in any way detrimental to the interest of BHEL or without permission of BHEL.

6. PRICE SCHEDULE

- a) Kindly quote your prices in figures and words both. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 status.
- b) Prices quoted should not be more than the prices quoted to any other BHEL units / offices / divisions. Vendor to submit copy of latest Purchase Order placed by any unit of BHEL for similar items in the technical bid. In case no order has been placed on such items, specific confirmation that no order has been placed on such items should be provided.
- c) Prices should be quoted on F.O.R. Destination basis. The offers quoted on other than F.O.R destination basis may result in non-consideration of such bids.
- d) In case BHEL accepts the EX-Works prices, such offers will be loaded by 1.5% of EX-Works value towards freight or with actual freight charges as per BHEL freight rate contract whichever is higher.
- e) Applicable IGST / CGST / SGST and any other statutory levy should be indicated separately and clearly in the bid / quotation.
- f) If it is not otherwise specified by BHEL, bidders can dispatch goods through any Indian Bank Association approved transporter.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- g) Any demurrage/godown rent payable to the transporter or godown's owner due to any delay attributed by the supplier shall be recovered from supplier's account.
- h) Currency of Evaluation shall be INR.

Note: Financial evaluation of L1, L2 Status will be on the basis of Landed Cost to BHEL.

7. REVERSE AUCTION

Wherever Reverse Auction (RA) is declared in the special terms and conditions of tender enquiry, the following shall be applicable and Bidders to confirm their acceptance for the same:

"BHEL shall resort to Reverse Auction (RA) for this tender (RA Guidelines are available at www.bhel.com).

Price bids of all eligible techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder does not participate in online Reverse Auction, the bidder's sealed envelope price bid along with the applicable loading, if any, shall be considered for ranking."

8. DELIVERY TERMS

- a) Goods shall be delivered on 'FOR Destination' basis to the named destination unless otherwise called for in the tender enquiry.
- b) Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.

9. LIQUIDATED DAMAGES (LD) FOR LATE DELIVERY

a) Where items of Purchase Order are independently usable

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on the value of respective delayed supplies subject to a maximum of 10% of the value of respective delayed supplies. Value of delayed supplies will mean the Gross Value payable to the vendor (Before LD) against such supplies excluding taxes and duties.

b) Where the total items are required for a main equipment and items are interdependent

Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on total value of Purchase Order subject to maximum of 10% of the total value of Purchase Order. Purchase Order value for this purpose shall be the Total Gross Value payable to the vendor (Before LD) excluding taxes and duties.

- c) Bidders are requested to quote the best delivery meeting the delivery requirements. BHEL reserves the right to reject the offers not meeting BHEL's delivery requirement.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- d)** Bidder shall deliver the goods in the manner and schedule agreed under the terms and conditions of Purchase order.
- e)** **Delivery in Case of Rejection:** In case the material is rejected, then date of replacement will be considered as the actual date of delivery.
- f)** **Delivery Against Bank Documents:** In case payment terms quoted by bidder are documents through bank, and the delivery terms being "FOR Haridwar / FOR Transporter Godown" then date of delivery will be date of intimation by transporter / bidder of delivery of material at Haridwar for the LD purpose.
- g)** Where the payments are through bank, the documents may be presented for negotiation to BHEL authorized/ nominated bank.
- h)** BHEL may load maximum penalty under LD clause, to the extent the same is not agreed by the bidder, for the purpose of working out the comparative statement of prices of bidders.
- i)** Payment of Liquidated Damages (LD) shall not in any way relieve the vendor from any of its obligations & liabilities under the contract.
- j)** Liquidated Damages, wherever referred under this Tender/Agreement, shall mean and refer to the damages, not in the nature of penalty, which the supplier agrees to pay in the event of delay in delivery of stores, installation, commissioning, breach of contract etc. as the case may be. Liquidated Damages leviable upon the supplier is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by BHEL on account of delay/breach on the part of the supplier. Grant of any provisional time extension shall by no means be considered as waiver of BHEL rights under the contract or law.

10. PAYMENT TERMS

- a) BHEL's standard payment term is Payment after receipt and acceptance of materials / items at HEEP, BHEL-Stores or at desired destination unless otherwise specified in Special Terms attached to the tender enquiry.
- b) BHEL reserves the right to accept or reject the offer of the bidder who quotes the payment term other than BHEL's standard payment term.
- c) Loading on account of deviation in payment terms shall be done as per extant rules of BHEL-Haridwar.
- d) 100% payment along with taxes, freight & insurance shall be made within 90/ 60/ 45 days (as applicable) from material entry date subject to submission of non-discrepant documents by vendor and acceptance of material by BHEL as per terms and conditions of Purchase Order. In case of any objection in documents/acceptance of material, the same shall be informed to vendor within 15 days of delivery of the material. In such a case, the payment shall be made to the vendor within 90/ 60/ 45 days (as applicable) of the day such objection is removed by the vendor.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- e) For MSMEs (covered under MSME Act), wherever such status claimed by vendor and accepted by BHEL, the payment shall be made within 45 days for Micro and Small category and 60 days for Medium category from material entry date or as prescribed in the relevant act. Other conditions w.r.t. submission of dispatch documents and acceptance of material shall remain the same as elaborated above in Sl. No. 10(d).
- f) Adherence to the above time schedule of payment is contingent upon Vendor complying with GST Rules w.r.t. avilment of Input Tax Credit by BHEL.
- g) In case GST credit is delayed / denied to BHEL, due to non / delayed receipt of goods and / or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reason not attributable to BHEL, GST amount shall be recoverable from Vendor along with interest levied / leviable on BHEL.
- h) The taxes and duties that are reimbursed would be the ones applicable as on the contractual Purchase order delivery date or the amount actually paid whichever is less.
- i) **The loading criteria for the different payment terms shall be as under:**

Payment Terms	Days of Loading
From material entry date within 90 /60/ 45 (as applicable) days of supply.	No Loading
Against documents through bank (CAD):	60 days – For Micro & Small categories; 75 days – For Medium Category; 105 days – For Normal Category
Letter of Credit (LC)	120 days
Usance LC	No Loading if usance period is > 120 Days.
	Loading of days difference i.e. difference between 120 days and usance period if the usance period is < 120 days.

*Loading for any deviation in the payment terms wrt NIT terms shall be done as follows:

Base rate of SBI (as applicable on the date of bid opening; techno-commercial bid opening in case of 2-part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.

11. TAXES & DUTIES

- a) The Supplier/Vendor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit along with the



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

applicable overheads @5% and interest on the total value (i.e. amount paid by BHEL + overhead). However, provisions regarding **GST** on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.

b) GST (Goods and Services Tax)

1. GST as applicable on output supply (goods/services) are excluded from Supplier/Vendor's scope; therefore, contractor's price/rates shall be **exclusive** of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.
2. The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Supplier/Vendor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Supplier/Vendor.
3. Supplier/Vendor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Supplier/Vendor.
4. Supplier/Vendor has to submit GST registration certificate of the concerned state. Supplier/Vendor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.
5. Supplier/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.
6. Supplier/Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, Supplier/Vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.
7. Supplier/Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.
8. Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Supplier/Vendor: -
 - a) Supply of goods and/or services have been received by BHEL.
 - b) Original Tax Invoice has been submitted to BHEL.
 - c) Supplier/Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- d) In cases where e-invoicing provision is applicable, Supplier/Vendor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder.
 - e) Supplier/Vendor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return.
 - f) Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the Supplier/Vendor.
 - g) Supplier/Vendor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.
9. Any financial loss arising to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from Supplier/Vendor's bill or otherwise as deemed fit.
10. TDS as applicable under GST law shall be deducted from Supplier/Vendor's bill.
11. Supplier/Vendor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permit, all e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.
12. Supplier/Vendor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of Supplier/Vendor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.
13. In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Supplier/Vendor's due payment.
14. Any denial of input credit to BHEL or levy of any tax liability on BHEL due to non-compliance of GST Law by the Supplier/Vendor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Supplier/Vendor.
15. In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the Supplier/Vendor.
16. Variation in Taxes & Duties:
Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its Supplier/Vendor only and within the contractual delivery period only.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/ Supplier/Vendor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

c) INCOME TAX:

TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from Supplier/Vendor's bill.

d) IMPORTED GOODS OFFERED BY INDIAN BIDDERS AGAINST DEALER INVOICE:

Wherever the material being offered is imported, the bidder must quote the prices inclusive of IGST. The rate and value of IGST as included in the price must be indicated separately. In case quantum of IGST is not mentioned by the bidder the same will not be considered for evaluation. However, bidder will have to pass on the benefit of IGST to BHEL at the time supply.

- e) In case of directly dispatchable items to Customer's Site, BHEL-Haridwar will inform the GST registration number of the respective customer which must be mentioned on the vendor's invoice. Vendor to ensure availability of such information from BHEL-Haridwar before dispatch of any material. However, while filing GSTN-1, BHEL Haridwar GSTN number to be quoted.

Note: - Vendors must ensure compliance of all the applicable rules and procedure as envisaged in the GST Regime. Any loss to BHEL-Haridwar due to fault / non-compliance by the vendor will be to the vendor's account.

12. BANK GUARANTEE

In case the bank guarantees are required to be deposited towards security deposit/performance guarantee or for any other purpose as per the terms of this tender enquiry, such bank guarantees of the requisite value in the denominated currency of the purchase order should be from one of the Indian branches of BHEL consortium banks and the bank guarantee should be in the proforma as prescribed by BHEL. The proforma of bank guarantee and the list of consortium banks are displayed at BHEL website <https://hwr.bhel.com>. However, in case the bank guarantee is not from BHEL consortium banks, then the bidder has to get the bank guarantee confirmed from one of the Indian branches of BHEL consortium banks and the bank charges for such confirmation will be borne by the bidder.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

13. GUARANTEE / WARRANTY AND CORRESPONDING REPAIRS / REPLACEMENT OF GOODS

- a) Goods shall comply with the specifications for material, workmanship and performance. Unless otherwise specified, the warranty shall be for a period of 18 months from the date of receipt. If the delivery is found non-compliant during the warranty period, leading to rejection, the Seller shall arrange free replacement / repair of goods, within one month from the date of intimation or any mutually agreed period. The rejected goods shall be taken away by the Seller at his cost and replaced on Delivered Duty Paid (DDP) or FOR - BHEL Stores / designated destination basis within such period. In the event of the Seller's failure to comply, Purchaser may take action as appropriate based on the contract conditions. In case the defects attributable to Seller are detected during processing of the goods at BHEL or at our subcontractor's works, the Seller shall be responsible for free replacement / repair of the goods as required by BHEL.
- b) **RETURN OF REJECTED MATERIAL FOR REPLACEMENT:** The bidder shall have to pay 5% incidental charges while taking back supplied material if it is found rejected on receipt. The rejected material shall be sent back only after receipt of replacement / submission of BG / refund of amount paid.

14. QUALITY REQUIREMENT

- a) The vendor's bid / quotation should have specific confirmation regarding meeting all our quality requirements such as (i) Test Certificate (TC) (ii) Guarantee Certificate (GC) / Warranty Certificate (WC) (iii) Quality Plan (QP) (if applicable) and (iv) Pre-Dispatch Inspection at vendor's works (if applicable).
- b) For Indian suppliers, the 3rd party inspection charges are paid by BHEL. Hence, in all such cases, where bids have been received from both Indian and Foreign bidders, the offers of Indian bidders shall be loaded by 0.20% to work out the comparative status of the prices.

15. VALIDITY

The quotation should be valid for a minimum period of 90 days effective from the date of opening of tender, unless otherwise specified in the tender enquiry.

16. RIGHT OF ACCEPTANCE

- a) 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.
- b) Any discount / revised offer / bids submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- c) Unsolicited discounts / revised offers / bids given after Part-1 bid opening shall not be accepted. No change in price will be permitted within the validity period asked for in the tender enquiry.
- d) In case of changes in scope and / or technical specification and / or commercial terms & conditions having price implication, techno-commercially acceptable bidders shall be asked by BHEL to submit the impact of such changes on their price bids. In case a bidder opts to submit revised price bid instead of impact called for then the latest price bid shall prevail. However, in both situations, original price bid will be necessarily opened.
- e) The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned after finalization of contract. EMD shall be forfeited in the event of bidder opting out after tender opening.
- f) BHEL reserves the right to short close the existing Purchase Order / Rate Contract / Work Order or any extension thereof at any stage.

17. TRANSIT INSURANCE

- a) In case of Ex-Works dispatch by seller, Transit Insurance will be covered by BHEL under its open Insurance Policy. Seller shall inform dispatch particulars (Purchase Order, RR /GR, Invoice value etc.) to "Finance department (Store bill Section), BHEL, Ranipur, Haridwar (Uttarakhand-India) with a copy to the Purchaser within 7 days of dispatch for BHEL to arrange insurance coverage in its policy. Failure on the part of seller to inform dispatch particulars will make him liable to pay for any transit damages/ losses suffered by the Purchaser.
- b) In case of FOR Destination dispatch by seller, Transit Insurance shall be arranged by seller.

18. BREACH OF CONTRACT, REMEDIES AND TERMINATION

BREACH OF CONTRACT:

The following shall amount to breach of contract:

- i. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time.
- ii. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period.
- iii. The Supplier/Vendor delivers equipment/ material not of the contracted quality.
- iv. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause.
- v. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract.
- vi. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

viii. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor.

ix. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.

x. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

Note- Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.

In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

REMEDIES IN CASE OF BREACH OF CONTRACT:

- 1- Wherein the period as stipulated in the notice issued under above clause has expired and Supplier/Vendor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.
- 2- Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Supplier/Vendor. This amount shall be recovered by way of encashing the security instruments like performance bank guarantee etc available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the Supplier/Vendor, retention amount, from the money due to the Supplier/Vendor etc. with BHEL) or the other legal remedies shall be pursued.
- 3- Wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
- 4- In case the amount recovered under sub clause (a) above is not sufficient to fulfil the amount recoverable then; a demand notice to deposit the balance amount within 30 days shall be issued to Supplier/Vendor.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- 5- If Supplier/Vendor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:
 - a. from dues available in the form of Bills payable to defaulted Supplier/Vendor against the same contract.
 - b. If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Supplier/Vendor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.
- 6- In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier/Vendor.
- 7- It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Supplier/Vendor for the purpose of estimation of damages.
- 8- In addition to the above, imposition of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

Note:

1. The defaulting Supplier/Vendor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:
 - a) In case defaulted Supplier/Vendor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.
 - b) In case defaulted Supplier/Vendor is The Partnership Firm, any firm comprising of same partners/ some of the same partners; or sole proprietorship firm owned by any partner(s) as a sole proprietor.

LD against delay in executed supply in case of Termination of Contract:

LD against delay in executed supply shall be calculated in line with LD clause no. 18.0 below, for the delay attributable to Supplier/Vendor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of supply till termination of contract.

Method for calculation of "LD against delay in executed supply in case of termination of contract" is given below.

- i. Let the time period from scheduled date of start of supply till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed supply till the time of termination of contract = X
- iii. Let the Total Executable Value of supply for which inputs/fronts were made available to Supplier/Vendor and were planned for execution till termination of contract = Y



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

iv. Delay in executed supply attributable to Supplier/Vendor i.e. $T2 = [1 - (X/Y)] \times T1$

v. LD shall be calculated in line with LD clause (clause 18.0) of the Contract for the delay attributable to Supplier/Vendor taking "X" as Contract Value and "T2" as period of delay attributable to Supplier/Vendor.

19. FORCE MAJEURE CLAUSE

1. "Force Majeure" shall mean circumstance which is:

- a) beyond control of either of the parties to contract,
- b) either of the parties could not reasonably have provided against the event before entering into the contract,
- c) having arisen, either of the parties could not reasonably have avoided or overcome, and
- d) is not substantially attributable to either of the parties

And

Prevents the performance of the contract.

Such circumstances include but shall not be limited to:

- i. War, hostilities, invasion, act of foreign enemies.
 - ii. Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war.
 - iii. Riot, commotion or disorder by persons other than the contractor's personnel and other employees of the contractor and sub-contractors.
 - iv. Strike or lockout not solely involving the contractor's personnel and other employees of the contractor and sub-contractors.
 - v. Encountering munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity.
 - vi. Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc.
 - vii. Epidemic, pandemic etc.
2. The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, go-slow or similar labour difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.
3. If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event.
4. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event.

5. Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not-
 - i. Constitute a default or breach of the Contract.
 - ii. Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.
6. BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Supplier/Vendor cannot consider deemed short-closure after 1 year of imposition of Force Majeure

20. CONSEQUENTIAL LOSS

Neither party shall be liable to the other for any indirect or consequential loss or damage, including but not limited to loss of use, loss of profits, or loss of contracts, or special, punitive, exemplary losses whatsoever arising out of or in connection with this contract.

21. NON-DISCLOSURE AGREEMENT

The bidders shall enter into the Non-disclosure agreement separately. Format attached.

22. CARTEL FORMATION

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

23. SETTLEMENT OF DISPUTE/ ARBITRATION

Settlement of Dispute -

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Supplier/Vendor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place referred to Designated Engineer for amicable resolution by the parties. Designated Engineer (to be nominated by BHEL for settlement of disputes arising out of the contract) who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Supplier/Vendor who shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

**General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)**

For Indian Bidders (Version Jun-2025, Rev: 08)

If after the Designated Engineer has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Supplier/Vendor being dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018 as per below.

CONCILIATION

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in - "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com)).

ARBITRATION

- 1- Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in above clause or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, refer the disputes to Arbitral Institution i.e. Delhi International Arbitration Centre and such dispute to be adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution.
- 2- A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution. The Notice shall be addressed to the Head of the Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.
- 3- After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institution i.e. Delhi International Arbitration Centre and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retired Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged

- 4- The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.
- 5- The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be Haridwar.
- 6- The Governing law of contract shall be the substantive law of India.
- 7- Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at Haridwar.
- 8- Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.
- 9- It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores.
- 10- In case the disputed amount Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.
- 11- In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose of clause 14.2.9. Disputes having cumulative value of less than 10 crores shall be resolved through arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.
- 12- **In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:**
In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 05/0003/2019-FTS-10937 dated 14-12-2022 as amended from time to time.

24. JURISDICTION

The Court situated at Haridwar shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

GOVERNING LAWS

The contract shall be governed by the Law for the time being in force in the Republic of India.

25. DEMURRAGE RESPONSIBILITY

In the event of delay in receipt of documents by Manager (Stores-Shipping) BHEL-Haridwar and in case where dispatches are made through Unapproved Transporter the sole responsibility for demurrage for such delay shall be that of supplier.

26. CONDITIONS FOR AVAILING MICRO & SMALL ENTERPRISES (MSE) BENEFITS

MSE Suppliers can avail the intended benefits only if they submit valid "Udhyam Registration certificate" with the offer.

1. However, credentials of all MSE suppliers will be verified before advancing the intended benefits.
2. MSE bidders claiming SC/ST status will have to submit SC/ST certificate of the Proprietor from competent authority. Attested (notarized or attested by Gazetted officer) copy to be submitted along with the offer.
3. In case techno-commercial accepted bidders include MSE source and their prices (based on landed cost – considering quoted prices) are within the price band of 15% w.r.t. L-1 bidder, then BHEL can offer **25%** of quantity of respective item (rounded off to nearest number) to MSE bidders at L-1 price and in case, more than one MSE bidder is in 15 % band and the same is accepted by more than one MSE bidders then **25%** quantities of respective items will be considered for ordering on proportionate basis amongst MSE bidders.
4. There will be minimum of 3% reservation for women owned MSEs within the above mentioned 25% reservation.
5. The reservation for MSEs owned by SC/ST will be 6.25% {25% out of target of 25% - refer para 4 of Public Procurement Policy for the Micro and Small Enterprises (MSEs)}.
6. The definition of MSEs owned by Women Entrepreneurs is clarified as under:
 - a) In case of proprietary MSE, proprietor shall be Woman.
 - b) In case of partnership MSE, the Woman partners shall be holding at least 51% of share in the unit.
 - c) In case of Private Limited companies, at least 51% share shall be held by Women promoters.
7. The definition of MSEs owned by SC/ST is clarified as under:
 - a) In case of proprietary MSE, proprietor(s) shall be SC/ST.
 - b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% of shares in the unit.
 - c) In case of Private Limited companies, at least 51% share shall be held by SC/ST promoters.
8. While distributing the **25%** quantity amongst MSE bidders the decimal points in quantity shall be ignored for all the bidders except the L-1 amongst MSE bidders. Balance quantity after allocating the quantity to other MSE bidders ignoring the quantities in decimal, shall be given to L-1 (amongst MSE) bidder. However, if there are more than one MSE bidder at the same price level than preference for additional quantities due to ignoring off the decimal (as mentioned above) shall be given to the bidder



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

offering favorable terms to BHEL and if the conditions offered are also same then preference will be given to the bidder having high SPR rating.

9. In case there are more than one MSE bidders (with different landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given to the MSE bidder with lowest landed cost.
10. In case there are more than one MSE bidders (with same landed cost to BHEL) within 15% price band of lowest bidder and quantity to be offered is 1 no. only, then preference shall be given first, based on the favorable terms in the bid and in case terms are also same, the bidder with high SPR rating shall be given preference.
11. If L1 bidder is MSE bidder, entire quantity will be given to such MSE bidder only.
12. Note: It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail.
13. As per the OM No. F.No. 1(2)(1)/2016-MA dtd. 09.02.2017 issued from the Office of Development Commissioner (Micro, Small & Medium Enterprises), Traders and agents should not be allowed to avail the benefits extended under the PP Policy. In view of this, it is clarified that benefits of MSE (such as EMD Waiver, Tender fee exemption, Price preference, Payment preference etc.) will be given only to those MSE Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stockists / Dealers / Traders etc. for the items offered but not manufactured by themselves.

27. INFORMATION TO THE BIDDERS

- a) Purchase related information is available at our Business-to- Business (B2B) Portal available on our website <https://hwr.bhel.com> . The user ID & password can be obtained by sending a request to concerned purchase executives.
- b) Intimate your change in mail address or communication address or changes, if any, by email to AGM (SDX/MM) giving your bidder Code.
- c) Please resolve your rejections and unexecuted overdue purchase order immediately which are posted at our B2B Portal, which can be visited through our site <https://hwr.bhel.com>
- d) The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.
- e) Supplier must upload digitally signed e-Invoice on B2B portal for processing of Bills.

28. MAKE IN INDIA (GOVT-NOTIFICATION)

- A. For this procurement, the local content to categorize a supplier as Class-I local supplier / Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 19.07.2024 issued by DPIIT. In case of



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against the NIT.

- B. Vendors shall specifically confirm if they are Class-I local supplier or Class-II local supplier or not as per the above-mentioned notification. Accordingly, the 'Class-I local supplier' / 'Class-II local Supplier' at the time of bidding shall be required to indicate percentage of local content and provide self-certification that the offered item meets the local content requirement for 'Class-I local supplier' / 'Class-II local Supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
- C. In cases of Procurement for a Value in Excess of Rs. 10 Crores, the 'Class-I local supplier' / 'Class-II local Supplier' shall be required to provide a Certificate from the Statutory Auditor or Cost Auditor of the Company (in the case of companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of suppliers other than companies) indicating the percentage of Local Content.
- D. For contracts valuing more than Rs 10 crores, local content (in cases of self-certification submitted by bidders at the time of tendering) will be re-verified during execution of contract by Cost/Chartered Accountant, and in case of defaults, penalty upto 10% of the contract value shall be imposed.

29. RESTRICTIONS UNDER RULE 144(XI) OF THE GENERAL FINANCIAL RULES (GFRs), 2022

All provisions of Order No. F.No.7/10/2021-PPD(1) dated 23/2/2023 of Department of Expenditure (DoE) shall be applicable for this tender enquiry (Order copy is available at <https://doe.gov.in/procurementpolicy-divisions>).

Accordingly, any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority, specified in Annexure I of the said Order of DoE.

The definition of Bidder from a country which shares a land border with India shall be as defined at Sl.No. 12 of the said order.

Registration with the competent authority as stipulated in the said order shall be responsibility of the bidder.

Bidder has to submit a certificate certifying following along with the offer:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that bidder (.... Name of Bidder) is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that bidder (.....Name of bidder) fulfils all requirements in this regard and is eligible to be considered"



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

If the bidder is from such country which shares a land border with India, the evidence of valid registration by the Competent Authority shall be attached along with offer. Registration of the bidder with Competent Authority should be valid at the time of submission of bids and at the time of acceptance of the bids.

30. NOTE

- a) Special conditions of enquiry, if enclosed by BHEL, will supersede the respective standard / general terms of enquiry.
- b) Any other Standard terms and Conditions of the bidder attached / referred against the tender enquiry will be treated as null and void ab initio.
- c) In the event of our customer order covering this tender being cancelled /placed on hold /otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution.
- d) If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in malpractices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on [www. bhel.com](http://www.bhel.com) and/or under applicable legal provisions Guidelines for Suspension of Business Dealings with Suppliers / Contractors shall prevail which is available at BHEL website <http://www.bhel.com>.
- e) Any change in applicable rates of Tax or any other statutory levies (Direct / Indirect) or any new introduction of any levy by means of statute and its corresponding liability for the deliveries beyond the agreed delivery date for reasons not attributable to BHEL will be to vendors account. BHEL will not reimburse the same and any subsequent claim in this respect will be summarily rejected.
- f) BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit.
- g) The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the banned firms /principal/agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.
- h) The bidder along with its associate / collaborators / subcontractors / sub-vendors / consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL-Management about any fraud or suspected fraud as soon as it comes to their notice.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

- i) BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below;
1. **Victim:** Any person who suffers permanent disablement or dies in an accident as defined below.
 2. **Accident:** Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious, occurrence caused during the manufacturing / operation and works incidental thereto at BHEL factories/ offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving , overhaul, renovation and retrofitting , trial operation, performance guarantee testing undertaken by the company or during any works / during working at BHEL Units/ Offices/ townships and premises/ project sites.
 3. **Compensation in respect of each of the victims:**
 - i. In the event of death or permanent disability resulting from Loss of both limbs: Rs. 10,00,000/- (Rs. Ten Lakh).
 - ii. In the event of other permanent disability: Rs. 7,00,000/- (Rs. Seven Lakh).
 4. **Permanent Disablement:** A disablement that is classified as a permanent total disablement under the proviso to Section 2(I) of the Employees Compensation Act, 1923."
- j) The bidder must comply with applicable laws, rules and regulations throughout the terms of the contract for conducting business and fulfilling obligations under this contract.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

**General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)**

For Indian Bidders (Version Jun-2025, Rev: 08)

Annexure-1

ONE SIDED

NON-DISCLOSURE AGREEMENT

THIS NON DISCLOSURE AGREEMENT (this "Agreement") entered into on this day of June, 20.. (the "Effective Date") By and Between **Bharat Heavy Electricals Limited (a Public Sector Undertaking of Government of India)**, a company incorporated under the Companies Act, 1956 and having its registered office at having its registered office at "BHEL House", Siri Fort, New Delhi - 110 049, India (hereinafter referred to as "**BHEL**" of which the expression shall unless repugnant to the context or the meaning thereof be deemed to include its successors and permitted assigns) (hereinafter referred to as "BHEL"),

And

ABC, a Company incorporated under the laws of and having its registered office at (hereinafter referred to as "ABC").

The party who is receiving information would be referred as Receiving Party and the party who is disclosing information would be referred as Disclosing Party, as the context requires.

WHEREAS

(A) The Disclosing Party and The Receiving Party wish to explore and discuss the potential of certain mutually advantageous business relationships for _____, for the purpose ofproducts in India ('the Purpose');

(B) The Disclosing Party, in furtherance of such business relationship, will disclose certain information, including but not limited to, scientific, development, financial, marketing, sales or other proprietary information;

(C) The Receiving Party and the Disclosing Party wish to protect and preserve the confidentiality of such information provided by the Disclosing Party to the Receiving Party by preventing its unauthorized disclosure and use, in accordance with the terms of this Agreement; and

(D) The Receiving Party agrees to hold such information in strict confidence and not to disclose or to use, directly or indirectly, for any purpose other than the performance of this Agreement

NOW, THEREFORE and in consideration of the promises made herein, their mutual and individual interests, and other good and valuable consideration, the receipt and sufficiency of all of which is hereby acknowledged, the Parties agree as follows:

1. PURPOSE: Purpose to ne mentioned here.

2. DISCLOSING PARTY. means a Party that discloses the confidential information to the other party under this agreement.

3. RECEIVING PARTY means a Party that receives the confidential information from the other party under this agreement.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

4. Confidential Information

(a) Subject to the provisions of this Agreement, all information disclosed by the Disclosing Party to the Receiving Party, shall be deemed to be "Confidential Information" for the purposes of this Agreement.

(b) (i) It is clarified that Confidential Information shall include, but is not limited to, any trade secret, technique, strategy, component, concept, program, report, study, memorandum, correspondence, documentation, information, manual, record, data, technology, product, plan, design, procedure, method, invention, sample, notes, summaries, analyses, compilations and other writings, producing any such sample, medium, test data relating to any research project, work in progress, future development, engineering, manufacturing, marketing, pricing, billing, servicing, financing, personnel matter, its present or future products, sales, suppliers, clients, customers, employees, investors, or any other information which the Disclosing Party provides to the Receiving Party whether in oral, written, graphic or electronic form and whether or not such information is identified as such by an appropriate stamp or marking. The Confidential Information shall also include all reports, notes or other material prepared by the Receiving Party based on the Confidential Information and/ or any discussion thereon.

(ii) Confidential Information includes information disclosed by the Disclosing Party or by any individual, firm or corporation controlled by, controlling, or under the common control of the Disclosing Party.

(c) Confidential Information shall not include any information which the Receiving Party can demonstrate to the Disclosing Party:

(1) is now, or has become, through no act or failure to act on the part of the Receiving Party, generally known or available to the public;

(2) is known by the Receiving Party at the time of receiving such information as evidenced by its records;

(3) is discovered/independently developed by the Receiving Party independent of any disclosures by the Disclosing Party; or

(4) is hereafter furnished to the Receiving Party by a third party, as a matter of right and without restriction on disclosure.

(d) Notwithstanding any other provision of this Agreement, the Receiving Party shall be permitted to disclose Confidential Information if such disclosure is in response to a valid order of a court or other governmental body, provided, however, that the Receiving Party shall be required to give prior notice in writing to the Disclosing Party so that the Disclosing Party may seek an appropriate protective order including that the Confidential Information so disclosed be used only for the purposes for which the order was issued;

5. Disclosure

In consideration of the disclosure of Confidential Information, the Recipient hereby agrees to:

(a) Shall treat as confidential and safeguard all information disclosed and/or its Affiliates in connection

(b) to hold the Confidential Information in strict confidence and to take all necessary precautions to protect such Confidential Information (including, without limitation, all precautions the Recipient employs with respect to its own confidential materials);

(c) limit disclosure of any Confidential Information to its concerned directors, officers and employees, (collectively "Representatives") strictly only to who have a need to know such Confidential Information in connection with the Transaction between the parties to which this Agreement relates, and only for that purpose;

(d) advise its Representatives of the proprietary nature of the Confidential Information and of the obligations set forth 2 in this Agreement and require in writing such Representatives to keep the Confidential Information confidential;

(e) shall keep all Confidential Information strictly confidential by using a reasonable degree of care, but not less than the degree of care used by it in safeguarding its own confidential information;

(f) not disclose any Confidential Information received by it to any third party; and



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

**General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)**

For Indian Bidders (Version Jun-2025, Rev: 08)

- (g) not to copy or reverse engineer any such Confidential Information.
- (h) not to use the Confidential Information for any purpose other than the Transaction.
- (i) not use the information for any scientific research or any other research.
- (j) Confidential information does not include information:
 - a. Which is generally available to the public other than as a result of a breach of this Agreement; or
 - b. Which is already in the possession of Recipient without restriction prior to any disclosure hereunder:
or
 - c. Which is or has been lawfully disclosed to Recipient by someone who is free lawfully to disclose the same without confidentiality restrictions: or
 - d. Which is independently developed by Recipient or its Affiliates and no Confidential information disclosed hereunder has been used directly or indirectly in such development; or
 - e. Whose applicable period of confidentiality pursuant hereto, or such other period specifically agreed to in writing by the parties, has ended
- (k) This agreement is not intended to, and does not, oblige either party to enter into any further agreements or to proceed with the transaction, any possible relationship or other transaction. Recipient acknowledges that Discloser makes no representation or warranty whether express or implied, as to the accuracy or completeness of Confidential information, and Discloser disclaims any and all liability unless contained in any definitive agreement.

Each Party will comply with all applicable data protection laws and regulations. Where applicable in particular if one Party receives access to and processes personal data on behalf of the other party in connection with this Agreement and such processing agreement, the Parties will enter into any required data processing of other data protection agreement

6. Restriction on Use

- (a) The Receiving Party and its Representatives shall hold the Confidential Information received from the Disclosing Party in confidence, and shall not, directly or indirectly:
 - (i) disclose the Confidential Information to any third party; or
 - (ii) use the Confidential Information for any purpose other than the permitted Purpose.
- (b) The Receiving Party shall not use the Confidential Information for any purpose or in any manner, which would constitute a violation of any applicable laws or regulations, directly or indirectly.
- (c) The Confidential Information shall be the property of the Disclosing Party. No rights, licenses or interests including, but not limited to, trademarks, inventions, copyrights or patents are implied, transferred or granted in relation to the Confidential Information provided by the Disclosing Party to the Receiving Party under this Agreement.
- (d) The Receiving Party shall not reproduce the Confidential Information in any form except as needed for the Purpose of the Agreement as set out above or with the prior written consent of the Disclosing Party.
- (e) All the title and rights in the Confidential Information shall be reserved with the respective Discloser and/or its licensors and no rights or obligations other than those expressly set out in this Agreement are granted or to be implied from this Agreement. In particular no license is granted to the Recipient, directly or indirectly, by this Agreement relating to any invention, discovery, patent, copyright or other industrial or intellectual property right now or in the future.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

7. Protection of Confidential Information

- (a) The Receiving Party represents and warrants that it shall protect the Confidential Information received with utmost care and diligence.
- (b) All Confidential Information shall be promptly returned to the Disclosing Party after the Receiving Party's need for it has expired, or upon request of the Disclosing Party, and in any event, upon completion or termination of this Agreement.

8. No Further Warranties

The Confidential Information shall be disclosed on an “**as is**” basis only and without any warranties of any kind, including but not limited to, warranties of merchantability or fitness for a particular purpose.

9. No Further Business Arrangement

Nothing contained herein shall be construed to obligate either Party to enter into any further agreements with each other. This Agreement does not create any other business arrangement, including but not limited to any partnership, agency or joint venture, between the Parties.

10. Term

The term of this Agreement shall commence on the Effective Date and valid for the period of two (2) years. The Disclosing party shall have a right to terminate this Agreement by giving a written notice of 30 days to the Receiving Party. However, the Receiving Party obligation to protect and restrict the use of Confidential Information under this Agreement shall continue until such time as the Disclosing Party discloses it to the public or when it otherwise becomes part of the public domain through no action of the Receiving Party.

11. Injunctive remedy

The Recipient acknowledges that the Confidential Information to be disclosed hereunder is commercially sensitive of a unique and valuable character, and that the unauthorized dissemination of the Confidential Information would destroy or diminish the value of such information. The damages that would result from the unauthorized dissemination of the Confidential Information would be impossible to calculate. Therefore, Recipient hereby agrees that the affected Discloser shall be entitled to injunctive relief preventing the dissemination of any Confidential Information in violation of the terms hereof. Such injunctive relief shall be in addition to any other remedies available hereunder, whether at law or in equity. The affected Discloser shall be entitled to recover all its damages, costs and fees, including reasonable attorneys' fees, incurred in obtaining any such relief. Further, in the event of litigation relating to this Agreement, the prevailing party shall be entitled to recover its reasonable attorney's fees and expenses.

12. Return of Confidential Information

Recipient shall immediately return and redeliver to the respective Discloser all tangible material embodying the Confidential Information provided hereunder and all notes, summaries, memoranda, drawings, manuals, records, excerpts or derivative information deriving there from and all other documents or materials (“Notes”) (and all copies of any of the foregoing, including “copies” that have



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

been converted to computerized media in the form of image, data or word processing files either manually or by image capture) based on or including any Confidential Information, in whatever form of storage or retrieval, upon the earlier of (i) the completion or termination of the dealings between the parties contemplated hereunder; (ii) the termination of this Agreement; or (iii) any breach of this agreement, in which case the party in breach shall also be liable towards the Disclosers under the law and this Agreement or (iv) at such time as the respective Discloser may so request; provided however that the Recipient may retain such of its documents as is necessary to enable it to comply with its document retention policies. Alternatively, the Recipient, with the written consent of the respective Discloser may immediately destroy any of the foregoing embodying Confidential Information (or the reasonably non-recoverable data erasure of computerized data) and, upon request, certify in writing such destruction by an authorized officer of the Recipient supervising the destruction).

13. Notice of Breach

Recipient shall notify the Disclosers immediately upon discovery of any unauthorized use or disclosure of Confidential Information by Recipient or its Representatives, or any other breach of this Agreement by Recipient or its Representatives, and will cooperate with efforts by the Discloser regain possession of Confidential Information and prevent its further unauthorized use.

14. Survival

The provisions of Clauses 8, 9 & 10 of this Agreement, and the rights and obligations contained there under shall not terminate upon termination of this Agreement.

15. Governing Law & Dispute Resolution

The contract shall be governed by the Law for the time being in force in the Republic of India. Civil Court having original Civil Jurisdiction at (name of Place) shall alone have exclusive jurisdiction in regard to all matters in respect of this agreement.

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to arbitration. The arbitration shall be conducted by three arbitrators, one to be appointed by each of the Parties and a third arbitrator to be appointed by the mutual consent of the two arbitrators so appointed by the Parties. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be _____ (the place from where the contract is issued)

16. No Publication

Neither Party shall disclose, publicise or advertise in any manner the discussions or negotiations contemplated by the Agreement without the prior written consent of the other Party, except as may be required by law.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

**General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)**

For Indian Bidders (Version Jun-2025, Rev: 08)

17. Miscellaneous

(a) This Agreement constitutes the entire understanding between the parties and supersedes any and all prior or contemporaneous understandings and agreements, whether oral or written, between the parties, with respect to the subject matter hereof. This Agreement can only be modified by a written amendment signed by the party against whom enforcement of such modification is sought.

(b) Any failure by a Discloser to enforce the Recipient's strict performance of any provision of this Agreement will not constitute a waiver of its right to subsequently enforce such provision or any other provision of this Agreement.

(c) Although the restrictions contained in this Agreement are considered by the parties to be reasonable for the purpose of protecting the Confidential Information, if any such restriction is found by a court of competent jurisdiction to be unenforceable, such provision will be modified, rewritten or interpreted to include as much of its nature and scope as will render it enforceable. If it cannot be so modified, rewritten or interpreted to be enforceable in any respect, it will not be given effect, and the remainder of the Agreement will be enforced as if such provision was not included.

(d) Any notices or communications required or permitted to be given hereunder may be delivered by hand, deposited with a nationally recognized overnight carrier, electronic-mail, or mailed by certified mail, return receipt requested, postage prepaid, in each case, to the address of the other party first indicated above (or such other addressee as may be furnished by a party in accordance with this paragraph). All such notices or communications shall be deemed to have been given and received (a) in the case of personal delivery or electronic-mail, on the date of such delivery, and (b) in the case of delivery by a nationally recognized overnight carrier, on the third business day following dispatch.

(e) Parties shall not directly or indirectly assign or transfer it by operation of law or otherwise without the prior written consent of the Disclosers, which consent will not be unreasonably withheld. All obligations contained in this Agreement shall extend to and be binding upon the parties to this Agreement and their respective successors, assigns and designees.

(f) Paragraph headings used in this Agreement are for reference only and shall not be used or relied upon in the interpretation of this Agreement.

18. Notices

All notices, documents, consents, approvals or other communications (a 'Notice') to be given hereunder shall be in writing and shall be transmitted by first class registered or recorded delivery mail to the person at the address specified herein below, or by telex, facsimile or other electronic means in a form generating a record copy to the party being served at the relevant address for that party shown herein below. Any Notice sent by mail shall be deemed to have been duly served on receipt of delivery confirmation. Any Notice sent by telex facsimile or other electronic means shall be deemed to have been duly served at the time of transmission.

Notice if to:

BHEL, then to,

Phone : Fax :



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

**General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)**

For Indian Bidders (Version Jun-2025, Rev: 08)

E-mail :

ABC, then to,

(Name) _____

(Designation) _____

Phone :

Fax :

E-mail :

19. Counterparts, Telefax Signatures

This Agreement may be signed in two counterparts, each of which is to be considered an original, and taken together as one and the same document.

IN WITNESS WHEREOF, of their Agreement to the terms and conditions contained herein, the undersigned have caused this Agreement to be executed by their duly authorized representatives:

For Bharat Heavy Electricals Limited	For ABC
Signature:	Signature:
Name:	Name:
Designation:	Designation:
Signature:	Signature:
Name:	Name:
Designation:	Designation:



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

Annexure-2

BOTH SIDED

NON-DISCLOSURE AGREEMENT

THIS AGREEMENT (the "Agreement") is entered into at _____ on this ____ day of _____ ("Effective Date") by and between;

M/s ABC, a company incorporated under the Laws of Companies Act 1956 and having their registered office at New Delhi - (the "**Discloser**" or "ABC"), which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successor in interest, designates, and permitted assigns.

AND

M/S XYZ _____, a company incorporated under the laws of _____ and having its principle place of business _____ and registered office at _____ represented by its _____ (the "**Recipient**" or "_____"), which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successor in interest, designates, and permitted assigns

Where appropriate, the **Discloser**, the **Recipient** shall individually / neutrally be referred to as "**Party**", and both together as **Parties**. WHEREAS...

A) In connection with (describe transaction/cooperation) or any successor or replacement transaction (the Transaction), the Parties may have exchanged and wish further to exchange certain information on a confidential basis

B) The Parties wish to define their rights and obligations with regard to such information and protect its confidentiality

1. Definition of Confidential Information

(a) For purposes of this Agreement, "Confidential Information" means the information as well as any data or information that is proprietary of the Discloser and not generally known to the public, whether in tangible or intangible form, whenever and however disclosed, including, but not limited to: (i) any scientific or technical information, invention, design, process, procedure, formula, improvement, technology or method; (ii) any concepts, reports, data, know-how, works-in-progress, designs, development tools, specifications, computer software, source code, object code, flow charts, databases, inventions, information and trade secrets; (iii) any marketing strategies, plans, financial information, or projections, operations, sales estimates, business plans and performance results relating to the past, present or future business activities of such party, its affiliates, subsidiaries and affiliated companies; (iv) plans for products or services, and customer or supplier lists. Confidential Information need not be novel, unique, patentable, copyrightable or constitute a trade secret in order to be designated Confidential Information. The Recipient acknowledges that the Confidential Information is proprietary to the respective Discloser and that the Discloser regards all of its Confidential Information as secrets.

(b) Notwithstanding anything in the foregoing to the contrary, Confidential Information shall not include information which: (i) was known to the Recipient without a duty of confidentiality prior to receiving the



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

**General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry
(GISTC)**

For Indian Bidders (Version Jun-2025, Rev: 08)

Confidential Information from the respective Discloser; (ii) becomes rightfully known to the Recipient from a third-party source not known (after diligent inquiry) by the Recipient to be under an obligation to the respective Discloser to maintain confidentiality; (iii) is or becomes publicly available through no fault of or failure to act by the Recipient in breach of this Agreement; (iv) is required to be disclosed in a judicial or administrative proceeding, or is otherwise requested or required to be disclosed by law or regulation, but only to the extent of any such disclosure, although the requirements of paragraph 4 hereof shall apply prior to any disclosure being made; and (v) is or has been independently developed by the Recipient without violation of the terms of this Agreement or reference or access to any Confidential Information.

2. Disclosure of Confidential Information

In consideration of the disclosure of Confidential Information, the Recipient hereby agrees to:

- (a) treat as confidential and safeguard all information disclosed and/or its Affiliates in connection
- (b) hold the Confidential Information in strict confidence and to take all necessary precautions to protect such Confidential Information (including, without limitation, all precautions the Recipient employs with respect to its own confidential materials);
- (c) limit disclosure of any Confidential Information to its concerned directors, officers and employees, (collectively "Representatives") strictly only to who have a need to know such Confidential Information in connection with the Transaction between the parties to which this Agreement relates, and only for that purpose;
- (d) advise its Representatives of the proprietary nature of the Confidential Information and of the obligations set forth 2 in this Agreement and require in writing such Representatives to keep the Confidential Information confidential;
- (e) shall keep all Confidential Information strictly confidential by using a reasonable degree of care, but not less than the degree of care used by it in safeguarding its own confidential information;
- (f) not disclose any Confidential Information received by it to any third party; and
- (g) not to copy or reverse engineer any such Confidential Information.
- (h) not to use the Confidential Information for any purpose other than the Transaction.
- (i) not use the information for any scientific research or any other research.
- (j) Confidential information does not include information:
 - a. Which is generally available to the public other than as a result of a breach of this Agreement; or
 - b. Which is already in the possession of Recipient without restriction prior to any disclosure hereunder: or
 - c. Which is or has been lawfully disclosed to Recipient by someone who is free lawfully to disclose the same without confidentiality restrictions: or
 - d. Which is independently developed by Recipient or its Affiliates and no Confidential information disclosed hereunder has been used directly or indirectly in such development; or
 - e. Whose applicable period of confidentiality pursuant hereto, or such other period specifically agreed to in writing by the parties, has ended



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

(k) This agreement is not intended to, and does not, oblige either party to enter into any further agreements or to proceed with the transaction, any possible relationship or other transaction. Recipient acknowledges that Discloser makes no representation or warranty whether express or implied, as to the accuracy or completeness of Confidential information, and Discloser disclaims any and all liability unless contained in any definitive agreement.

Each Party will comply with all applicable data protection laws and regulations. Where applicable in particular if one Party receives access to and processes personal data on behalf of the other party in connection with this Agreement and such processing agreement, the Parties will enter into any required data processing of other data protection agreement.

3. Use of Confidential Information

The Recipient agrees to use the Confidential Information solely for the Transaction and not for any purpose other than as authorized by this Agreement without the prior express written consent of an authorized representative of **parties**. No other right or license, whether expressed or implied, in the Confidential Information is granted to the Recipient hereunder. Nothing contained herein is intended to modify the parties' existing agreement of the Transaction. All the title and rights in the Confidential Information shall be reserved with the respective Discloser and/or its licensors and no rights or obligations other than those expressly set out in this Agreement are granted or to be implied from this Agreement. In particular no license is granted to the Recipient, directly or indirectly, by this Agreement relating to any invention, discovery, patent, copyright or other industrial or intellectual property right now or in the future.

4. Term

This Agreement will terminate (i) 5 (five) years after its effective date or (ii) upon effectiveness of a Transaction related agreement provided that such agreement contains confidentiality/non- disclosure provisions- whichever occurs earlier.

Notwithstanding the foregoing, the Recipient's and Discloser's duty to hold in confidence Confidential Information that was disclosed during such term as above.

5. Remedies

The Recipient acknowledges that the Confidential Information to be disclosed hereunder is commercially sensitive of a unique and valuable character, and that the unauthorized dissemination of the Confidential Information would destroy or diminish the value of such information. The damages that would result from the unauthorized dissemination of the Confidential Information would be impossible to calculate. Therefore, Recipient hereby agrees that the affected Discloser shall be entitled to injunctive relief preventing the dissemination of any Confidential Information in violation of the terms hereof. The affected Discloser shall be entitled to recover all its damages and costs.

6. Return of Confidential Information

Recipient shall immediately return and redeliver to the respective Discloser all tangible material embodying the Confidential Information provided hereunder and all notes, summaries, memoranda, drawings, manuals, records, excerpts or derivative information deriving there from and all other documents or materials ("Notes") (and all copies of any of the foregoing, including "copies" that have



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

been converted to computerized media in the form of image, data or word processing files either manually or by image capture) based on or including any Confidential Information, in whatever form of storage or retrieval, upon the earlier of (i) the completion or termination of the dealings between the parties contemplated hereunder; (ii) the termination of this Agreement; or (iii) any breach of this agreement, in which case the party in breach shall also be liable towards the Disclosers under the law and this Agreement or (iv) at such time as the respective Discloser may so request; provided however that the Recipient may retain such of its documents as is necessary to enable it to comply with its document retention policies. Alternatively, the Recipient, with the written consent of the respective Discloser may immediately destroy any of the foregoing embodying Confidential Information (or the reasonably non-recoverable data erasure of computerized data) and, upon request, certify in writing such destruction by an authorized officer of the Recipient supervising the destruction).

7. Notice of Breach

Recipient shall notify the Disclosers immediately upon discovery of any unauthorized use or disclosure of Confidential Information by Recipient or its Representatives, or any other breach of this Agreement by Recipient or its Representatives, and will cooperate with efforts by the Discloser regain possession of Confidential Information and prevent its further unauthorized use.

8. No Binding Agreement for Transaction

The parties agree that neither party will be under any legal obligation of any kind whatsoever with respect to the Transaction by virtue of this Agreement, except for the matters specifically agreed to herein.

9. Applicable Law and Disputes

This Agreement shall be governed by and interpreted in accordance with the laws of India. Any dispute or difference arising out of or in relation to this Agreement, which cannot be resolved through negotiation, would be settled through arbitration in accordance with the Arbitration & Conciliation Act, 1996 time being in force, by appointing sole arbitrator with mutual consent. The seat of arbitration shall be New Delhi. The language of be used in the arbitral proceedings shall be English.

Any dispute or difference arising out of or in connection with this Agreement, including any question regarding its existence, validity or termination or the legal relationships established by this Agreement, which cannot be settled amicably within sixty (60) calendar days from the notification by one Party to the other Party of such dispute, shall be resolved by appointing sole arbitrator with mutual consent. The parties shall choose a retired judge of High court of Delhi from the panel list of Delhi International Arbitration Center, High Court of Delhi with mutual consent within 30 days from the date of failure of settlement. The fee of the arbitrator shall be shared by both the parties. The parties however shall bear the cost of arbitration its own.

This NDA shall be governed, construed and interpreted in accordance with the laws of India. Courts at shall alone have exclusive jurisdiction over any matter arising out of or in connection with this NDA.



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

10. Miscellaneous

(g) This Agreement constitutes the entire understanding between the parties and supersedes any and all prior or contemporaneous understandings and agreements, whether oral or written, between the parties, with respect to the subject matter hereof. This Agreement can only be modified by a written amendment signed by the party against whom enforcement of such modification is sought.

(h) Any failure by a Discloser to enforce the Recipient's strict performance of any provision of this Agreement will not constitute a waiver of its right to subsequently enforce such provision or any other provision of this Agreement.

(i) Although the restrictions contained in this Agreement are considered by the parties to be reasonable for the purpose of protecting the Confidential Information, if any such restriction is found by a court of competent jurisdiction/arbitral tribunal to be unenforceable, such provision will be modified, rewritten or interpreted to include as much of its nature and scope as will render it enforceable. If it cannot be so modified, rewritten or interpreted to be enforceable in any respect, it will not be given effect, and the remainder of the Agreement will be enforced as if such provision was not included.

(j) Any notices or communications required or permitted to be given hereunder may be delivered by hand, deposited with a nationally recognized overnight carrier, electronic-mail, or mailed by certified mail, return receipt requested, postage prepaid, in each case, to the address of the other party first indicated above (or such other addressee as may be furnished by a party in accordance with this paragraph). All such notices or communications shall be deemed to have been given and received (a) in the case of personal delivery or electronic-mail, on the date of such delivery, and (b) in the case of delivery by a nationally recognized overnight carrier, on the third business day following dispatch.

(k) Parties shall not directly or indirectly assign or transfer it by operation of law or otherwise without the prior written consent of the Disclosers, which consent will not be unreasonably withheld. All obligations contained in this Agreement shall extend to and be binding upon the parties to this Agreement and their respective successors and permitted assigns. and designees.

(l) Paragraph headings used in this Agreement are for reference only and shall not be used or relied upon in the interpretation of this Agreement.

For Recipient: _____

<<<Mr. ____, designation (____)>>>

For Discloser : _____

<<<Mr. ____, designation (____)>>>

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

Witness 1: _____

Witness 2: _____



BHARAT HEAVY ELECTRICALS LIMITED

HEEP-HARIDWAR, UTTARAKHAND (249403)

General Instructions and Standard Terms & Conditions for bidding against Tender Enquiry (GISTC)

For Indian Bidders (Version Jun-2025, Rev: 08)

Annexure-3

Declaration for treatment of cases regarding conflict of interest

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- a) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- b) The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- c) Procurement of goods directly from the manufacturers/suppliers shall be preferred. However, if the OEM/Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorized distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.
- d) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.

(Signature of the authorized signatory of the bidder)

COMPLIANCE SHEET FOR TECHNICAL/COMMERCIAL TERMS AND CONDITIONS as per GISTC

Quotation against Enquiry No. _____ Dated: _____ Due on: _____

BHEL Standard Terms	Vendor's Acceptance
1. Payment terms: a) Payment term should be 100% payment After Receipt & Acceptance of Material at HEEP, BHEL-Store. Bank Charges shall be Not Applicable. b) 100% payment along with taxes, freight & insurance will be made after receipt and acceptance of material and within 75 days from the date of invoice subject to submission of non-discrepant documents within 15 days of supply as per terms and conditions of Purchase Order. In case any discrepancy found in the documents, BHEL will notify the same to vendor within 7 days of receipt. Vendor has to clear all the discrepancies in one go within 7 days thereafter else the payment of vendor may get delayed. c) BHEL reserves the right to accept or reject the offer of the bidder who quotes the payment term other than BHEL's standard payment term. d) Loading on account of deviation in payment terms shall be done as per extant rules of BHEL-Haridwar on bidder's offered prices. The loading criteria for the different payment terms shall be as per BHEL's GISTC (General Instructions and Standard Terms & Conditions).	
2. TAXES & DUTIES: Applicable taxes and duties during the dispatch of material.	
i. Rate of GST (Exclusive)	
ii. Input Tax Credit Shall be available	
iii. Any Other Duty:	
3. Packing Charges shall be included in quoted rates.	
4. Forwarding Charges shall be included in quoted rates.	
5. Delivery basis: On "FOR BHEL Haridwar" Basis & Freight charges shall be inclusive in quoted rates.	
6. Delivery Period: Delivery period should be as per tender requirement.	
7. Dispatch of Material: Items should be dispatched through BHEL approved transporters, however Indian bank approved transporters having their branch at Hardwar (details available at www.bhelhwr.co.in) may be considered for dispatch of material. However, in case dispatch through IBA approved transporter demurrage/any other charges shall be borne by supplier. In case dispatch made through un-approved transporters payment shall be made after receipt & acceptance of material only and demurrage/any other charges shall be borne by supplier.	
8. Transit Insurance Transit insurance will be arranged by BHEL for which immediate intimation of dispatch is required as indicated in purchase order. Please send your offer keeping this in view.	

BHEL Standard Terms	Vendor's Acceptance
<p>9. Late delivery penalty Clause:</p> <ul style="list-style-type: none"> Liquidated Damages (LD) for Late Deliveries shall be applicable @0.5% per week or part thereof on the value of respective delayed supplies subject to a maximum of 10% of the value of respective delayed supplies. Value of delayed supplies will mean the Gross Value payable to the vendor (Before LD) against such supplies excluding taxes and duties. Date of Receipt of material at BHEL Haridwar Shall be treated as date of delivery for penalty purpose. In case of non –acceptance, BHEL may load maximum penalty under LD clause (10 %), to the extent the same is not agreed by the vendor, for the purpose of comparative statement. Where deliveries quoted by the vendor are not suiting, BHEL may also ignore the offer of the vendor. 	
<p>10. Force Majeure.</p> <p>Bidder to confirm that they have read the force majeure clause as per BHEL's GISTC and acceptable to them. If bidder does not agree to the said force majeure Clause in GISTC, BHEL reserves the right to reject the offer.</p>	
<p>11. Offer Validity:</p> <p>Validity of the offer should be minimum 120 days from tender opening date.</p>	
<p>12. Deviation</p> <p>Confirm that there is no deviation with respect to BHEL Specifications. However, deviations, if any, are to be listed as a separate attachment. The offers that do not meet the substantial requirements of our enquiry are liable to be ignored. The bidders shall be deemed to comply with all the requirements of bidding documents except for listed deviations without any extra cost irrespective of any mention to the contrary anywhere else in the bid.</p>	
<p>13. Firm & Fixed Price</p> <p>Please confirm that prices shall be firm and fixed till execution of contract. Please note that no revision in the prices or submission of supplementary price bid will be allowed during the validity of the offer. However, if there is any change by BHEL w.r.t. original specifications/ requirement/ scope/terms and conditions, the bidders may be asked by BHEL to submit only the price impact bid for such changes only.</p>	
<p>14. Origin of Quotation:</p> <p>The quotation should be from the principal/original supplier even if it is submitted through their authorized agents, failing which the quotation is liable to be ignored.</p> <p>Also, the name of principal supplier should be indicated on envelop in addition to Enquiry no and due date.</p>	
<p>15. Settlement of dispute / Arbitration: The seat & venue of arbitration shall be as per BHEL's GISTC.</p>	

BHEL Standard Terms	Vendor's Acceptance
16. Breach of contract: - Please confirm that in case of breach of contract, recovery of an amount equivalent to 10% of the contract value shall be done from your pending bills etc.	
17. Test Certificates: Vendor to submit detailed clause wise Test Certificates (TCs) as per BHEL specifications along with dispatch documents at the time of delivery.	
18. Documents requirement confirmation: Vendor to submit following documents along with their offer for faster processing of case: - <ol style="list-style-type: none"> 1. Dully filled PQR Sheet (Annexure-A) along with required documents 2. Detailed technical Offer. 3. Duly endorsed copy of BHEL GISTC Rev-07. 4. Duly filled and endorsed compliance sheet (Annexure-C). 5. Integrity Pact (IP) 6. Filled in and signed NTPC sub-vendor questionnaire along with supporting documents <p>Note: Attach separate sheet for additional information if necessary. The above terms & condition supersedes the terms & conditions found contradictory written elsewhere in the tender enquiry and offer of bidder.</p> <p>Vendors are requested to comment on each applicable clause and write as "NA" if not applicable. Please attach this sheet with your techno-commercial offer.</p> <p>Signature with stamp</p>	

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH
REVISED 'PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA),
ORDER, 2017 ISSUED BY DPIIT VIDE OM NO. P-45021/2/2017-PP(BE-II) PART
(4) VOL. II DATED 19.07.2024 AND SUBSEQUENT ORDER(s)**

(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: Declaration reg. minimum local content in line with Revised 'Public Procurement (Preference to Make in India), Order, 2017 issued by DPIIT vide OM No. P-45021/2/2017-PP(BE-II) Part (4) Vol. II dated 19.07.2024 and subsequent order(s).

Ref: 1) Enquiry No:

2) All other pertinent issues till date

We hereby certify that the items/works/services offered by..... (specify the name of the organization here) has a local content of _____ % and this meets the local content requirement for '**Class-I local supplier**' / '**Class II local supplier**' ** as defined in Revised 'Public Procurement (Preference to Make in India), Order, 2017 issued by DPIIT vide OM No. P-45021/2/2017-PP(BE-II) Part (4) Vol. II dated 19.07.2024 and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

- | | |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |

Thanking you,
Yours faithfully,

(Signature, Date & Seal of Authorized Signatory of the Bidder)

** - Strike out whichever is not applicable.

Note:

1. Bidders to note that above format, duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 crores, the authorized signatory for this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

MANUFACTURER'S NAME AND ADDRESS			QUALITY PLAN					TO BE FILLED BY BHEL		TO BE FILLED BY BHEL				
BHEL	VENDOR'S NAME	ITEM			QP NO.									
				REV										
		DRG. NO.	AS PER PO											
		SPEC.	AS PER PO											
		REV				Page 1 of 1								
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS		CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS		AGENCY			REMARKS
											M	B	N	
1	2	3		4	5	6	7	8	9	D	10			11

MANUFACTURER/SUBCONTRACTOR		LEGEND:	FOR CUSTOMER USE	
		! RECORDS IDENTIFIED WITH ‘TICK’ SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.		
		M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE ‘P’ PERFORM ‘W’ WITNESS AND ‘V’ VERIFICATION ALL ‘W’ INDICATED IN COLUMN ‘N’ SHALL BE ‘CHP’ OF CUSTOMER		APPROVED BY



BILL OF MATERIAL

Printed
On:29.04.2025

BOM No: 11350401070

Var: 00

Revno: 7

Rev Date: 24.05.2024

Printed By:

Description: SPRING BASKET (MACHINING)

Tot wt: 1716.0

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight
Qty(Total)	Description				Assy. Remarks	
Typ	Cat	Zone	Var/Matl. Description		GRP	Fab Wt
0			11350401070 00			1716.0
1(1)			SPRING BASKET (MACHINING)			
MF	DR				N	
1			11350401071 00			1830.0
1(1)			SPRING BASKET (WELDED)			
MF	DR				N	
1-1			31350401240 00	HW1041801890	AA10401	316.7
4(4)			HALF RING			
MF	DR					
1-2			41350401117 00 00	AA1041801246	AA10401	112.0
3(3)			PLATE		CBOM01350401073	
MF	DR					
1-3			41350401153 00 00	AA1010209264	AA10109	27.0
4(4)			TENSION BAR			
MF	DR					
1-4			41350401116 00 00	HW1041055730	AA10455	10.0
9(9)			PIPE		CBOM01350401073	
MF	DR					
1-5				AA1011819139	AA10119	2.512
4(4)			PLATE 20X80X200			
MF	DR		ST-FE410 WB-PLATE			
1-6				AA1011808013	AA10108	0.173
4(4)			PLATE 5X80X55		TECHNOLOGICAL	
MF	DR		ST-A(FE410 WA)PLATE			

ENGG

Initial Date

Worked By tgeam 24.01.2007
Checked By tgeam 24.01.2007
Approved By tgerk 06.02.2007



BILL OF MATERIAL

Printed
On:29.04.2025

BOM No: 11350401071 Var: 00 Revno: 7 Rev Date: 24.05.2024
Description: SPRING BASKET (WELDED) Tot wt: 1830.0

Printed By:

Item No	Drawingno	Var	Mvar	Mat Code	Mat Spec	Weight
Qty(Total)	Description				Assy. Remarks	
Typ	Cat	Zone	Var/Matl. Description		GRP	Fab Wt
0			11350401071 00			1830.0
1(1)			SPRING BASKET (WELDED)			
MF	DR				N	
1			31350401240 00	HW1041801890	AA10401	316.7
4(4)			HALF RING			
MF	DR					
2			41350401117 00 00	AA1041801246	AA10401	112.0
3(3)			PLATE		CBOM01350401073	
MF	DR					
3			41350401153 00 00	AA1010209264	AA10109	27.0
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4(4)			PLATE 5X80X55		TECHNOLOGICAL	
MF	DR		ST-A(FE410 WA)PLATE			

ENGG

Initial Date

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Checked By tgeam 24.01.2007
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उत्पाद मानक (हीप : हरिद्वार)
PRODUCT STANDARD (HEEP: HARIDWAR)

0912.015

पृष्ठ 71 का 01
Page 01 of 71

सुपरसेड
INVENTORY
NO.

मार्गदर्शक
अनुसंधान
अधिकार

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स्वतंत्रता एवं गोपनीयता

यह दस्तावेज किसी भी रूप में प्रतिलिपि बनाया जा सकता है, परंतु इसका उपयोग केवल मूल दस्तावेज के लिए ही किया जा सकता है। इस दस्तावेज में कोई भी त्रुटि या त्रुटिपूर्ण जानकारी हो सकती है, जो इस दस्तावेज के उपयोग के लिए हानिकारक हो सकती है।

सुपरसेड
INVENTORY
NO.



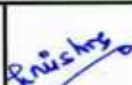
मार्गदर्शक
अनुसंधान
अधिकार

BASED ON FV100014e

INSTRUCTIONS FOR PRESERVATION AND PAINTING
OF
TURBO-GENERATORS

PRODUCT : TURBO-GENERATORS
EXCITERS
AUXILIARY EQUIPMENTS

TSX	Sandeep Gupta	24/11/20	TRANSLATED BY	PRASHANT MISHRA	4/6/2020
BAX	B.B. Tripathy	24/11/20	WORKED BY	AMIT MITTAL	4/6/2020
PSC MEMBER	R.K. Sharma	24/11/20	CHECKED BY	RK SHARMA	4/6/2020
AGREED DEPTT	NAME	DATE & SIGNATURE	SUPERVISED BY	Gr. NO.	6.18
SUPERSEDES			APPROVED : RAKESH KUMAR (AGM, EME)	10/06/2020	
REV. NO.	03		PREPARED BY	ISSUED : TSX	DATE : 17.10.1996
CHANGE ADVICE NO.	TGE-19-64	06-06-2020	EME		

निर्माणक SIGN & DATE		<h1 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h1> <h2 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h2>		0912.015 पृष्ठ 71 का 02 Page 02 of 71																																																																							
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माली मूची नं. INVENTORY NO. P.2628	REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 																																																																						



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 03

Page 03 of 71

Table of Contents

Section No.	Content	Page Nos.
6.	Transportation Instructions and Dispatch conditions	14
	6.1 Mode for Transportation	
	6.2 Transportation of Painted Components	
	6.3 Damage in Transport	
	6.4 Long Term Storage and Assembly	
7.	Long Term Storage	15
8.	General Outer Surface	15
	8.1 Primer Painted Parts	
	8.2 Machine Parts	
	8.3 Threads Tap Holes and Bores	
9.	Special Component Protection	16
	9.1 Stator Core Bore	
	9.2 Generator Rotor	
	9.3 Sealing Oil, Water accessories and associated Piping	
	9.4 Wound Stator	
	9.5 Exciter Rotor	
10.	Safety Regulations	16
11.	Assembly-wise Preservation and Painting Components	17
12.	Thickness of Coating	17
13.	Cross-Referred Standards	17
Table-1	Preparation of surfaces of various Parts before painting	18
Table-2	Working viscosity of paints	19
Table-3	Assembly-wise Preservation and Painting Components	20 - 68
Table-4	List of Materials	69
Table-5	Final Painting of Stator Body and Cooler Housing including all Sealing Covers	70
Table-6	Painting Scheme (For Information)	71

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स्वाधिकार एवं गोपनीय
यह दस्तावेज भारतीय भारी विद्युत उपकरण लिमिटेड की संपत्ति है। इस दस्तावेज को किसी भी रूप में बिना लिखित अनुमति के प्रयोग नहीं किया जा सकता है। इस दस्तावेज में दी गई जानकारी को किसी भी रूप में प्रसारित करने से भी बचना चाहिए।

FORM NO. 001
SIGN & DATE

आवृत्ति नं. 001
INVENTORY NO.

REV.
NO.
03

निर्माणकर्ता
WORKED BY

PRASHANT
MISHRA

जांचकर्ता
CHECKED BY


AMIT MITTAL


Prashant





4/6/2020


Amit


4/6/2020


निर्माणक SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 04 Page 04 of 71	
सुपरसेड INVENTORY NO. भारतीय नौका विज्ञान संस्थान Indian Institute of Naval Architecture	<p align="center"><u>General Information</u></p> <p>1. Scope</p> <p>This instruction for preservation & painting is valid for Turbo-generators, Exciter and Auxiliary system components for inland and overseas preservation (including coastal regions). The surface treatment is valid as standard procedure. In case where deviations are requested by the customer or another party, these are to be specified in writing. This specification is also valid for machined, structural and cast components manufactured by sub-contractors.</p> <p>Any reference made to other standards/drawings in this specification refers to the latest revision of the respective documents.</p> <p>1.1 Coating materials</p> <p>The preservation media and coats applied to Turbo-generator components used in conventional power and nuclear stations are given in the specifications.</p> <p>1.1.1 Coating materials for parts manufactured by other firms</p> <p>With parts manufactured by other firms, the coating material prescribed in the material description (see Table No. 4) shall be applied. If it is not possible to obtain these materials, material with same base or composition from another manufacturer may be applied after approval from ISE department.</p> <p>1.2 Final Coat</p> <p>The final coating of the Turbo-generator, Exciter and Auxiliary Systems is applied by BHEL or customer at site after the machine has been completely assembled.</p> <p>1.2.1 Covered Parts</p> <p>An exception to this are surfaces which are no longer accessible on site. These receive the complete coating at BHEL works, factory or at the sub-contractors. For this, contact surface will be treated according to section 2.3.1. Parts covered by foundations are to be coated on site before assembly.</p> <p>1.2.2 Control and Monitoring Parts</p> <p>Control and monitoring parts outside the hot area receive a covering coat of PUR-varnish paint from synthetic resin (PUR = Polyurethane). Where a color difference between the piping and connection areas is necessary, a corresponding identification will be made with PUR varnish.</p>				
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स्वत्वधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत भारी विद्युत यंत्र निर्माण लिमिटेड की संपत्ति है, जिसका प्रयोग अन्य उद्देश्य के लिए बिना लिखित अनुमति के नहीं किया जा सकता है।					
निर्माणक SIGN & DATE 12/06/20					
भारतीय नौका विज्ञान संस्थान INVENTORY NO. P-2628	REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 4/6/2020




दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 05 Page 05 of 71	
निर्यात नं./सं. EXPORT NO.	सूची सं./सं. INVENTORY NO.	2. Technical Details <p>The coating, in the sense of this specification, has the function of protecting the surfaces against deterioration during manufacturing (Machined/Un-machined surfaces), transport, storage and operation.</p> <p>Preservative which are to be applied manually or mechanically are considered as coats of paint, varnishes and similar products.</p> <p>The type of preservative and thickness of the coats is selected according to the intended or expected stress, environmental conditions and duration of employment of the components and has been specified in the list relating to components given in Table No. 3. To allow a better control during the application, the individual layers are to be clearly differentiated from each other by colors.</p>			
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दिनांक एवं हस्ताक्षर SIGN & DATE	03/12/2020	2.3 Surface Condition 2.3.1 Machined Surfaces <p>Machined areas to which parts are attached, e.g., seats and movable parts, threads, identification plates, connecting media etc., remain free of paint.</p>			
निर्यात नं./सं. INVENTORY NO.	REV. NO. 03		निर्माणकर्ता WORKED BY	PRASHANT MISHRA	4/6/2020
			जांचकर्ता CHECKED BY	AMIT MITTAL	4/6/2020


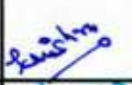

Designing Engineer SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 06 Page 06 of 71	
SUPERSEDES INVENTORY NO आगामी नवीन संस्करण अपडेटिंग नंबर	<p>During the manufacturing process in shop, at the end of each operation or during transportation, they are to be purposefully protected with rust-proof media. Unless otherwise stated, contact areas are to be protected for transportation with a corrosion inhibitor like TRP etc.</p> <p>Means of connection such as screws, bolts, nuts, tie bars, etc. can also be coated in accordance with this specification, provided their function is not affected.</p>				
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.	<p>2.3.2 Welding Seams for Pressure or Leakage Test All welds to be subjected to a pressure or leakage test remain free of paint until final acceptance. When tests have been completed, the seams are to be treated according to clause 4.1.4.</p> <p>2.3.3 Welding areas Surface areas in which welding is to be carried out later remain free of paint to approx. 80 mm from the weld edge. Surface areas are to be protected by a welding primer if manufacturing is interrupted and they are stored outside. When dispatching such parts, the areas left without paint must be treated according to clause 4.1.4.</p>				
स्वतंत्र अधिकार एवं गोपनीय इस दस्तावेज में दी गई जानकारी भारत भारती लिमिटेड की संपत्ति है। इसका प्रयोग केवल भारत भारती लिमिटेड के लिए ही किया जा सकता है। इसमें दी गई जानकारी को किसी भी प्रकार के बिना अनुमति के प्रसारित करना या इसका उपयोग करना गैर कानूनी है।	<p>2.4 Preserving Media Preserving medium according to the prescribed application given in below are permitted. They must not be applied directly on top of each other. Before a different preserving medium is applied, the previous one must be carefully washed off. Changing the medium is only permissible after testing and approval from ISE.</p> <p>2.4.1 Slushing Oil Slushing oil has been tested for its compatibility with bearing oils and fire resistant fluids. It dissolves in bearing oil without any adverse effects. In fire resistant fluids, it shows no influence up to a max mixture of 0.1 Vol %. Hence, it is not absolutely essential to remove it before or during the assembly of parts.</p> <p>2.4.2 Dewatering Fluid It is only applied for short term protection during the factory production with small parts and welding seams. It must definitely be washed off from all parts before assembly in the factory or preparation for dispatch. The cleaned parts are then to be treated immediately according to the relative instructions.</p>				
Designing Engineer SIGN & DATE  12/05/20	REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	4/6/2020	
आगामी नवीन संस्करण INVENTORY NO. P.2628			जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020	


निर्माणक SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 07 Page 07 of 71	
निर्यात INVENTORY NO.	2628	<p>2.4.3 Corrosion Inhibiting Media Corrosion inhibiting media like TRP are only employed for transportation or long term storage. It must be completely removed before assembly. When several layers are applied, at least 8 hours are to be allowed for the drying of each layer.</p> <p>2.4.4 Removal of Preserving Media All preserving media can be washed off by cold cleaners or solvents. Care must be taken here that no remains whatsoever are left in hollow spaces or recesses in the components. Cleaning is also possible by means of high pressure, hot steam equipment with the addition of detergents.</p>		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.	
स्वत्वाधिकार एवं गोपनीयता 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.		<p>2.5 Coating Materials The requirements regarding protection against corrosion for manufactured components can be met by coating materials given in the specification. The components are divided into two areas with various requirements and different coating materials.</p> <p>Group- 1: Covers all parts with temperatures up to 120° C. They are coated with epoxide resin (EP) primers. PUR varnishes are used as coating for governing components in this area (see clause 1.2.2).</p> <p>Group- 2: Covers all parts with temperatures up to 120° C – 600° C. These are coated with silicon resin coating system.</p> <p>The coating materials are always to be stirred thoroughly, preferably with slow running pneumatic mixers before beginning the work. If the work continues for longer time, stirring should be done approx. every hour.</p> <p>Supply specifications for coating materials with regard to viscosity, resistance to chemical substances, uniformity of color, etc. are contained in respective specification.</p>		निर्माणक SIGN & DATE	12/06/20
निर्यात INVENTORY NO.	2628	REV. NO. 03	निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 4/6/2020


निर्माणकर्ता WORKED BY		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 08 Page 08 of 71	
निरीक्षणकर्ता INSPECTED BY	सप्लायर SUPPLIER	2.5.2 PUR-Primers As a covering for parts mentioned in clause 1.2.2, two component paints on a polyurethane base according to the RAL card are employed. These are also to be mixed according to the details given by the manufacturer with the prescribed amounts of resin and hardener and are to be applied taking the pot life into consideration.			
कॉपीराइट और कॉन्फिडेंशियल 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.	2.5.3 Silicon Resin For the so called "hot components" (operating temperature range 120°C – 600°C), a silicon resin-aluminium coating system is employed. This system consists of 2 (for domestic) or 3 (for overseas parts and those exposed to the elements) harmonizing coats on top of each other. The resin and powder of the one component coating material are delivered separately for reasons of durability and after mixing (Shaking together) the material is to be stored in a cool place with air excluded. It can be used for application for approx. 1 month.				
स्वत्वधिकार एवं गोपनीय All rights are reserved. No part of this document may be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, without prior written permission from Bharat Heavy Electrical Limited.	2.5.4 Welding Primer A two-component epoxy resin welding primer containing no chromate is applied to steel components when manufacturing is interrupted in order to protect them. It is to be mixed with the prescribed amounts of resin and hardener according to details given by the manufacturer and applied within the pot life. Any remaining amounts that have been mixed must be thrown away after this time. The epoxy welding primer can be painted over with epoxy primers.				
निर्माणकर्ता SIGN & DATE	2.5.5 Insulating Coats The varnishes and resins listed have been specially selected according to the respective electrical requirements for insulating coats of some components. They must definitely be applied in the specified manner and can only be replaced by another type after specific permission has been obtained from ISE / EME.				
निरीक्षणकर्ता INSPECTED BY	REV. NO. 03	2.6 Surface Treatment of Particular Components 2.6.1 Studs Studs are to be preserved with industrial grease / oil and plastic protecting caps (also hose-like synthetic net) before dispatch. 2.6.2 Tapped Holes Tapped holes are always to be protected with corrosion inhibiting / grease until dispatch. Additionally, blind holes must be closed with plastic caps.			
निरीक्षणकर्ता INSPECTED BY	निर्माणकर्ता WORKED BY	PRASHANT MISHRA	जांचकर्ता CHECKED BY	AMIT MITTAL	4/6/2020


		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015	
पृष्ठ 71 का 09 Page 09 of 71					
2.7 Bought-in parts For all items purchased from other firms (catalogue parts, filters, clamps, consoles, etc.); surface protection corresponding to this specification shall be stated with the order or technical supply specification respectively. If a manufacturer cannot fulfill the requirements, he can himself determine which of his products needs protection against corrosion during transportation and storage. Exact details of the protective media and surface treatment are to be sent to EME / ISE Department for approval. The protective measures against corrosion must not affect the functioning and application of the products. The type of packing must also prevent damage due to corrosion, storage and transportation.					
2.7.1 Bought-in Parts Without Coating When small parts and accessories delivered from other firms have either a different type of coating or none at all, these are to be treated in the pre-assembly stage according to the respective design group sheets Table No. 3 of this specification. With this, preliminary treatment of the metal is to be performed according to clause 4.1.					
2.8 Pre-assembled Components Assembled components should always to be provided with an effective protection against corrosion on the inside. Where it is not possible to apply a preserving medium, protection against corrosion is to be provided by impregnated paper or desiccants. Basically, this is also valid with transportation overseas or long-term storage for shiny parts such as cylinder, moving areas and bearing points etc.					
3 Work Place The application of coating materials should take place in special, well-aired rooms. If this is not possible, an area of 5 m x 5 m, depending on the degree of danger, should be declared a safety area for application of larger amount of the coating material (more than 5kg / 8h). Within this safety area smoking, naked flames and the use of machines causing sparks is forbidden. Sufficient ventilation must be ensured.					
3.1 Responsibility The surface protection is to be applied directly in the shop areas responsible for the particular stage of manufacture. In the classification of components in Table No. 3, sections are not given but only production areas.					
3.2 Protective Clothing and Equipment Protective clothing must be according to safety regulations (fire resistant) and must be changed immediately if it becomes wet with hardener. In addition to this, it must be kept separate from private clothing.					
REV. NO. 03		निर्माणकर्ता WORKED BY		PRASHANT MISHRA	
जांचकर्ता CHECKED BY		AMIT MITTAL		4/6/2020	


निर्माणकर्ता DESIGNER	SUPERSEDES INVENTORY NO.		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 10 Page 10 of 71	
मूल्य में अति अधिकतम अधिकतम मूल्य		<p>Respirators, that are independent of the ambient atmosphere, must be worn in closed rooms having insufficient ventilation.</p> <p>Furthermore, protective clothing such as gloves, glasses, etc. should be used depending on the possibility of danger. If necessary, suitable skin protection media are should be used (see clause 10).</p>				
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स्वयंसेवक एवं केपटीव स्वयंसेवक एवं केपटीव		<p>4.1.1 Removal of grease with solvents</p> <p>Oil and grease contamination is removed from rough surfaces by wiping with solvents like Trichloroethylene. Surfaces which have already been painted may only be cleaned with white spirit. With larger components "wet cleaning" with high pressure hot steam equipment and detergents (neutral cleaners) is permissible. By using the medium and subsequently rinsing with clear water and / or a deionized medium, it must be ensured that the cleaned surface areas have a pH-value of 6 - 8.</p>				
निर्माणकर्ता SIGN & DATE		<p>4.1.2 Removal of rust by Chemicals</p> <p>Removal of rust by means of chemicals is only permitted for smaller steel components, pipes and fittings using bathing process. With the painting process, removing rust by means of the so-called "rust converters" is not permissible. The cleaned surfaces must have a pH value of 6 - 8.</p>				
आवधिकी नुम्बरी INVENTORY NO.		<p>4.1.3 Removal of Rust by Mechanical Means</p> <p>The removal of rust from non-machined surfaces is to be performed by blasting (grain size smaller than 1.2 mm) to achieve surface roughness Rz 40-60µm. Technological standard is valid for shot blasting and cleaning work and for surface assessment after cleaning.</p>				
P.2628	REV. NO. 03		निर्माणकर्ता WORKED BY	PRASHANT MISHRA		4/6/2020
			जांचकर्ता CHECKED BY	AMIT MITTAL		4/6/2020


निर्माणक SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 11 Page 11 of 71	
सुपरसेड INVENTORY NO.	<p>The surface condition must comply with the standard. Components must not be damaged or deformed. Subsequent cleaning by sweeping, brushing, suction or, preferably, blowing with dry oil-free pressurized air is to be performed. Blasting media must be prevented from penetrating the inner spaces by sealing any openings. Where penetration cannot be prevented, the area concerned must be thoroughly cleaned afterwards.</p> <p>4.1.3.1 Blasting Blasting is performed according to technological standard. During correction work, any parts not to be processed and surfaces which have already been coated must be covered up.</p> <p>4.1.3.2 Removal of Rust With Machines Where scale has firmly adhered to the surface, it must be removed by mechanical means such as rotating wire brushes, impact piston device or rotary de-scalers, needle scalers, sanding discs or similar equipment.</p> <p>4.1.3.3 Removal of Rust by Hand Rust is only removed manually while carrying out corrective work, treatment of weld seams and in accessible points. This is done with wire brushes, stripping knives, scrapers, rust removing hammers etc.</p> <p>4.1.4 Pre-treatment of Welds and Welding Areas For surfaces not coated for testing, subsequent welding work or other reasons, any testing media, globules, burrs, dust, grease, etc. must be removed according to clause 4.1 of this specification before correction work is performed.</p> <p>4.1.5 Removal of Faulty Coatings Defective coatings are to be removed by blasting, pickling, paint remover, solvents or grinding so that the specified degree of cleanliness is achieved.</p> <p>4.2 Treatment of Cleaned Parts Due to susceptibility of rust and dirt, cleaned parts are to be protected with a primer or preserving medium immediately after the cleaning procedure. If the course of production does not allow this, the surface requirements of unprotected areas must be ensured by treatment, blasting or manual cleaning, later.</p> <p>4.3 Adhesive Strength The adhesive strength of the coating material is highly dependent upon the wetting of base. Special care must therefore be taken when applying the primers.</p>				
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निर्माणक SIGN & DATE	4/12/2020				
भारतीय भारती भारती INVENTORY NO.	REV. NO. 03		निर्माणकर्ता WORKED BY	PRASHANT MISHRA	 4/6/2020
भारतीय भारती भारती INVENTORY NO.			जांचकर्ता CHECKED BY	AMIT MITTAL	 4/6/2020


दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 12 Page 12 of 71	
सुपरसेड्स INVENTORY NO. अनुसूची संख्या में अवस्थिति संख्या में	<p>4.4 Application of Coating</p> <p>Primers, coating paints and preservatives are to be applied by brush strokes/air spray/air less spray as feasible. With low ambient temperatures (under 10° C) & high humidity (over 85 %), primers should only be applied by brush, NOT by spraying.</p> <p>If there are to be several primer coats, every coat must be sufficiently dry, free of any moisture or impurities before the next coat is applied. If a longer period of time has elapsed between the applications of the coats (more than 3 months), the last coat must be slightly roughened with a suitable medium. Wiping with a cold degreasing agent is sufficient when stored indoors.</p> <p>4.4.1 Coating in Open Air</p> <p>Coating in the open air should be avoided. It must not be performed at all if:</p> <ol style="list-style-type: none"> The temperature drops below 10° C. The temperature of the part being coated rises so much that the required thickness and quality can no longer be achieved. The relative humidity is higher than 85%. <p>4.4.2 Storage of Freshly Painted Parts</p> <p>Freshly painted parts must not be stored in the open air until they are thoroughly dry. Care must be taken that they cannot settle into the ground and corrosion through contact with other parts is avoided. In addition, rain water must drain properly. During transport or storage at site, painted parts are to be covered with tarpaulin sheets as far as possible.</p> <p>4.4.3 Damage to Surface Protection</p> <p>Damage to surface protection or improperly applied coats is to be corrected immediately using the same preserving material. Care must be taken that the coat in the corrected areas definitely has the specified thickness. In the case of slight damage, the base material is to be carefully cleaned and rust removed. The margins around the damage must be roughened so that they will bond better with the coats already applied. The repair coats are applied by brush/ airless spraying. Larger areas of damage can be prepared for repair work by partial blasting.</p> <p>4.4.4 Processing Instructions</p> <p>The paint and preserving media are to be processed according to respective specifications. Only diluting media supplied by the manufacturer or those recommended may be used for bringing the coating material to the right consistency before application.</p>				
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स्वयंसाधिकाएँ एवं गोपनीय यह दस्तावेज़ भारतीय राज्य जेनरल इंजीनियरिंग कॉर्पोरेशन लिमिटेड की संपत्ति है। इसका उपयोग केवल उद्देश्य के लिए ही किया जा सकता है। इस दस्तावेज़ को किसी भी अन्य उद्देश्य के लिए उपयोग नहीं किया जाना चाहिए।					
दिनांक एवं हस्ताक्षर SIGN & DATE 12/08/20					
अनुसूची संख्या INVENTORY NO. P.2628	REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 4/6/2020

निर्माणक SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 13 Page 13 of 71	
सुपरसेड INVENTORY NO	अपूर्ण रूप से अधिकृत रूप से	<p>Apart from this, the processing time (pot-life) given for the two-component materials must be followed. Only the amounts that can be processed within this time are to be mixed. Any amounts remaining after this specified period are not to be used even if they appear to have sufficient viscosity.</p> <p>4.4.5 Change for supplier If suppliers are changed, ISE must first examine the quality of the varnish.</p>			
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.	<p>4.5 Filing and Smoothing of Surfaces Generally surfaces are not filed. In exceptional cases, however, plainly visible areas or localized areas which have become uneven due to flame cutting, welding or similar work may be filed and smoothed. Surfaces where the primer is un-damaged, a two component EP filler can be applied according to the manufacturer's instructions directly on to the previously roughened coat. Surfaces where the primer is damaged, the area is to be treated right down to the base according to clause 4.1. The epoxy primers can be applied direct to the filler surface when this is dry and has been smoothed.</p> <p>5 Test and Testing Media The test covers surface sealing, thickness, uniform and proper application of coats as well as a random check of uniform adhesion of the layer over the whole surface.</p>				
स्वयंचालित एवं गोपनीय यह दस्तावेज केवल निर्माणक के उपयोग के लिए है। इसे अन्य किसी भी व्यक्ति को नहीं देना है। इस दस्तावेज में निर्माणक के गोपनीयता के लिए सुरक्षा के उपाय हैं।	<p>5.1 Testing the Coating Materials The coating materials are continuously being subjected to tests at the manufacturer works. On delivery, only random checks are performed regarding the formation of skin and sediments. Normally, no skin should have formed. Any, sediment must be soft and easy to disturb.</p> <p>5.1.1 Viscosity Test (IS 3944) Before start of work, the viscosity is to be tested by means of a pouring test. If the efflux time values are exceeded, the paint is to be diluted to the average value with the prescribed diluents, taking the maximum permissible additive into account. If the efflux time is too short, a new lot is to be taken. The coating materials must only be diluted to the application viscosity with diluents as recommended by the manufacturer.</p>				
निर्माणक SIGN & DATE	<p>5.2 Testing Parts That Have Been Blasted Parts that have been blasted, should be Rz = 40µm to 60µm. Contamination from grease can be determined by pouring water on the surface.</p>				
आपूर्ति नंबर INVENTORY NO P. 2628	REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 4/6/2020


निर्माण संख्या SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 14 Page 14 of 71	
नमूने की संख्या INVENTORY NO.	SUPERSEDES INVENTORY NO.	5.3 Check of Coating Thickness The coating thickness is to be tested with a measuring instrument (e.g. Paint thickness gauge) by random checks in the shop area concerned. A final check by QC must be arranged by the shop area. The measured values, with details of measuring temperature, time of measurement and measuring devices used are to be recorded in the QC report. Parts which do not have the minimum specified coating thickness must be improved (see clause 4.4.3).			
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.		5.4 Test of Adhesion The adhesion is only tested by special instruction. For this, either a cross-cut test is performed or an assessment is made with the adhesion method. 5.5 Receiving Inspection When checking on receipt, care must be taken that all components manufactured by outside firms comply with the requirements for surface protection. In addition to this, the delivery must be accompanied by a certificate showing the coatings and preserving media use and if necessary, a decontamination certificate must be supplied. Parts which have either not been treated at all or not according to our specification should be reported to ISE / EME for treatment before being stored. 5.6 Site Test Parts arriving at the site are to be checked by BHEL Quality Department and / or BHEL Site management and / or according to the agreement, a representative of the customer. Any deficiencies found are to be reported immediately and eliminated by site personnel.			
स्वामित्व अधिकार एवं गोपनीयता यह दस्तावेज भारतीय भारत भारी विद्युत निगम की संपत्ति है। इसका उपयोग केवल निर्माण के लिए ही किया जा सकता है। इस दस्तावेज को किसी भी अन्य उद्देश्य के लिए उपयोग नहीं किया जाना चाहिए।		6 Transportation Instructions and Dispatch Conditions The utmost care is to be taken when transporting, storing and assembling components with surface protection. Protective intermediate layers are to be provided. Existing suspension and transport devices must be used. 6.1 Mode of Transportation The mode of transportation is specified in the order sheet. For clarification of questions regarding transportation, the dispatch department must be consulted. 6.2 Transportation of Painted Components Painted components may only be transported when the paint is completely dry (see clause 4.4.2). An exception to this is when rotation of the individual parts is un-avoidable or when they must be stacked in a place suitable for drying (note clause 6.3).			
निर्माण संख्या SIGN & DATE	12/06/20	REV. NO. 03	निर्माणकर्ता WORKED BY	PRASHANT MISHRA	4/6/2020
नमूने की संख्या INVENTORY NO.	0.2.678		जांचकर्ता CHECKED BY	AMIT MITTAL	4/6/2020


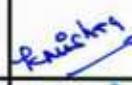

		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015	
SIGN & DATE SUPERSEDES INVENTORY NO.				पृष्ठ 71 का 15 Page 15 of 71	
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p>6.3 Damage in Transport Damage coats must be repaired locally, immediately after transportation. After the damaged surface has been roughened, identical coatings must be applied to maintain coating thickness or another suitable material that has been agreed upon must be applied at site (see clause 4.4.2 and 4.4.3).</p> <p>6.4 Long term Storage and assembly With long-term storage and assembly (more than 18 months) the measures given in clause 7 to 9.6 which deviate from the standard procedure or are additionally necessary are to be performed.</p> <p>7 Long Term Storage Measures for long-term storage must be undertaken when storage and assembly time exceeds 18 months. In addition to the normal measures for the storage of generator and exciter components, further measures are generally necessary. These are to be decided on case to case basis.</p> <p>8 General Outer Surface</p> <p>8.1 Primer painted Parts All surface that have been pre-treated with Epoxy primer and come in contact with open air receive an additional coating of 40µm (min.) after cleaning. The paint to be used will always be specified by EME / ISE.</p> <p>8.2 Machined Parts All flange, connection, base, support and other machined surfaces receive several coats of Anti-corrosion agent (TRP 1706) (AA55155) up to a min. thickness of 80µm. Additional coats should be applied in areas which are especially endangered and are important for functioning. Approx. 8 hours must be allowed before applying the next coat.</p> <p>8.3 Threads, Tap Holes and Bores All threads, tap holes, bolts, movable "Shiny parts" and bores which are accessible from outside or are exposed are to be protected with Lithium based Grease Grade 3 (AA57401).</p> <p>9 Special Component Protection</p> <p>9.1 Stator Core Bore After the test run, the bore of Wound Stator is coated with Coating Varnish 2404 or IE 82 / 83 (AA27513 or HW27589).</p>			
INVENTORY NO. 02628		REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	
				जांचकर्ता CHECKED BY AMIT MITTAL	
				4/6/2020 4/6/2020	


0912.015 पृष्ठ 71 का 16 Page 16 of 71		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)			
SUPERSEDES INVENTORY NO.		9.2 Generator Rotor Shaft ends and coupling holes are treated as stated under clause 8.2 and 8.3. The cap areas are to be dried with Air-Driers before packing. After testing the rotor is to be painted with Becktol Grey (AA27513) on retaining ring & barrel.			
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.		9.3 Sealing Oil, Water Accessories and associated Piping Special specifications are prepared for each order for internal preservation. Austenitic parts and rubber-coated containers do not have any special internal protection.			
9.4 Wound Stator The Wound Stator assembly is to be preserved and packed as per 'Sealing for Transport' drawing.		9.5 Exciter Rotor After the test run, the exciter rotor must be blown out and dried with dry air. Shaft ends and coupling holes are treated as stated under clause 8.2 and 8.3.			
10 Safety Regulations When working with coating materials & solvents as per this specification, inner-factory safety rules (e.g. "List of Dangerous Working Materials"), the relevant safety & industrial accident prevention regulations and rules issued by BHEL Safety Department are valid. Additionally, it must be taken into consideration that where parts coated with paint based on polyurethane and epoxide resin are concerned, any subsequent heating over 100° C must be avoided because of the formation of poisonous fumes. If it is necessary to perform welding or grinding work on the painted parts, the paint in the area of the work is to be removed. During cleaning work and mixing of coating materials, protective gloves are to be worn. Protective glasses or a face shield are to be used for protection from spray. If any of the medium gets into the eye, it must be rinsed immediately and an emergency call for "First Aid" must be made. Hands are to be thoroughly cleaned, especially before meals, visits to the toilets and at the end of the work time. Remnants of resin on hands and finger nails are only to be removed with water and soap or special cleaning media. No solvents are to be used. Protective cream for the skin is to be used regularly. Food and drinks must not be kept or consumed in the working area. Smoking during work or within the working area is forbidden. Instructions under clause 3.2 are to be observed.					
REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA		जांचकर्ता CHECKED BY AMIT MITTAL	
INVENTORY NO. P.2628		4/5/2020		4/6/2020	

0912.015 पृष्ठ 71 का 17 Page 17 of 71		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)																											
11 <u>Assembly-wise Preservation and Painting of components</u> The assembly-wise (PGMA wise) painting and preservation of components is given in Table No. 3. For parts without exact details, surface treatment is to be carried out according to the respective drawing and associated main assembly. The following specified surface treatment is valid for inland and overseas preservation (including coastal regions). Additional measures are only necessary for long term storage (over 18 months). A general description is summarized in clause 7 to 9 of this specification; a detail description is given in the drawings and dockets of respective components. The pre-determined coatings are numbered consecutively from 1 - 4 in the matrix. Material occurring for the first time in the numeration are to be applied immediately after the specified surface condition has been produced. The material to be used are given in Table No. 4 with respective material specifications and are listed here in the assembly-wise sheets under the material description column. Further, the table is divided into exterior and interior surfaces. Where surfaces are not clearly defined appropriate information on drawings and notes on relevant assembly-wise sheets is noted. The following specified surfaces protection must only be applied after pre-treatment and taking the general measures according to clause 1 to 6 into consideration.		12 <u>Thickness of Coating</u> The thickness of the coating is, generally, 40µm/coat with the epoxy primers & the anti-corrosion agents and 15-20µm/coat with the welding primers and the silicone coating materials (see also clause 2.2).																											
13 <u>Cross Referred Standards</u>		<table border="1"> <tr> <td>AA56114</td> <td>HW27589</td> <td>AA57401</td> <td>AA56703</td> </tr> <tr> <td>AA56112</td> <td>AA27513</td> <td>AA57104</td> <td>AA51406</td> </tr> <tr> <td>AA56126</td> <td>TG60332</td> <td>AA57804</td> <td>AA51407</td> </tr> <tr> <td>AA55155</td> <td>TG60334</td> <td>AA56701</td> <td>AA51408</td> </tr> <tr> <td>TG60140</td> <td>TG60333</td> <td>AA57602</td> <td>AA55619</td> </tr> <tr> <td>TG82712</td> <td>IS 3944</td> <td></td> <td></td> </tr> </table>				AA56114	HW27589	AA57401	AA56703	AA56112	AA27513	AA57104	AA51406	AA56126	TG60332	AA57804	AA51407	AA55155	TG60334	AA56701	AA51408	TG60140	TG60333	AA57602	AA55619	TG82712	IS 3944		
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AA56126	TG60332	AA57804	AA51407																										
AA55155	TG60334	AA56701	AA51408																										
TG60140	TG60333	AA57602	AA55619																										
TG82712	IS 3944																												
REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA		4/6/2020																									
INVENTORY NO. 82628		जांचकर्ता CHECKED BY AMIT MITTAL		4/6/2020																									

SIGN & DATE 12/06/20		INVENTORY NO. P.2628		REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA		जांचकर्ता CHECKED BY AMIT MITTAL		4/6/2020 4/6/2020		
स्वत्वसिद्धि एवं गोपनीय इस दस्तावेज में दी गई जानकारी भारत की संपत्ति है। इसका उपयोग केवल भारत सरकार के लिए ही किया जा सकता है। अन्य किसी भी व्यक्ति या संस्था को इस जानकारी का उपयोग करने की अनुमति नहीं दी जाती 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.		SUPERSEDES INVENTORY NO.		SIGN & DATE		0912.015		पृष्ठ 71 का 18 Page 18 of 71		
संस्थान मानक (हीप : हरिद्वार) PLANT STANDARD (HEEP : HARIDWAR)												
Table No. 1 Preparation of surfaces of various parts before painting (BHEL Specification AA0674101)												
Serial No.	Description of the surface to be coated	Processes										
1.	Surfaces of castings and welded parts which are not machined.	1.	Subject the part to shot blasting.									
		2.	Blow the compressed air and clean the part.									
		3.	De-grease and clean with cotton waste dipped in white spirit or petrol.									
		4.	Dry with the help of cotton waste or cloth.									
2.	Machined surfaces of metallic parts.	1.	Clean the rusted places with fine emery paper.									
		2.	De-grease and wash with cotton waste dipped in white petrol or spirit.									
		3.	Dry with the help of cloth or cotton waste.									
3.	The places of part which are not accessible (inner surface of inlet or drain pipe and inner hole of rotor shaft etc.)	1.	De-grease the surface with cloth dipped in white spirit or petrol.									
		2.	Wipe it with clean cloth or cotton waste.									
4.	Surface of winding and other parts before final finishing (after testing).	1.	Blow it with clean compressed air.									
		2.	Wipe with cloth dipped in white petrol.									
		3.	Dry at room temperature for not less than one hour.									
5.	Surface covered with primer or enamel before coating with next layer.	1.	Rub it with sand paper No 120.									
		2.	Blow it with clean compressed air.									
		3.	Clean with cloth dipped in white petrol.									
		4.	Dry with the help of clean cloth.									
6.	Surfaces of rotor after testing and before dispatch to the customer.	1.	Clean the surfaces with moisture free nitrogen.									
		2.	Clean the parts with the help of cloth of winding which are accessible.									
7.	The metallic surfaces of the parts not requiring machining and shot blasting.	1.	Clean the surface from rust dirt and scale with the help of abrasive disc, grinder or chisel.									
		2.	Blow the clean, dry compressed air.									
		3.	Wipe it with clean cloth dipped in white spirit or petrol.									
		4.	Wipe it dry with the help of cloth.									
8.	The surfaces of insulated bus bar, overhang parts of rotor.	1.	Blow the surfaces with clean dry compressed air so that dust and dirt is removed.									
		2.	Wipe the surfaces with the help of clean napkins.									

निर्माणकर्ता SIGN & DATE		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <h3 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h3>	<h1 style="margin: 0;">0912.015</h1>																																																															
पृष्ठ 71 का 20 Page 20 of 71																																																																		
सर्परी नं. संख्या INVENTORY NO.	Table No. 3 Assembly-wise Preservation and Painting Components																																																																	
सर्परी नं. संख्या INVENTORY NO.	PGMA : 13501, 13502, 13513 PART : Stator Frame, Cooler Housing																																																																	
सर्परी नं. संख्या INVENTORY NO.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Outer Surface</th> <th>Inner Surface</th> </tr> </thead> <tbody> <tr> <td>1. Surface Condition</td> <td>Blasted</td> <td>Blasted</td> </tr> <tr> <td>Coating</td> <td>Epoxy based Zinc rich Primer Paint #</td> <td>Epoxy based Zinc Rich Primer Paint #</td> </tr> <tr> <td>Material</td> <td>AA56114</td> <td>AA56114</td> </tr> <tr> <td>DFT</td> <td>100µm min.</td> <td>80µm min.</td> </tr> <tr> <td>Performed by</td> <td>Shop : Fabrication Area</td> <td>Shop : Fabrication Area</td> </tr> <tr> <td>2. Surface Condition</td> <td>Blasted</td> <td>Blasted</td> </tr> <tr> <td>Coating</td> <td>Epoxy based Zinc Rich Primer Paint \$</td> <td>Epoxy based Zinc Rich Primer Paint \$</td> </tr> <tr> <td>Material</td> <td>AA56114</td> <td>AA56114</td> </tr> <tr> <td>DFT</td> <td>100µm min.</td> <td>80µm min.</td> </tr> <tr> <td>Performed by</td> <td>Shop : Assembly Area</td> <td>Shop : Assembly Area</td> </tr> <tr> <td>3. Surface Condition</td> <td>Machined</td> <td>Painted</td> </tr> <tr> <td>Coating</td> <td>Anti-Corrosive Agent TRP 1706</td> <td>Coating Varnish 2404 or IE 82 / 83 (Red)</td> </tr> <tr> <td>Material</td> <td>AA55155</td> <td>HW27589 / AA27513</td> </tr> <tr> <td>DFT</td> <td>80µm min.</td> <td>80µm min.</td> </tr> <tr> <td>Performed by</td> <td>Shop : Assembly Area</td> <td>Shop : Assembly Area</td> </tr> <tr> <td>4. Surface Condition</td> <td>Painted</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> <td></td> </tr> <tr> <td>Material</td> <td>Refer Table No. 5</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> <td></td> </tr> <tr> <td>Performed by</td> <td>Shop : Assembly Area</td> <td></td> </tr> </tbody> </table>				Outer Surface	Inner Surface	1. Surface Condition	Blasted	Blasted	Coating	Epoxy based Zinc rich Primer Paint #	Epoxy based Zinc Rich Primer Paint #	Material	AA56114	AA56114	DFT	100µm min.	80µm min.	Performed by	Shop : Fabrication Area	Shop : Fabrication Area	2. Surface Condition	Blasted	Blasted	Coating	Epoxy based Zinc Rich Primer Paint \$	Epoxy based Zinc Rich Primer Paint \$	Material	AA56114	AA56114	DFT	100µm min.	80µm min.	Performed by	Shop : Assembly Area	Shop : Assembly Area	3. Surface Condition	Machined	Painted	Coating	Anti-Corrosive Agent TRP 1706	Coating Varnish 2404 or IE 82 / 83 (Red)	Material	AA55155	HW27589 / AA27513	DFT	80µm min.	80µm min.	Performed by	Shop : Assembly Area	Shop : Assembly Area	4. Surface Condition	Painted		Coating			Material	Refer Table No. 5		DFT			Performed by	Shop : Assembly Area	
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सर्परी नं. संख्या INVENTORY NO.	Remarks: # Leave weld seams free of paint. \$ After machining and Hydraulic & Pneumatic Test, only the weld-seams and other areas (only where coating is damaged) is to be coated.																																																																	
सर्परी नं. संख्या INVENTORY NO.	Notes: 1. Boss (in Stator Frame) to be coated with Anti-Corrosive Agent TRP 1706 (AA55155) (80µm min.) in Fabrication Area. 2. During fabrication, Machined-areas (like Terminal Plate etc.) to be coated with Anti-Corrosive Agent TRP 1706 (AA55155) (80µm min.) in Fabrication Area. 3. Threaded portion to be coated with Lithium based Grease Grade 3 (AA57401). 4. THDF 115/67 & 125/67 TG: Overhang chamber at TE to be coated with IE 82 / 83 (Red) (AA27513) by assembly area (Block-1) before dispatch to fabrication area (Block-2) for welding of ventilation plates. The top surface of ribs (of stator frame) at the welding-locations of ventilation plates remain free of this coating.																																																																	
सर्परी नं. संख्या INVENTORY NO.	REV. NO. Q3	निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL																																																															
सर्परी नं. संख्या INVENTORY NO.	02628	4/6/2020	4/6/2020																																																															

विद्युत नमूना SIGN & DATE		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <h3 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h3>	<h1 style="margin: 0;">0912.015</h1>	
SUPERSEDES INVENTORY NO	पृष्ठ 71 का 21 Page 21 of 71			
मापदंड नं. 03 अनुसंधान केंद्र नं.	PGMA : 13504 PART : Core Press Ring (except TVPI sets*)			
COPYRIGHT AND CONFIDENTIAL <small>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.</small>	1.	(Non-finger side surface)	(Finger-side surface)	
		Surface Condition		Machined
		Coating		Epoxide priming paint @
		Material		AA56105
		DFT		80µm min.
		Performed by		Shop : Fabrication Area
	2.	Surface Condition	Blasted / Cleaned	Painted
		Coating	Coating Varnish 2404 or IE 82 / 83 (Red) %	Coating Varnish 2404 or IE 82 / 83 (Red) \$
		Material	HW27589 / AA27513	HW27589 / AA27513
		DFT	80µm min.	80µm min.
		Performed by	Shop : Assembly Area	Shop : Assembly Area
	3.	Surface Condition		
		Coating		
		Material		
		DFT		
		Performed by		
	4.	Surface Condition		
		Coating		
		Material		
		DFT		
Performed by				
Remarks: @ After welding of press fingers. % After welding of support bracket and other winding assemblies. \$ Before installation on Stator Core Notes: * For TVPI sets – The Core Press Ring to be coated as per respective drawing & CBOM.				
विद्युत नमूना SIGN & DATE	0. 2628 12/05/20			
INVENTORY NO. 0. 2628	REV. NO. 03	निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	
				
		4/6/2020	4/6/2020	


SIGN & DATE 02/12/2020		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <h3 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h3>	0912.015 पृष्ठ 71 का 22 Page 22 of 71																																																																				
INVENTORY NO 02628	SUPERSEDES INVENTORY NO	PGMA : 13504, 13521 PART : Stator Core, Magnetic Shunt Assembly (except TVPI sets)																																																																					
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Notes: For TVPI sets: The core remains free of any coating before insertion in resin tank. After impregnation in resin tank, the wound stator to be coated as per drawing.																																																																							
INVENTORY NO 02628	REV. NO. 03	निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 4/6/2020																																																																			

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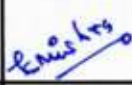

स्वाध्यायिकार एवं गोपनीय

इस दस्तावेज में दी गई जानकारी भारत भारती लिमिटेड की संपत्ति है। इस जानकारी को किसी भी रूप में बिना अनुमति के प्रसारित करना गैर कानूनी है।

भूतल नमूना SIGN & DATE		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <h3 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h3>	0912.015 पृष्ठ 71 का 23 Page 23 of 71	
भूतल नमूना SIGN & DATE	SUPERSEDES INVENTORY NO	PGMA : 13504 PART : Spring Baskets (Core Ready for Winding) (except TVPI sets*)		
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		Surface Condition	Outer Surface	Inner Surface
		Coating	Blasted	Blasted
		Material	Epoxy based Zinc Rich Primer Paint \$ @	Epoxy based Zinc Rich Primer Paint \$ @
		DFT	AA56114	AA56114
		Performed by	80µm min.	80µm min.
		Performed by	Shop : Fabrication Area	Shop : Fabrication Area
		2.		
		Surface Condition	Machined	Machined
		Coating	Anti-Corrosive Agent TRP 1706 #	Anti-Corrosive Agent TRP 1706 #
		Material	AA55155	AA55155
		DFT	40µm min.	40µm min.
		Performed by	Shop : Assembly Area	Shop : Assembly Area
		3.		
		Surface Condition	Blasted	Blasted
		Coating	Epoxy based Zinc Rich Primer Paint @	Epoxy based Zinc Rich Primer Paint @
		Material	AA56114	AA56114
		DFT	80µm min.	80µm min.
		Performed by	Shop : Assembly Area (after welding with Core assembly)	
		4.		
Surface Condition	Painted	Painted		
Coating	Coating Varnish 2404 or IE 82 / 83 (Red) @	Coating Varnish 2404 or IE 82 / 83 (Red) @		
Material	HW27589 / AA27513	HW27589 / AA27513		
DFT	80µm min.	80µm min.		
Performed by	Shop : Assembly Area (after welding with Core assembly)			
Remarks: # To be removed before installation. \$ The joints in half-rings of Spring Basket not to be coated. \$ 20mm area radially from the inner-dia (ID) not to be coated on all four faces of Spring Baskets. @ Area of plate on Spring Baskets for welding with Bush (in Stator) to remain free of any coating. Coat the same after welding (in Stator) in assembly area. Notes: *For TVPI sets: The Spring Baskets to be coated as per respective drawing & CBOM.				
भूतल नमूना SIGN & DATE	REV. NO. 03	निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	

निर्माणक द्वारा SIGN & DATE		0912.015	
SUPERSEDES INVENTORY NO.		पृष्ठ 71 का 24 Page 24 of 71	
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.		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)	
भारतीय नदी नगर 42 अधिकृत वरतः		PGMA : 13501, 13504 PART : Preparation of Stator for Core Insertion, Spring Mounted Core Housing, Suspension Arrangement, Stator Core Housing, Welding of Ventilation Plates	
भारतीय नदी नगर 42 अधिकृत वरतः		Inner Surface	
1.		Surface Condition <i>Blasted</i> Coating <i>Epoxy based Zinc Rich Primer Paint</i> Material <i>AA56114</i> DFT <i>80µm min.</i> Performed by <i>Shop : Fabrication Area</i>	
2.		Surface Condition <i>Machined</i> Coating <i>Anti-Corrosive Agent TRP 1706 #</i> Material <i>AA55155</i> DFT <i>80µm min.</i> Performed by <i>Shop : Assembly Area</i>	
3.		Surface Condition <i>Painted</i> Coating <i>Coating Varnish 2404 or IE 82 / 83 (Red) \$</i> Material <i>HW27589 / AA27513</i> DFT <i>80µm min.</i> Performed by <i>Shop : Assembly Area</i>	
4.		Surface Condition Coating Material DFT Performed by	
भारतीय नदी नगर 42 अधिकृत वरतः		Remarks: # Only for Spring Mounted Core-Housing (500 MW). \$ Area of Spring for welding with Bush will remain free of any coating. After welding, Spring and Bush to be coated. Notes: 1. THDF 115/67 & 125/67 TG: Overhang chamber at TE to be coated with <i>Coating Varnish 2404 or IE 82 / 83 (Red) (HW27589 / AA27513)</i> by assembly area (Block-1) before dispatch to fabrication area (Block-2) for welding of ventilation plates. The top surface of ribs (of stator frame) at the welding-locations of ventilation plates remain free of this coating. 2. Plates of Welding of Ventilation-plates assembly to be coated with: a) <i>Epoxy based Zinc Rich Primer Paint AA56114 80µm min. in Fabrication Area.</i> b) <i>Coating Varnish 2404 or IE 82 / 83 (Red) (HW27589 / AA27513): 80µm min. on the outer diameter (OD) side before welding.</i>	
भारतीय नदी नगर 42 अधिकृत वरतः		REV. NO. 03	
भारतीय नदी नगर 42 अधिकृत वरतः		निर्माणकर्ता WORKED BY PRASHANT MISHRA	
भारतीय नदी नगर 42 अधिकृत वरतः		जांचकर्ता CHECKED BY AMIT MITTAL	
भारतीय नदी नगर 42 अधिकृत वरतः		4/4/2020 4/6/2020	

		उत्पाद मानक (हीप : हरिद्वार)		0912.015																					
		PRODUCT STANDARD (HEEP: HARIDWAR)		पृष्ठ 71 का 25 Page 25 of 71																					
SUPERSEDES INVENTORY NO. आगामी पुरानी संख्या में अतिरिक्त नहीं है		PGMA : 13936, 13937 PART : Casing End Parts, End Shields																							
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Remarks: # Leave weld seams free of paint. \$ After machining and Hydraulic & Pneumatic Test, only the weld-seams and other areas (only where coating is damaged) is to be coated. @ For End Shield EE of THDF module, this coating is to be done before installation of Shielding of End Shield EE.																									
Notes: 1. Bearing chamber, Bearing drain, Hydrogen separator chamber to be left free of any paint / primer (refer docket for details). These are to be preserved using Lube oil VG 46 (AA57104). Rest of the chambers to be preserved as per Air Side surface. 2. Threaded portion to be coated with Lithium based Grease Grade 3 (AA57401).																									
REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA		जांचकर्ता CHECKED BY AMIT MITTAL																					
INVENTORY NO. P.2678		4/6/2020		4/6/2020																					

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	Performed by	<i>Shop : Fabrication Area</i>	<i>Shop : Fabrication Area</i>																																																																																
2.	Surface Condition	<i>Blasted</i>	<i>Blasted</i>																																																																																
	Coating	<i>Epoxy based Zinc Rich Primer Paint \$</i>	<i>Epoxy based Zinc Rich Primer Paint \$</i>																																																																																
	Material	<i>AA56114</i>	<i>AA56114</i>																																																																																
	DFT	<i>80µm min.</i>	<i>80µm min.</i>																																																																																
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>																																																																																
3.	Surface Condition	<i>Machined</i>	<i>Painted</i>																																																																																
	Coating	<i>Anti-Corrosive Agent TRP 1706</i>	<i>Coating Varnish 2404 or IE 82 / 83 (Red)</i>																																																																																
	Material	<i>AA55155</i>	<i>HW27589 / AA27513</i>																																																																																
	DFT	<i>80µm min.</i>	<i>80µm min.</i>																																																																																
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>																																																																																
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	Material																																																																																		
	DFT																																																																																		
	Performed by																																																																																		
<p>Remarks:</p> <p># Leave weld seams free of paint.</p> <p>\$ After machining and Hydraulic & Pneumatic Test, only the weld-seams and other areas (only where coating is damaged) is to be coated.</p> <p>Notes:</p> <p>Threaded portion to be coated with <i>Lithium based Grease Grade 3 (AA57401)</i>.</p>																																																																																			
SIGN & DATE INVENTORY NO.	REV. NO. 03	निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL																																																																																
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उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

 पृष्ठ 71 का 27
 Page 27 of 71

 निर्माणकर्ता
 SIGN & DATE

 SUPERSEDES
 INVENTORY NO.

 निर्माणकर्ता
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 स्वत्वधिकार एवं गोपनीय
 यह दस्तावेज भारतीय विद्युत निगम की संपत्ति है। इस दस्तावेज में दी गई जानकारी को बिना अनुमति के किसी भी व्यक्ति को नहीं देना चाहिए। इस दस्तावेज का उपयोग केवल निगम के अंतर्गत ही किया जाना चाहिए।

 निर्माणकर्ता
 SIGN & DATE

 निर्माणकर्ता
 INVENTORY NO.

PGMA : 13524

PART : Stator Winding Attachment

1.	Surface Condition	Blasted / Machined / Cleaned
	Coating	EP Weld Primer #
	Material	TG60332
	DFT	40µm min.
	Performed by	Shop : Assembly Area
2.	Surface Condition	
	Coating	
	Material	
	DFT	
	Performed by	
3.	Surface Condition	
	Coating	
	Material	
	DFT	
	Performed by	
4.	Surface Condition	
	Coating	
	Material	
	DFT	
	Performed by	

Remarks:

Only weld-seams between Support Bracket and Core Press Ring to be coated.

REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

4/6/2020

4/6/2020

 P.2628
 12/02/20

निर्माणक SIGN & DATE	SUPERSEDES INVENTORY NO	मी एम डी एल BHE	उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)	0912.015 पृष्ठ 71 का 29 Page 29 of 71																																																					
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		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="3">PGMA : 13508</td> </tr> <tr> <td colspan="3">PART : Stator Winding Assembly</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">All Surfaces</td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">1.</td> <td>Surface Condition</td> <td>Cleaned</td> </tr> <tr> <td>Coating</td> <td>Coating Varnish 2404</td> </tr> <tr> <td>Material</td> <td>HW27589</td> </tr> <tr> <td>DFT</td> <td>40µm min.</td> </tr> <tr> <td>Performed by</td> <td>Shop : Assembly Area</td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">2.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">3.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">4.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> </table>			PGMA : 13508			PART : Stator Winding Assembly					All Surfaces	1.	Surface Condition	Cleaned	Coating	Coating Varnish 2404	Material	HW27589	DFT	40µm min.	Performed by	Shop : Assembly Area	2.	Surface Condition		Coating		Material		DFT		Performed by		3.	Surface Condition		Coating		Material		DFT		Performed by		4.	Surface Condition		Coating		Material		DFT		Performed by	
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INVENTORY NO. 8.2628	REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA	जांचकर्ता CHECKED BY AMIT MITTAL	4/6/2020 4/6/2020																																																				



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 30
Page 30 of 71हस्ताक्षर
SIGN & DATEसुपरसेड्स
SUPERSEDES
INVENTORY NOसमय सीमा
VALIDITY PERIOD

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यह दस्तावेज भारतीय भारत भारी विद्युत उपकरण लिमिटेड की संपत्ति है। इसमें उपर्युक्त सूचनाओं के बिना किसी भी प्रकार का प्रयोग नहीं किया जाना चाहिए।

हस्ताक्षर
SIGN & DATEसमय सीमा
INVENTORY NO

PGMA : 13505, 13508

PART : Mounting of Header, Support Ring

All Surfaces

1.

Surface Condition

Cleaned

Coating

No Coating

Material

--

DFT

--

Performed by

--

2.

Surface Condition

Coating

Material

DFT

Performed by

3.

Surface Condition

Coating

Material

DFT

Performed by

4.

Surface Condition

Coating

Material

DFT

Performed by

Notes:

Support Ring --No preservative coating required as it is already present from vendor works.




Header -- The material of Header is Stainless Steel, no coating required.


REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

4/6/2020

4/6/2020

SIGN & DATE SUPERSEDES INVENTORY NO		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)	0912.015 पृष्ठ 71 का 31 Page 31 of 71																																															
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>PGMA : 13912 PART : Arrangement of Terminal Bushing</p> </div> <div style="width: 65%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">All Surfaces</th> </tr> </thead> <tbody> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">1.</td> <td>Surface Condition</td> <td>Machined</td> </tr> <tr> <td>Coating</td> <td>Anti-Corrosive Agent TRP 1706 #</td> </tr> <tr> <td>Material</td> <td>AA55155</td> </tr> <tr> <td>DFT</td> <td>80µm min.</td> </tr> <tr> <td>Performed by</td> <td>Shop : Assembly Area</td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">2.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">3.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">4.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> </tbody> </table> </div> </div> <div style="margin-top: 10px;"> <p>Remarks: # Machined items of mild-steel to be coated.</p> <p>Notes: The Terminal Bushings remain of free of any coating.</p> </div>				All Surfaces			1.	Surface Condition	Machined	Coating	Anti-Corrosive Agent TRP 1706 #	Material	AA55155	DFT	80µm min.	Performed by	Shop : Assembly Area	2.	Surface Condition		Coating		Material		DFT		Performed by		3.	Surface Condition		Coating		Material		DFT		Performed by		4.	Surface Condition		Coating		Material		DFT		Performed by	
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22628 12/06/20		 4/6/2020	 4/6/2020																																															

From the signature SIGN & DATE		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <h3 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h3>	0912.015 पृष्ठ 71 का 33 Page 33 of 71																																																												
SUPERSEDES INVENTORY NO	PGMA : 13606 PART : Rotor Assembly																																																														
मशीन नं. अथवा अन्य अधिकार क्षेत्र में	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1.</td> <td style="width: 30%;">Surface Condition</td> <td>Painted</td> </tr> <tr> <td></td> <td>Coating</td> <td>Alkyd Protective Coating Enamel (Grey)</td> </tr> <tr> <td></td> <td>Material</td> <td>AA27513</td> </tr> <tr> <td></td> <td>DFT</td> <td>80µm min.</td> </tr> <tr> <td></td> <td>Performed by</td> <td>Shop : Assembly Area</td> </tr> <tr> <td style="text-align: center;">2.</td> <td>Surface Condition</td> <td>Machined</td> </tr> <tr> <td></td> <td>Coating</td> <td>Anti-Corrosive Agent TRP 1706 #</td> </tr> <tr> <td></td> <td>Material</td> <td>AA55155</td> </tr> <tr> <td></td> <td>DFT</td> <td>80µm min.</td> </tr> <tr> <td></td> <td>Performed by</td> <td>Shop : Assembly Area</td> </tr> <tr> <td style="text-align: center;">3.</td> <td>Surface Condition</td> <td>Machined</td> </tr> <tr> <td></td> <td>Coating</td> <td>Turbine Oil Grade VG46 / Lube Oil \$</td> </tr> <tr> <td></td> <td>Material</td> <td>AA57104</td> </tr> <tr> <td></td> <td>DFT</td> <td>-</td> </tr> <tr> <td></td> <td>Performed by</td> <td>Shop : Assembly Area</td> </tr> <tr> <td style="text-align: center;">4.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td></td> <td>Coating</td> <td></td> </tr> <tr> <td></td> <td>Material</td> <td></td> </tr> <tr> <td></td> <td>DFT</td> <td></td> </tr> <tr> <td></td> <td>Performed by</td> <td></td> </tr> </table>			1.	Surface Condition	Painted		Coating	Alkyd Protective Coating Enamel (Grey)		Material	AA27513		DFT	80µm min.		Performed by	Shop : Assembly Area	2.	Surface Condition	Machined		Coating	Anti-Corrosive Agent TRP 1706 #		Material	AA55155		DFT	80µm min.		Performed by	Shop : Assembly Area	3.	Surface Condition	Machined		Coating	Turbine Oil Grade VG46 / Lube Oil \$		Material	AA57104		DFT	-		Performed by	Shop : Assembly Area	4.	Surface Condition			Coating			Material			DFT			Performed by	
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<p>स्वाधिकार एवं गोपनीय यह दस्तावेज भारत भारती लिमिटेड की संपत्ति है। इस दस्तावेज का उपयोग केवल भारत भारती लिमिटेड के लिए ही किया जा सकता है। इस दस्तावेज को किसी भी रूप में प्रसारित करना या इसका उपयोग किसी अन्य उद्देश्य के लिए करना गैर कानूनी है।</p>																																																															
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मशीन नं. अथवा अन्य INVENTORY NO.	P.2628																																																														
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4/6/2020		4/4/2020																																																													



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

 पृष्ठ 71 का 34
 Page 34 of 71

PGMA : 13606

PART : Moisture Protection Cover

1.	Surface Condition	<i>Blasted</i>
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>
	Material	<i>AA56114</i>
	DFT	<i>80µm min.</i>
	Performed by	<i>Shop : Fabrication Area/Vendor</i>

2.	Surface Condition	<i>Painted</i>
	Coating	<i>High Build Intermediate Epoxy Paint</i>
	Material	<i>AA56112</i>
	DFT	<i>80µm min.</i>
	Performed by	<i>Shop : Assembly Area</i>

3.	Surface Condition	<i>Painted</i>
	Coating	<i>Full Gloss Polyurethane Finishing Paint</i>
	Material	<i>AA56126</i>
	DFT	<i>80µm min.</i>
	Performed by	<i>Shop : Assembly Area</i>

4.	Surface Condition	
	Coating	
	Material	
	DFT	
	Performed by	

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 इस दस्तावेज में दी गई जानकारी भारत भारती मशीनफैब्रिकेशन लिमिटेड की संपत्ति है। इस जानकारी का उपयोग केवल के लिए ही किया जाना चाहिए। इस जानकारी को किसी भी अन्य व्यक्ति को देना या प्रसारित करना गैर कानूनी है।

 दिनांक और प्रमाण
 SIGN & DATE

 सामग्री नंबर
 INVENTORY NO.

 REV.
 NO.
 03

 निर्माणकर्ता
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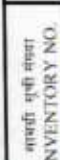
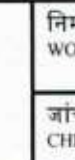

 PRASHANT
 MISHRA


 जांचकर्ता
 CHECKED BY


AMIT MITTAL

 4/6/2020
 4/6/2020

 P.2628
 12/08/20

		<h1 style="margin:0;">उत्पाद मानक (हीप : हरिद्वार)</h1> <h2 style="margin:0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h2>			<h3 style="margin:0;">0912.015</h3>	
SIGN & DATE 		SIGN & DATE 			पृष्ठ 71 का 35 Page 35 of 71	
SUPERSEDES INVENTORY NO. 02628		PGMA : 13612 PART : Sliding Pedestal, Guide Pulley* and Support Block				
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		2.		Coating	Epoxy based Zinc Rich Primer Paint	
		3.		Material	AA56114	
		4.		DFT	80µm min.	
		5.		Performed by	Shop : Fabrication Area/Vendor	
		6.		Surface Condition	Painted	
		7.		Coating	High Build Intermediate Epoxy Paint	
		8.		Material	AA56112	
		9.		DFT	80µm min.	
		10.		Performed by	Shop : Assembly Area	
		11.		Surface Condition	Painted	
		12.		Coating	Full Gloss Polyurethane Finishing Paint	
		13.		Material	AA56126	
		14.		DFT	80µm min.	
		15.		Performed by	Shop : Assembly Area	
		16.		Surface Condition		
		17.		Coating		
		18.		Material		
		19.		DFT		
		20.		Performed by		
Remarks: * The pin of the Guide Pulley is not to be painted.						
SIGN & DATE 		SIGN & DATE 		SIGN & DATE 		
INVENTORY NO. 02628		REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA		
INVENTORY NO. 02628		REV. NO. 03		जांचकर्ता CHECKED BY AMIT MITTAL		

SIGN & DATE SUPERSEDES INVENTORY NO				उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015 पृष्ठ 71 का 38 Page 38 of 71	
PGMA : 13907 PART : Baffle Ring Carrier							
		Austenitic Nodular Cast Iron Castings		Aluminium Alloy Casting			
1.	Surface Condition	Cleaned un-machined cast surface		Cleaned un-machined cast surface			
	Coating	Coating Varnish 2404 or IE 82 / 83 (Red)		Coating Varnish 2404 or IE 82 / 83 (Red) #			
	Material	HW27589 / AA27513		HW27589 / AA27513			
	DFT	40µm min.		40µm min.			
	Performed by	Shop : Assembly Area		Shop : Assembly Area			
2.	Surface Condition	Machined					
	Coating	Anti-Corrosive Agent TRP 1706					
	Material	AA55155					
	DFT	40µm min.					
	Performed by	Shop : Assembly Area					
3.	Surface Condition						
	Coating						
	Material						
	DFT						
	Performed by						
4.	Surface Condition						
	Coating						
	Material						
	DFT						
	Performed by						
Remarks: # Machined Surfaces of Aluminium castings to be cleaned and remain free of coating.							
Notes: Threaded portion to be coated with <i>Lithium based Grease Grade 3 (AA57401)</i> .							
SIGN & DATE INVENTORY NO		REV. NO. 03		निर्माणकर्ता WORKED BY PRASHANT MISHRA		जांचकर्ता CHECKED BY AMIT MITTAL	
P. 2688 4/6/2020		03		4/6/2020		4/6/2020	

		<h1 style="margin:0;">उत्पाद मानक (हीप : हरिद्वार)</h1> <h2 style="margin:0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h2>			<h3 style="margin:0;">0912.015</h3>	
SIGN & DATE _____		पृष्ठ 71 का 39 Page 39 of 71				
SUPERSEDES INVENTORY NO. _____						
PGMA : 13907, 13935 PART : Baffle Ring, Insert Cover, Air Baffle Ring, End Shields (Aluminium)						
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.	Surface Condition	Austenitic Nodular Cast Iron Castings	Aluminium Alloy Casting		
		Coating	Cleaned un-machined cast surface	Cleaned un-machined cast surface		
		Material	Coating Varnish 2404 or IE 82 / 83 (Red)	Coating Varnish 2404 or IE 82 / 83 (Red) #		
		DFT	HW27589 / AA27513	HW27589 / AA27513		
		Performed by	80µm min.	80µm min.		
	2.	Surface Condition	Shop : Assembly Area	Shop : Assembly Area		
		Coating				
		Material	Machined			
		DFT	Anti-Corrosive Agent TRP 1706			
		Performed by	AA55155			
	3.	Surface Condition				
		Coating				
		Material				
		DFT				
		Performed by				
	4.	Surface Condition				
		Coating				
		Material				
		DFT				
		Performed by				
Remarks: # Machined Surfaces of Aluminium castings to be cleaned and remain free of coating.						
Notes: Threaded portion to be coated with <i>Lithium based Grease Grade 3 (AA57401)</i> .						

REV. NO. 03

निर्माणकर्ता
WORKED BY
PRASHANT MISHRA

जांचकर्ता
CHECKED BY
AMIT MITTAL

4/6/2020

4/6/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 40
Page 40 of 71

PGMA : 13935, 13934

PART : Shaft Seal Assembly & associated Wipers

		Outer Surface	Groove Area
1.	Surface Condition	<i>Machined</i>	<i>Cleaned</i>
	Coating	<i>Anti-Corrosive Agent TRP 1706</i>	<i>Lithium based Grease Grade 3</i>
	Material	<i>AA55155</i>	<i>AA57401</i>
	DFT	<i>80µm min.</i>	<i>--</i>
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>
2.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
3.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Notes:

1. Insulating Items to be coated with *Coating Varnish 2404 or IE 82 / 83 (Red)* (HW27589 / AA27513).
2. Oil Wiper (H2 Side) of Seal Body to be coated with *Coating Varnish 2404 or IE 82 / 83 (Red)*

SIGN & DATE

12/06/20

INVENTORY NO.

P.2828

REV.
NO.
03निर्माणकर्ता
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CHECKED BY


AMIT MITTAL

4/6/2020

4/6/2020

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स्वत्वधिकार एवं गोपनीय
यह सूचना कि यह दस्तावेज़ भारत भारी विद्युत यंत्रण लिमिटेड की संपत्ति है, इसका प्रयोग
केवल उद्देश्य के बिना अन्य किसी भी उद्देश्य के लिए नहीं किया जा सकता है। इस दस्तावेज़ की नकल
बिना अनुमति के नहीं की जा सकती है।

दिनांक एवं हस्ताक्षर SIGN & DATE		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <h3 style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</h3>	<h1 style="margin: 0;">0912.015</h1>																																															
SUPERSEDES INVENTORY NO	पृष्ठ 71 का 41 Page 41 of 71																																																	
आवृत्ति एवं मूल्य अवधि एवं मूल्य	<div style="border: 1px solid black; padding: 5px;"> PGMA : 13935, 13934 PART : Seal Ring </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">All Surfaces</th> </tr> </thead> <tbody> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">1.</td> <td>Surface Condition</td> <td>Cleaned</td> </tr> <tr> <td>Coating</td> <td>Turbine Oil Grade VG46 / Lube Oil</td> </tr> <tr> <td>Material</td> <td>AA57104</td> </tr> <tr> <td>DFT</td> <td>--</td> </tr> <tr> <td>Performed by</td> <td>Shop : Assembly Area</td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">2.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">3.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">4.</td> <td>Surface Condition</td> <td></td> </tr> <tr> <td>Coating</td> <td></td> </tr> <tr> <td>Material</td> <td></td> </tr> <tr> <td>DFT</td> <td></td> </tr> <tr> <td>Performed by</td> <td></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Notes: Seal Rings to be wrapped with wax paper (AA51407), cotton cloth and polythene sheets before dispatch.</p> </div>			All Surfaces			1.	Surface Condition	Cleaned	Coating	Turbine Oil Grade VG46 / Lube Oil	Material	AA57104	DFT	--	Performed by	Shop : Assembly Area	2.	Surface Condition		Coating		Material		DFT		Performed by		3.	Surface Condition		Coating		Material		DFT		Performed by		4.	Surface Condition		Coating		Material		DFT		Performed by	
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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 style="border: 1px solid black; padding: 5px;"> <p>स्वतन्त्राधिकार एवं गोपनीयता</p> <p>यह दस्तावेज मे की गई सूचना भारत भारती लिमिटेड का सम्पत्ति है। इसका प्रयोग केवल भारत भारती लिमिटेड के ही उपयोग के लिए ही किया जा सकता है। इस दस्तावेज को किसी भी रूप में प्रसारित करने से भारत भारती लिमिटेड को नुकसान हो सकता है।</p> </div>																																																	
दिनांक एवं हस्ताक्षर SIGN & DATE	<div style="border: 1px solid black; padding: 5px;"> <p>REV. NO. 03</p> </div>																																																	
आवृत्ति एवं मूल्य INVENTORY NO	निर्माणकर्ता WORKED BY	PRASHANT MISHRA	4/6/2020																																															
8.2628	जांचकर्ता CHECKED BY	AMIT MITTAL	4/6/2020																																															



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 42

Page 42 of 71

PGMA : 13901, 13902

PART : Bearing & associated Wipers

		Steel Surface	Babbitt Surface
1.	Surface Condition	<i>Machined</i>	<i>Cleaned</i>
	Coating	<i>Anti-Corrosive Agent TRP 1706</i>	<i>Lithium based Grease Grade 3. #</i>
	Material	<i>AA55155</i>	<i>AA57401</i>
	DFT	<i>80µm min.</i>	<i>--</i>
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>
2.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
3.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Remarks:


Holes for Jacking oil to be suitably protected with tape.

हस्ताक्षर एवं तारीख
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INVENTORY NO.सुरक्षा नंबर
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NO.
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MISHRAजांचकर्ता
CHECKED BY


AMIT MITTAL

4/6/2020

4/6/2020

SIGN & DATE SUPERSEDES INVENTORY NO. मशीन नं. वगैरह अतिरिक्त स्पष्ट करें		<h2 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h2> <p>PRODUCT STANDARD (HEEP: HARIDWAR)</p>	0912.015 पृष्ठ 71 का 43 Page 43 of 71	
PGMA : 13912, 13934, 13935 PART : Oil Catchers, Labyrinth Rings (Aluminium) & associated Wipers				
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.	Un-machined cast surfaces		Machined Surfaces	
	1.	Surface Condition	Cleaned	Cleaned
		Coating	Coating Varnish 2404 or IE 82 / 83 (Red)	Free of coating #
		Material	HW27589 / AA27513	
		DFT	80µm min.	
		Performed by	Shop : Assembly Area	
	2.	Surface Condition		
		Coating		
		Material		
		DFT		
		Performed by		
	3.	Surface Condition		
		Coating		
		Material		
		DFT		
		Performed by		
	4.	Surface Condition		
	Coating			
	Material			
	DFT			
	Performed by			
Remarks: # Machined Surfaces of Aluminium castings to be cleaned and remain free of coating.				
SIGN & DATE INVENTORY NO. मशीन नं. वगैरह	REV. NO.	निर्माणकर्ता WORKED BY	PRASHANT MISHRA	
मशीन नं. वगैरह INVENTORY NO. मशीन नं. वगैरह	03	जांचकर्ता CHECKED BY	AMIT MITTAL	

<div>निर्माण का प्रमाण SIGN & DATE</div> <div>सुपरीसर्जक INVENTORY NO.</div>		<div>उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)</div>		<div>0912.015</div> <div>पृष्ठ 71 का 44 Page 44 of 71</div>																																																																					
<div>निर्माण का प्रमाण SIGN & DATE</div> <div>सुपरीसर्जक INVENTORY NO.</div>		<div>PGMA : 13917. PART : Pipe Assembly for Seal Oil Pressure Measurement</div> <table><tr><td colspan="2"></td><td colspan="2">All Surfaces</td></tr><tr><td rowspan="5">1.</td><td>Surface Condition</td><td colspan="2">Cleaned</td></tr><tr><td>Coating</td><td colspan="2">Turbine Oil Grade VG46 / Lube Oil</td></tr><tr><td>Material</td><td colspan="2">AA57104</td></tr><tr><td>DFT</td><td colspan="2">--</td></tr><tr><td>Performed by</td><td colspan="2">Shop : Assembly Area</td></tr><tr><td rowspan="5">2.</td><td>Surface Condition</td><td colspan="2">Machined</td></tr><tr><td>Coating</td><td colspan="2">Anti-Corrosive Agent TRP 1706</td></tr><tr><td>Material</td><td colspan="2">AA55155</td></tr><tr><td>DFT</td><td colspan="2">40µm min.</td></tr><tr><td>Performed by</td><td colspan="2">Shop : Assembly Area</td></tr><tr><td rowspan="5">3.</td><td>Surface Condition</td><td></td><td></td></tr><tr><td>Coating</td><td></td><td></td></tr><tr><td>Material</td><td></td><td></td></tr><tr><td>DFT</td><td></td><td></td></tr><tr><td>Performed by</td><td></td><td></td></tr><tr><td rowspan="5">4.</td><td>Surface Condition</td><td></td><td></td></tr><tr><td>Coating</td><td></td><td></td></tr><tr><td>Material</td><td></td><td></td></tr><tr><td>DFT</td><td></td><td></td></tr><tr><td>Performed by</td><td></td><td></td></tr></table>						All Surfaces		1.	Surface Condition	Cleaned		Coating	Turbine Oil Grade VG46 / Lube Oil		Material	AA57104		DFT	--		Performed by	Shop : Assembly Area		2.	Surface Condition	Machined		Coating	Anti-Corrosive Agent TRP 1706		Material	AA55155		DFT	40µm min.		Performed by	Shop : Assembly Area		3.	Surface Condition			Coating			Material			DFT			Performed by			4.	Surface Condition			Coating			Material			DFT			Performed by		
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		<h1 style="margin: 0;">उत्पाद मानक (हीप : हरिद्वार)</h1> <p style="margin: 0;">PRODUCT STANDARD (HEEP: HARIDWAR)</p>		0912.015 पृष्ठ 71 का 45 Page 45 of 71	
PGMA : 13801, 13807, 13809 PART : Fixing of Foundation Plates, Foundation Covering					
All Surfaces					
1.	Surface Condition		<i>Blasted</i>		
	Coating		<i>Epoxy based Zinc Rich Primer Paint</i>		
	Material		<i>AA56114</i>		
	DFT		<i>80µm min.</i>		
	Performed by		<i>Shop : Fabrication Area</i>		
2.	Surface Condition		<i>Machined</i>		
	Coating		<i>Anti-Corrosive Agent TRP 1706</i>		
	Material		<i>AA55155</i>		
	DFT		<i>80µm min.</i>		
	Performed by		<i>Shop : Assembly Area</i>		
3.	Surface Condition				
	Coating				
	Material				
	DFT				
	Performed by				
4.	Surface Condition				
	Coating				
	Material				
	DFT				
	Performed by				
Notes: Threaded portion to be coated with <i>Lithium based Grease Grade 3 (AA57401).</i>					
नमूने की तारीख SIGN & DATE <i>[Signature]</i> 12/06/20		निर्माणकर्ता WORKED BY PRASHANT MISHRA			
आवधिकार संख्या INVENTORY NO. P-2628		जांचकर्ता CHECKED BY AMIT MITTAL			
REV. NO. 03		<div style="display: flex; justify-content: space-between;"> 4/6/2020 <i>[Signature]</i> 4/6/2020 <i>[Signature]</i> </div>			



उत्पाद मानक (हीप : हरिद्वार)

0912.015

पृष्ठ 71 का 46

PRODUCT STANDARD (HEEP: HARIDWAR)

Page 46 of 71

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INVENTORY NO

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स्वत्वधिकार एवं गोपनीय

SIGN & DATE

INVENTORY NO

PGMA : 13938

PART : End Covers of Sealing for Transport of Stator and Packing of Cooler Housing

		Outer Surface	Inner Surface
1.	Surface Condition	<i>Blasted</i>	
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	
	Material	<i>AA56114</i>	
	DFT	<i>100µm min.</i>	
	Performed by	<i>Shop : Fabrication Area</i>	
2.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
3.	Surface Condition	<i>Painted</i>	
	Coating		
	Material	<i>Refer Table No. 5</i>	
	DFT		
	Performed by	<i>Shop : Assembly Area</i>	
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

4/6/2020

4/6/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 47

Page 47 of 71

हस्ताक्षर
SIGN & DATEसुरक्षित
INVENTORY NOसुरक्षित
अवधि का समय

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संस्थापक एवं गोपनीय

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हस्ताक्षर
SIGN & DATEसुरक्षित
INVENTORY NO

PGMA : 13942, 13945, 13925, 13943, 13944, 13949

PART : Tools and Aids, Mounting Bracket, Lifting Devices, Erection Pedestals

		Outer Surface	Inner Surface
1.	Surface Condition	<i>Blasted</i>	
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	
	Material	<i>AA56114</i>	
	DFT	<i>80µm min.</i>	
	Performed by	<i>Shop : Fabrication Area</i>	
2.	Surface Condition	<i>Machined</i>	
	Coating	<i>Anti-Corrosive Agent TRP 1706</i>	
	Material	<i>AA55155</i>	
	DFT	<i>80µm min.</i>	
	Performed by	<i>Shop : Assembly Area</i>	
3.	Surface Condition	<i>Painted</i>	
	Coating	<i>High Build Intermediate Epoxy Paint</i>	
	Material	<i>AA56112</i>	
	DFT	<i>80µm min.</i>	
	Performed by	<i>Shop : Assembly Area</i>	
4.	Surface Condition	<i>Painted</i>	
	Coating	<i>Full Gloss Polyurethane Finishing Paint</i>	
	Material	<i>AA56126</i>	
	DFT	<i>50µm min.</i>	
	Performed by	<i>Shop : Assembly Area</i>	

Notes:


Threaded portion to be coated with *Lithium based Grease Grade 3 (AA57401)*.REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

4/6/2020

4/6/2020

P-2628-12/06/20

		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)		0912.015			
हिरो नॉ अवेनर SIGN & DATE		SUPERSEDES INVENTORY NO		पृष्ठ 71 का 48 Page 48 of 71			
भारतीय मशीनरी निगम भारतीय मशीनरी निगम		PGMA : 14931, 14932, 14910, 14936 PART : Seal Oil Unit, Vacuum Tank, Intermediate Oil Tank, Seal Oil Valve Rack					
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		Outer Surface Inner Surface					
		Surface Condition		Blasted		Blasted	
		Coating		Epoxy based Zinc Rich Primer Paint #		Turbine Oil Grade VG46 / Lube Oil	
		Material		AA56114		AA57104	
		DFT		80µm min.		--	
		Performed by		Shop : Fabrication Area		Shop : Fabrication Area	
		2.					
		Surface Condition		Blasted		Cleaned	
		Coating		Epoxy based Zinc Rich Primer Paint #		Oil Resistant Synthetic Enamel @	
		Material		AA56114		AA56132	
		DFT		80µm min.		60µm min.	
		Performed by		Shop : Assembly Area (Block-IV)		Shop : Assembly Area (Block-IV)	
		3.					
		Surface Condition		Machined			
		Coating		Anti-Corrosive Agent TRP 1706 \$			
		Material		AA55155			
		DFT		80µm min.			
		Performed by		Shop : Assembly Area (Block-IV)			
		4.					
Surface Condition		Painted					
Coating		See Note-1 below					
Material							
DFT							
Performed by		Shop : Assembly Area (Block-IV)					
Remarks: # Leave weld-seams free of any coating. After hydraulic test and testing of Unit, weld-seams to be coated. \$ Machined area to be coated. @ After hydraulic test and Performance testing of Unit, inner surface to be coated. Notes: For final painting scheme refer drawing under PGMA 15100 in respective work-orders.							
हिरो नॉ अवेनर SIGN & DATE		निर्माणकर्ता WORKED BY		PRASHANT MISHRA			
भारतीय मशीनरी निगम INVENTORY NO		जांचकर्ता CHECKED BY		AMIT MITTAL			
REV. NO. 03		4/6/2020		4/6/2020			



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 50

Page 50 of 71

PGMA : 14917, 14925

PART : Gas Unit, N2 Distributor, H2 Distributor, CO2 Distributor

		Outer Surface	Inner Surface
1.	Surface Condition	Blasted	Cleaned & Dried
	Coating	Epoxy based Zinc Rich Primer Paint #	--
	Material	AA56114	--
	DFT	80µm min.	--
	Performed by	Shop : Fabrication Area	Shop : Fabrication Area
2.	Surface Condition	Blasted	Cleaned & Dried
	Coating	Epoxy based Zinc Rich Primer Paint #	--
	Material	AA56114	--
	DFT	80µm min.	--
	Performed by	Shop : Assembly Area (Block-IV)	Shop : Assembly Area (Block-IV)
3.	Surface Condition	Machined	
	Coating	Anti-Corrosive Agent TRP1706 \$	
	Material	AA55155	
	DFT	80µm min.	
	Performed by	Shop : Assembly Area (Block-IV)	
4.	Surface Condition	Painted	
	Coating	See Note-1 below	
	Material		
	DFT		
	Performed by	Shop : Assembly Area (Block-IV)	

Remarks:

Leave weld-seams free of any coating. After hydraulic test, weld-seams to be coated.

@ After Pneumatic test, inner surface to be cleaned.

\$ Machined area to be coated.

Notes:

For final painting scheme refer drawing under PGMA 15100 in respective work-orders.

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यह दस्तावेज भारतीय भारी विद्युत निगम की संपत्ति है। इसमें उपर्युक्त विवरणों के बिना इस दस्तावेज का उपयोग नहीं किया जाना चाहिए। इस दस्तावेज को गोपनीय माना जाता है।

SIGN & DATE:

INVENTORY NO.

REV. NO. 03

निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

Prashant
Amit Mittal

4/6/2020
4/6/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 51

Page 51 of 71

PGMA : 15006, 15302, 15314, 15315

PART : PW Pipe Line*, PW Tank, PW System, PW Cooler Unit

		Outer Surface	Inner Surface
1.	Surface Condition	Cleaned & Dried	Cleaned & Dried
	Coating	--	--
	Material	--	--
	DFT	--	--
	Performed by	Shop : Fabrication Area	Shop : Fabrication Area
2.	Surface Condition	Blasted	Cleaned & Dried
	Coating	Epoxy based Zinc Rich Primer Paint #	--
	Material	AA56114	--
	DFT	80µm min.	--
	Performed by	Shop : Assembly Area (Block-IV)	Shop : Assembly Area (Block-IV)
3.	Surface Condition	Machined	
	Coating	Anti-Corrosive Agent TRP1706 \$	
	Material	AA55155	
	DFT	80µm min.	
	Performed by	Shop : Assembly Area (Block-IV)	
4.	Surface Condition	Painted	
	Coating	See Note-1 below	
	Material		
	DFT		
	Performed by	Shop : Assembly Area (Block-IV)	

Remarks:

Leave weld-seams free of any coating. After hydraulic test, weld-seams to be coated.

@ After hydraulic test, inner surface to be cleaned and dried.

\$ Machined area to be coated.

* PW Pipe Lines (15006) to be coated with Epoxy based Zinc Rich Primer Paint (AA56114) (80µm min.) in Fabrication Area.

Notes:

For final painting scheme refer drawing under PGMA 15100 in respective work-orders.

Sign on paper
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यह दस्तावेज भारत भारी विद्युत उपकरण लिमिटेड की संपत्ति है। इसका प्रयोग
अन्य उद्देश्य के बिना या इस दस्तावेज के बिना ही किसी भी रूप में न किया जाये।Sign on paper
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INVENTORY NOREV.
NO.
03निर्माणकर्ता
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MISHRAजांचकर्ता
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AMIT MITTAL

02.028 12/06/20

4/6/2020
4/4/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

पृष्ठ 71 का 52

PRODUCT STANDARD (HEEP: HARIDWAR)

Page 52 of 71

PGMA : 14201, 14202

PART : Exciter Stator Frame

		Outer Surface	Inner Surface
1.	Surface Condition	<i>Blasted</i>	<i>Blasted</i>
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	<i>Epoxy based Zinc Rich Primer Paint</i>
	Material	<i>AA56114</i>	<i>AA56114</i>
	DFT	<i>80µm min.</i>	<i>80µm min.</i>
	Performed by	<i>Shop : Fabrication Area</i>	<i>Shop : Fabrication Area</i>
2.	Surface Condition	<i>Painted</i>	<i>Painted</i>
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	<i>Coating Varnish 2404 or IE 82 / 83 (Red)</i>
	Material	<i>AA56114</i>	<i>HW27589 / AA27513</i>
	DFT	<i>80µm min.</i>	<i>40µm min.</i>
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>
3.	Surface Condition	<i>Machined</i>	
	Coating	<i>Anti-Corrosive Agent TRP 1706</i>	
	Material	<i>AA55155</i>	
	DFT	<i>80µm min.</i>	
	Performed by	<i>Shop : Assembly Area</i>	
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

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SIGN & DATE

INVENTORY NO.

REV. NO. 03

निर्माणकर्ता
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CHECKED BY

AMIT MITTAL

4/6/2020

4/6/2020

<div>निर्माण प्रमाणपत्र SIGN & DATE</div>		<div>0912.015</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>पृष्ठ 71 का 55 Page 55 of 71</div>	
<div>निर्माण प्रमाणपत्र SIGN & DATE</div>		<div>उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>PGMA : 14203 PART : Stator Core Main exciter</div>	
<div>निर्माण प्रमाणपत्र SIGN & DATE</div>		<div>Outer SurfaceInner Surface</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>1. Surface ConditionCleanedCleaned</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>CoatingCoating Varnish 2404 or IE 82 / 83 (Red) #Coating Varnish 2404 or IE 82 / 83 (Red)#</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>MaterialHW27589 / AA27513HW27589 / AA27513</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>DFT80µm min.80µm min.</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Performed byShop : Assembly AreaShop : Assembly Area</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>2. Surface Condition</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Coating</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Material</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>DFT</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Performed by</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>3. Surface Condition</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Coating</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Material</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>DFT</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Performed by</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>4. Surface Condition</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Coating</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Material</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>DFT</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Performed by</div>	
<div>सुपरसेट्स INVENTORY NO</div>		<div>Remarks: # Before assembly including end laminations in the area of Clamp Ring.</div>	
<div>निर्माण प्रमाणपत्र SIGN & DATE</div>		<div>निर्माणकर्ता WORKED BY PRASHANT MISHRA</div>	
<div>निर्माण प्रमाणपत्र SIGN & DATE</div>		<div>जांचकर्ता CHECKED BY AMIT MITTAL</div>	
<div>निर्माण प्रमाणपत्र SIGN & DATE</div>		<div>निर्माण प्रमाणपत्र SIGN & DATE</div>	



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 56

Page 56 of 71

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SIGN & DATE

PGMA : 14601

PART : Stator Core

Pilot Exciter

		Outer Surface	Inner Surface
1.	Surface Condition	Cleaned	Cleaned #
	Coating	Coating Varnish 2404 or IE 82 / 83 (Red) #	Coating Varnish 2404 or IE 82 / 83 (Red) #
	Material	HW27589 / AA27513	HW27589 / AA27513
	DFT	80µm min.	80µm min.
	Performed by	Shop : Assembly Area	Shop : Assembly Area
2.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
3.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Remarks:

After installation.

12/06/20

P.2628

REV.
NO.
03निर्माणकर्ता
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MISHRAजांचकर्ता
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AMIT MITTAL

4/6/2020

4/6/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

पृष्ठ 71 का 57

PRODUCT STANDARD (HEEP: HARIDWAR)

Page 57 of 71

सुपरसेड
INVENTORY NOसुपरसेड
INVENTORY NO

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यह दस्तावेज मे ही मेरे अपने द्वारा मेरे कॉलेजियम डिप्लोमा की शर्तों के तहत बनाया गया है। इस दस्तावेज को किसी भी प्रकार का उपयोग करने से मेरी कंपनी के हित में हानि हो सकती है।

सुपरसेड
SIGN & DATEसुपरसेड
INVENTORY NO

PGMA : 14205

PART : Main Pole Coil, Field Coil and Connections

		Outer Surface	Inner Surface
1.	Surface Condition	Cleaned	Cleaned
	Coating	Coating Varnish 2404 or IE 82 / 83 (Red) #	Coating Varnish 2404 or IE 82 / 83 (Red) \$
	Material	HW27589 / AA27513	HW27589 / AA27513
	DFT	80µm min.	80µm min.
	Performed by	Shop : Assembly Area	Shop : Assembly Area
2.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
3.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Remarks:

Before installation (Poles).

\$ After installation.

REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRA

4/6/2020

जांचकर्ता
CHECKED BY

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4/6/2020

P. 2628 4/12/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

पृष्ठ 71 का 58

PRODUCT STANDARD (HEEP: HARIDWAR)

Page 58 of 71

 SUPERSEDES
INVENTORY NO

 आवृत्ति नं. : नमूना नं.
अविवरण नमूना नं.

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यह दस्तावेज और इसमें दी गई जानकारी भारत भारी विद्युत उपकरण लिमिटेड की संपत्ति है। इसका प्रयोग अन्य किसी व्यक्ति या संस्था के बिना लिखित अनुमति के बिना न किया जाए।

SIGN & DATE

INVENTORY NO

PGMA : 14601

PART : Stator Winding

Pilot Exciter

		Outer Surface	Inner Surface
1.	Surface Condition	Cleaned	
	Coating	Coating Varnish 2404 or IE 82 / 83 (Red) #	
	Material	HW27589 / AA27513	
	DFT	80µm min.	
	Performed by	Shop : Assembly Area	
2.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
3.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Remarks:

After installation.

REV.
NO.
03निर्माणकर्ता
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MISHRAजांचकर्ता
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AMIT MITTAL

4/6/2020

4/6/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

पृष्ठ 71 का 59

PRODUCT STANDARD (HEEP: HARIDWAR)

Page 59 of 71

PGMA : 14404

PART : Air Guide Cover, End cover

		Outer Surface	Inner Surface
1.	Surface Condition	<i>Blasted</i>	<i>Blasted</i>
	Coating .	<i>Epoxy based Zinc Rich Primer Paint</i>	<i>Epoxy based Zinc Rich Primer Paint</i>
	Material	<i>AA56114</i>	<i>AA56114</i>
	DFT	<i>80µm min.</i>	<i>80µm min.</i>
	Performed by	<i>Shop : Fabrication Area</i>	<i>Shop : Fabrication Area</i>
2.	Surface Condition	<i>Painted</i>	<i>Painted</i>
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	<i>Epoxy based Zinc Rich Primer Paint</i>
	Material	<i>AA56114</i>	<i>AA56114</i>
	DFT	<i>80µm min.</i>	<i>80µm min.</i>
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>
3.	Surface Condition	<i>Machined</i>	
	Coating	<i>Anti-Corrosive Agent TRP 1706</i>	
	Material	<i>AA55155</i>	
	DFT	<i>80µm min.</i>	
	Performed by	<i>Shop : Assembly Area</i>	
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Remarks:

After machining.

निर्माणकर्ता
SIGN & DATEजांचकर्ता
INVENTORY NOREV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

समस्त अधिकार एवं गोपनीयता

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यह प्रमाण है कि यह दस्तावेज़ भारत भारी विद्युत उपकरण लिमिटेड की संपत्ति है तथा प्रसारण एवं प्रयोग के बिना इस दस्तावेज़ का उपयोग नहीं किया जा सकता है।

SUPERSEDES
INVENTORY NOआवृत्ति सूची नंबर की
अवधि का अंश हैनिर्माणकर्ता
SIGN & DATE



उत्पाद मानक (हीप : हरिद्वार)

0912.015

पृष्ठ 71 का 60

PRODUCT STANDARD (HEEP: HARIDWAR)

Page 60 of 71

PGMA : 14404

PART : Seal Wall, End Shield

		Outer Surface	Inner Surface
1.	Surface Condition	<i>Blasted</i>	<i>Blasted</i>
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	<i>Epoxy based Zinc Rich Primer Paint</i>
	Material	<i>AA56114</i>	<i>AA56114</i>
	DFT	<i>80µm min.</i>	<i>80µm min.</i>
	Performed by	<i>Shop : Fabrication Area</i>	<i>Shop : Fabrication Area</i>
2.	Surface Condition	<i>Painted</i>	<i>Painted</i>
	Coating	<i>Epoxy based Zinc Rich Primer Paint</i>	<i>Epoxy based Zinc Rich Primer Paint</i>
	Material	<i>AA56114</i>	<i>AA56114</i>
	DFT	<i>80µm min.</i>	<i>80µm min.</i>
	Performed by	<i>Shop : Assembly Area</i>	<i>Shop : Assembly Area</i>
3.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Notes:

Insulating Rings: *Coating Varnish 2404 or IE 82 / 83 (Red) (HW27589 / AA27513): 40µm min.*

SIGN & DATE

SUPERSEDES
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अधिकृत रूप से

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स्वायत्तधिकार एवं गोपनीय

यह दस्तावेज मे सी सी सी प्रमाण प्राप्त है। यह दस्तावेज किसी भी रूप में प्रयोग में नहीं लाया जा सकता है। यदि इस दस्तावेज का उपयोग किया जायेगा तो यह दस्तावेज के लिए से अधिकृत रूप से किया जायेगा।

SIGN & DATE

INVENTORY NO.

REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY


AMIT MITTAL


Prashant
Amit

4/6/2020
4/6/2020

12/02/20

P-2628

निर्माणकर्ता SIGN & DATE		उत्पाद मानक (हीप : हरिद्वार) PRODUCT STANDARD (HEEP: HARIDWAR)	0912.015 पृष्ठ 71 का 62 Page 62 of 71																																																																				
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निर्माण परमाणु SIGN & DATE		Notes: Under surface of base frame, which will be cast in concrete later, is to remain free of paint. See also drawing details.																																																																							
निर्माण परमाणु SIGN & DATE		निर्माणकर्ता WORKED BY PRASHANT MISHRA																																																																							
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उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

 पृष्ठ 71 का 65
 Page 65 of 71

 PGMA : 14214, 14305
 PART : Bearing Pedestal

		Outer Surface	Inner Surface
1.	Surface Condition	Blasted	Blasted
	Coating	Epoxy based Zinc Rich Primer Paint	Turbine Oil Grade VG46 / Lube Oil
	Material	AA56114	AA57104
	DFT	80µm min.	--
	Performed by	Shop : Fabrication Area	Shop : Fabrication Area
2.	Surface Condition	Painted	Oiled
	Coating	Epoxy based Zinc Rich Primer Paint	Turbine Oil Grade VG46 / Lube Oil #
	Material	AA56114	AA57104
	DFT	80µm min.	--
	Performed by	Shop : Assembly Area	Shop : Assembly Area
3.	Surface Condition	Machined	
	Coating	Anti-Corrosive Agent TRP 1706	
	Material	AA55155	
	DFT	80µm min.	
	Performed by	Shop : Assembly Area	
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

Remarks:

Repeat preservation while preparing for dispatch.

 निम्न पर हस्ताक्षर
 SIGN & DATE

 निम्न पर हस्ताक्षर
 SIGN & DATE

 REV.
 NO.
 03


 निर्माणकर्ता
 WORKED BY

PRASHANT MISHRA

 जांचकर्ता
 CHECKED BY

AMIT MITTAL

 4/6/2020
 4/6/2020

		उत्पाद मानक (हीप : हरिद्वार)		0912.015	
SIGN & DATE		SUPERVISOR INVENTORY NO.		पृष्ठ 71 का 66 Page 66 of 71	
प्रतीति नं० अंक अधिकतम १२/०६/२०		PGMA : 14214, 14305 PART : Bearing Shell (Individual dispatch)			
<p>COPYRIGHT AND CONFIDENTIAL</p> <p>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.</p>		Outer Surface Inner Surface			
		1.	Surface Condition	Machined	Cleaned
			Coating	Anti-Corrosive Agent TRP 1706	Lithium based Grease Grade 3. #
			Material	AA55155	AA57401
			DFT	80µm min.	--
			Performed by	Shop : Assembly Area	Shop : Assembly Area
		2.	Surface Condition		
			Coating		
			Material		
			DFT		
			Performed by		
		3.	Surface Condition		
			Coating		
			Material		
			DFT		
			Performed by		
		4.	Surface Condition		
			Coating		
			Material		
DFT					
Performed by					
Remarks: # Holes for Jacking oil to be suitably protected with tape.					
SIGN & DATE		PRASHANT MISHRA		AMIT MITTAL	
INVENTORY NO.		WORKED BY		CHECKED BY	
REV. NO.		PRASHANT MISHRA		AMIT MITTAL	
03		4/6/2020		4/6/2020	



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0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 68

Page 68 of 71

SIGNATURE
SIGN & DATESUPERSEDES
INVENTORY NO

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SIGNATURE
SIGN & DATE

INVENTORY NO.

REV.
NO.
03निर्माणकर्ता
WORKED BYPRASHANT
MISHRAजांचकर्ता
CHECKED BY

AMIT MITTAL

PGMA : 14510, 14305

PART : Transport Bearing and Protective Cover

		Outer Surface	Inner Surface
1.	Surface Condition	Blasted	
	Coating	Epoxy based Zinc Rich Primer Paint	
	Material	AA56114	
	DFT	80µm min.	
	Performed by	Shop : Fabrication Area	
2.	Surface Condition	Painted	
	Coating	Epoxy based Zinc Rich Primer Paint	
	Material	AA56114	
	DFT	80µm min.	
	Performed by	Shop : Assembly Area	
3.	Surface Condition	Machined	
	Coating	Anti-Corrosive Agent TRP 1706	
	Material	AA55155	
	DFT	80µm min.	
	Performed by	Shop : Assembly Area	
4.	Surface Condition		
	Coating		
	Material		
	DFT		
	Performed by		

P2628 12/06/20

Prashant
Amit

4/6/2020
4/6/2020



उत्पाद मानक (हीप : हरिद्वार)

0912.015

PRODUCT STANDARD (HEEP: HARIDWAR)

पृष्ठ 71 का 71

Page 71 of 71

Table No. 6

Painting Scheme (For information only)

Painting Scheme as per AA0674123		8
Surface Preparation Grade / Environment Condition		SA 2 ½ Industrial & Coastal
Primer Paint	Material	Epoxy Zinc Rich Primer Paint
	Material Spec.	AA56114
	No. of Coats	2
	DFT	100µm min.
Intermediate Paint	Material	High Build Intermediate Epoxy Paint
	Material Spec.	AA56112
	No. of Coats	1
	DFT	100µm min
Finish Coat	Material	Full Gloss Polyurethane Finishing Paint (liquid)
	Material Spec.	AA56126
	No. of Coat	1
	DFT	30µm min
Total DFT		230µm min

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SIGN & DATE

INVENTORY NO.
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जांचकर्ता
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AMIT MITTAL

Prashant
Amit

4/6/2020
4/6/2020

[illegible]



Annexure - 1

TECHNICAL SPECIFICATION FOR PAINTING & COATING OF EQUIPMENT & STRUCTURES

CONTENTS

1.0 INTRODUCTION

- 1.1 Scope / General
- 1.2 Definitions

2.0 CODES AND STANDARDS

- 2.1 Mandatory Statutory Requirements
- 2.2 Codes and Standards & Regulations
 - 2.2.1 The Society for Protective Coatings (SSPC)
 - 2.2.2 American Society for Testing and Materials (ASTM)
 - 2.2.3 Indian Standards (IS)
 - 2.2.4 British Standard (BS)
 - 2.2.5 International Standard of Organization (ISO)
 - 2.2.6 NACE Standard

3.0 SURFACE PREPARATION

- 3.1 General
- 3.2 Requirements of Blasting
- 3.3 Pre – Blasting Preparation
 - 3.3.1 Rough Edges
 - 3.3.2 Weld Flux and Spetter
 - 3.3.3 Surface Cleaning
 - 3.3.4 Chemical Contamination
 - 3.3.5 Equipment Protection
- 3.4 Blasting Operations
 - 3.4.1 Weather conditions
 - 3.4.2 Preliminary Blasting
 - 3.4.3 Blasting and Painting
 - 3.4.4 Post – Blasting Procedure
- 3.5 Blasting Equipment
 - 3.5.1 Compressed Air
 - 3.5.2 Nozzle
 - 3.5.3 Power Tools
 - 3.5.4 Shot Blasting Equipment
- 3.6 Blasting Abrasive
 - 3.6.1 Abrasive
 - 3.6.2 Shot Blasting Material

4.0 COATING APPLICATION

- 4.1 General Application
 - 4.1.1 Supply and Storage
 - 4.1.2 Pot Life
 - 4.1.3 Mixing
- 4.2 Application Requirements
 - 4.2.1 Cleanliness
 - 4.2.2 Temperature
 - 4.2.3 Weather Conditions
 - 4.2.4 Coats
 - 4.2.5 Brush Application (Stripe Coating)
 - 4.2.6 Finish Coat
 - 4.2.7 Field Welds
 - 4.2.8 Inorganic Zinc Primer
- 4.3 Spray Application
 - 4.3.1 Equipment
 - 4.3.2 Procedures
 - 4.3.3 Airless Spray Equipment
- 4.4 Brush Application
 - 4.4.1 General Requirements
 - 4.4.2 Equipment for Brush Application
 - 4.4.3 Procedure for Brush Application

5.0 REPAIR OF DAMAGED AREAS

- 5.1 Repair Procedure for Coating Damage
 - 5.1.1 Top Coat
 - 5.1.2 Base Coat

6.0 INSPECTION & TESTING

- 6.1 Quality Control
- 6.2 Inspection and Testing Requirements
- 6.3 Role of Vendor Representative
- 6.4 Qualification of supervisors, foremen and QC personnel at The Fabrication Yard
- 6.5 Equipment and Material
- 6.6 Inspection Instruments
 - 6.6.1 Calibration of Equipment
 - 6.6.2 Dry Film Thickness
- 6.7 Repair
- 6.8 Maintenance

7.0 PAINT MATERIALS

7.1 Required Characteristics of Paint Materials

8.0 COATING SYSTEMS

8.1 Scope

8.2 Surface Preparation

8.3 Paint System

8.3.1 For C5-M

8.3.2 For C4

8.3.3 For C3

9.0 COLOUR SCHEDULE

9.1 Equipment and piping standard colour code for mechanical

9.2 Standard colour code for electrical equipment

9.3 Colour coding for identification of pipelines used in thermal power plants

9.4 Colour code for structural steel

10.0 RECOMMENDED LIST OF PAINT MANUFACTURER

11.0 PROCEDURE OF APPROVAL OF NEW COATING MATERIAL

12.0 Annexure- ISO 12944

1.0 INTRODUCTION

1.1 Scope

This specification covers the minimum requirements governing surface preparation, selection, application & inspection of the protective coating system to be used on the interior and exterior exposed surfaces of all types of structural steel placed in thermal power plant to get high durability (above 15 years) in C5-M, C-4 & C-3 environment classified according to ISO 12944- 2.

Individual equipment specifications and /or drawings, when furnished, are to be used with these specifications. If conflict exists, the individual specifications and/or drawings shall govern.

Since maintenance –painting requirements are usually different from that necessary for new construction, salient points for each will likewise be addressed separately.

1.2 Definitions

The following definitions shall apply:

COMPANY shall mean Adani or the designated representative.

CONTRACTOR shall mean the party contracted to perform the work in accordance with the drawings, specifications & work scope.

2.0 CODES AND STANDARDS

2.1 Mandatory Statutory Requirements

This document has been prepared to the International Standards detailed within. The CONTRACTOR shall ensure that the Work is executed in accordance with international standards, Statutory & Regulatory requirements as per system application.

2.2 Codes and Standards & Regulations

The requirements of the latest published versions of the following listed Codes, Recommended Practices. Specifications and standards shall be met

2.2.1 Steel Structure Painting Council (SSPC)

SSPC-PA1 : Shop, Field and Maintenance Painting of Steel.

SSPC-PA2 : Measurement of Dry Coating Thickness with Magnetic Gauges

SSPC-SP1 : Solvent Cleaning

SSSC-SP2 : Hand Tool Cleaning

SSPC-SP3 : Power Tool Cleaning

SSPC-SP5 : White Metal Blast Cleaning

SSPC-SP6	:	Commercial Blast Cleaning
SSPC-SP7	:	Brush –Off Blast Cleaning
SSPC-SP10	:	Near White Blast Cleaning
SSPC-SP11	:	Power Tool Cleaning to bare metal
SSPC-SP12	:	Surface Preparation & cleaning of Steel and Other Hard Material by High and Ultra High Pressure Water Jetting Prior to recoating
SSPC-AB1	:	Mineral and Slag Abrasive
SSPC-SP20	:	Zinc rich coating Type-I (Inorganic) & Type-II (Organic)
SSPC-SP COM:		Surface Preparation and Abrasives Commentary, SSPC Painting Manual, Volume 2, "Systems and Specifications"
SSPC VIS-1	:	Visual Standard for Abrasive Blast Cleaned Steel
SSPC Vol.2	:	SSPC Painting Manual. Other equivalent Swedish, BS standard also applicable.

2.2.2 American Society for Testing and Materials (ASTM)

ASTM D4228:	Standard practice for qualification of coating Applicators for application of coating on steel surfaces.
ASTM B117 :	Salt Spray Test
ASTM G50 :	Standard practice for conducting atmospheric corrosion test
ASTM G53 (Part-B):	Weathering Test
ASTM D520 :	Zinc Dust (Metallic Zinc Powder)
ASTM D523 :	Specification for Gloss
ASTM D1200:	Viscosity
ASTM D1640:	Drying time
ASTM D1653:	Standard test method for evaluation of painted or quoted specimens subject to corrosive environment.
ASTM D2247:	Relative Humidity Test
ASTM D2697:	Volume of Solids
ASTM D4060:	Abrasion Resistance of Coating
ASTM D3359:	Standard test method for measuring adhesion by tape test
ASTM D5894:	Standard test method for evaluating drying or Curing during film. Corrosion resistance under Cyclic condensation/UV

2.2.3 Indian Standards

IS 5	:	Colours for Ready Mixed Paints and Enamels
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2.2.4 International Standards Organization

- ISO –8501 : International Standard for Preparation of Surface
- ISO-8502 : Preparation of steel substrates before application of Paints & related products
- ISO-8502 (1 to 10) :Tests for the assessment for surface cleanliness
- ISO –8504 : Preparation of steel substrates before application of Paints and related products-Surface preparation method Part – 1, 2 & 3
- ISO 14713 : Protection against corrosion of iron and steel structure-Zinc and aluminum coating.
- ISO 4624 : Adhesion test of paint
- ISO 12944 : Corrosion protection of steel structure by protective paint system part 1 to 8
- ISO 4628 : Evaluation of degradation of paint coating
- ISO 4628-6 : Paints & varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity & size of common types of defect - Part 6: Rating of degree of chalking by type method.

2.2.5 Occupational Safety and Health Act

OSHA : Occupational Safety and Health Act

2.2.6 NACE Standards

- NACE RP0188: Discontinuity (Holiday) Testing of Protective coating
- NACE RP0287: Surface profile Measurement of abrasive blast Cleaned steel surfaces using a replica tape.

2.2.7 RAL COLOUR CHART

3.0 SURFACE PREPARATION

3.1 General

The surface preparation procedures and requirements except for galvanizing and Cadmium plating shall be in accordance with Steel Structural Painting Council SSPC and ISO–8501.

The method of surface preparation used shall be compatible with the priming coat of Paint and be one or a combination of the following:-

1. Solvent Cleaning- SSPC-SP1
2. Hand Tool Cleaning - SSPC-SP2

- 3. Power Tool Cleaning - SSPC-SP3
- 4. Blast Cleaning refer 3.2 as below

All fabrication and assembly shall be completed before surface preparation begins.

Blast and prime of structural items prior to assembly will be permitted. All bolt holes shall be drilled and their edges smoothed prior to blasting.

3.2 Requirements of Blasting

Only dry blasting procedures are allowed. Definitions and requirements for, the various methods of surface cleaning are given below:

- A) White Metal Blast: As per SSPC SP5, & visual reference Sa3 as per ISO 8501-1.
- B) Near-White Blast: As per SSPC SP10, & visual reference Sa2.5 as per ISO 8501-1.
- C) Commercial Blast: As per SSPC SP6, & visual reference Sa2 as per ISO 8501-1.
- D) Brush-off Blast: As per SSPC SP7, & visual reference Sa1 as per ISO 8501-1

3.3 Pre Blasting preparation

3.3.1 Rough Edges

Sharp edges, fillets, corners and welds shall be rounded or smoothed by grinding (minimum radius 2 mm). Hard surface layers (e.g. resulting from flame cutting) shall be removed by grinding prior to blast cleaning.

All surfaces should be washed with clean fresh water prior to blast cleaning.

Any major surface defects, particularly surface laminations or scabs detrimental to the protective coating system shall be removed by suitable dressing. Where such defects have been revealed during blast cleaning, and dressing has been performed, the dressed area shall be re-blasted to the specified standard. Surface pores, cavities etc. shall be removed by suitable dressing or weld repair.

3.3.2 Weld Flux and Spatter

Weld flux, slag spatter, slivers etc. shall be ground smooth before blasting.

Welding surface imperfections shall be removed and surface profile shall be prepared as per ISO 12944-3.

Any surface on which grinding is done shall be spot blast cleaned or power tool cleaned to obtain required anchor pattern.
All welds shall be inspected and if necessary repaired prior to final blast cleaning of the area.

3.3.3 Surface Cleaning

Prior to blasting, all deposits or grease or oil shall be removed from the surface in accordance with SSPC-SP1 Solvent Cleaning using biodegradable water soluble cleaner.

3.3.4 Chemical Contamination

All chemical contamination shall be neutralized and/or flushed off prior to any other surface preparation.

3.4 Blasting Operations

3.4.1 Weather conditions

Blast cleaning shall not be done on any surface that is moist, or that may become moist, before the application of a primer.

Blasting is not permitted when:-

- a) The temperature of steel is less than 3°C above the dew point, as measured by a sling hydrometer,
- b) The relative humidity of the air is more than 60 %.

Relative humidity shall be maintained by an adequately designed Dehumidification system and the record shall be maintained.

3.4.2 Preliminary Blasting

If blasting is performed at night, the surfaces shall be re-blasted the following day to provide the specified surface preparation standard and the anchor profile required for the specified coating system.

3.4.3 Blasting and Painting

Blasting shall not be done adjacent to painting operations or coated surfaces that are not fully dry. Blasting shall overlap previously coated surfaces by at least 150 mm.

Blasting and Painting shall be done in closed chamber only.

The record of atmospheric conditions (Temp, RH, Dew Point) before the blasting & painting shall be maintained.

The use of silica sand is strictly prohibited

3.4.4 Post – Blasting Procedure

The surface to be coated shall be clean, dry, free from oil/grease, and have the specified roughness and cleanliness until the first coat is applied.

Blast cleaned steel surfaces shall not be touched by bare hands. The blast cleaned surface shall be rendered dust free and coated with the specified primer as soon as possible to avoid formation of oxidation on the surface, but in any case, four one from the time of blasting, and at least one hour prior to sundown of the day it is blasted and before any rusting occurs.

Any steel surface not primed within these limits or that is wet shall be reblasted.

No acid washes or other cleaning solutions or solvents shall be used on metal surfaces after they are blasted. This includes washes intended to prevent rusting.

All areas around the intended paint surface shall be cleaned of blast material prior to coating. Drains shall be purged of blast material and flushed.

Biodegradable water – soluble cleaning solution used to clean previously painted surfaces shall not lift softens or otherwise damages the existing coating.

For determination of chloride surface; relevant ISO 8502 part 2 & 5 shall be applicable. Chloride contamination shall be checked using SCM 400 / bresle patches / quanta strips. Maximum permissible limit is 10 micro gram / sq.cm. for external surface & 5 micro gram / sq.cm. for internal of vessels.

3.5 Blasting Equipment

3.5.1 Compressed Air

The air compressor shall be capable of maintaining a minimum of 700kpa (7 kg/cm² or 100 psi) air pressure at each blasting nozzle. The compressed air supply shall be free of water and oil. Adequate separators and traps shall be provided on the equipment, which shall be regularly purged of water and oil to maintain efficiency.

3.5.2 Nozzle

The nozzle shall be a 10 mm (maximum) internal diameter venture style nozzle.

3.5.3 Power Tools

Power tools may be used to obtain a metal surface finish as per SSPC SP11 where blasting is not possible, or on items which might be damaged by blasting.

3.5.4 Shot Blasting Equipment

Shot blasting equipment may be used for specific applications. Shot shall be changed as required to maintain the angular profile requirement.

3.6 Blasting Abrasive

3.6.1 Abrasive

The abrasive shall be as per SSPC-AB-1. The abrasives shall be copper slag, steel balls shall be free of contamination of dust and chlorides to produce the required anchor profile and graded as to be free from clay, silt or other matter likely to become embedded in the steel surface. Abrasives which have a tendency to shatter and adhere or embed in the steel surface shall not be acceptable. Recycled abrasive shall not be used. The use of sand is prohibited.

3.6.2 Shot Blasting Material

Shot blasting material shall pass through a G-16 to G-40 mesh screen. At least 25% to 30% steel grit shall be mixed with the graded shot to remove any rust, scale or other impurities pined into the surface. Shot blasting material is limited to iron, steel or synthetic shot which is applied by compressed air nozzles or centrifugal wheels. Shot blasting material shall be checked at least two times a week for replacement of abraded material.

4.0 COATING APPLICATION

4.1 General Application

All application, inspection and safety procedures shall be carried out in accordance with SSPC Painting Manuals, Vol. 1 Chapter 14.2 and Vol. 2 Chapter 5) and as set out below.

4.1.1 Supply and Storage

All coatings shall be furnished, mixed and applied in accordance with manufacturer's recommendations and as specified here in. Mixing of different

Manufacturer's coatings or applications on the same surface are not permitted.

All coating materials and thinners shall be in original, unopened containers being the manufacturers label batch numbers and instructions. For materials having a limited shelf life, the date of manufacture and the length of life shall be shown. Materials older than their stated shelf life shall not be used.

Materials shall be stored in accordance with the manufacturers Recommendations.

Coating materials that have gelled, other than thixotropic materials or materials that have deteriorated during storage shall not be used.

4.1.2 Pot Life

If the coating requires the addition of a catalyst, the manufacturer's Recommended pot life for the application conditions shall not be exceeded.

When the pot life is reached, the spray pot shall be emptied, cleaned and a new material catalyzed. Manufacturer's recommendations to be followed

4.1.3 Mixing

Mixing and thinning directions as furnished by the manufacturer shall be followed. Only thinners specified by the manufacturer shall be used.

All coating materials shall be stirred with a power mixer use, until the pigments, vehicles and catalysts are thoroughly mixed and then strained while being poured into the spray pot. During application the materials shall be agitated according to the manufacturer's recommendations. Different brands or types of paints shall not be intermixed.

4.2. Cleanliness

All Surfaces shall be clean free from dust and dry. Any blast cleaning dust or grit remaining on the surfaces shall be removed by means of compressed air before priming or application of any coating. Any surface with a rust bloom shall be re-blasted as per ISO: 8504.

4.2.1 Temperature

Coating shall only be applied when the temperature of the steel is at least 3°C above the dew point; ambient air temperature must be within the limits specified by the manufacturer.

4.2.2 Weather Conditions

No coatings shall be applied during fog, mist or rain or when humidity is not greater than 60% or on to wet surfaces. In case the minimum temperature at the fabrication yard is below 5 deg C, the contractor shall propose alternate coating procedure for Company's approval at the binding stage itself.

The company has the right to suspend application of coating when damage to the coating may result from actual or impending weather condition.

4.2.3 Coats

Each coat shall be applied uniformly and completely over the entire surface. Each coat shall be allowed to dry for the time specified by the manufacturer before the application of a succeeding coat. To reduce the possibility of intercoat contamination and to assure proper adhesion between successive coats, all coats shall be applied as soon as possible after the minimum specified drying time of the preceding coat.

4.2.4 Brush Application (Stripe Coating)

A stripe coat shall be applied by brush or roller after the prime coat has been applied. The stripe coat shall be applied to edges, corners, welding seams, bolt holes, back side of piping, stiffeners, vent and drain holes, notches and any other area that is difficult to reach by spray gun.

4.2.5 Finish Coat

An additional layer of finish coat shall be hand brushed at edges, corners, welds and hard-to spray areas to eliminate holidays in the final coats.

4.2.6 Field Welds

No coating shall be applied within 150 mm of edges prepared either for field welds or to surfaces waiting non-destructive testing.

4.2.7 Inorganic Zinc Primer

It is preferred that intermediate/top coat for inorganic zinc primer coats be applied within minimum of seven (7) days after the primer coat.

4.3 Spray Application

4.3.1 Equipment

- (a) All equipment to be used for spray applications shall be inspected and tested before application begins.
- (b) All equipment shall be maintained in good working order and shall be equal to that described in the manufacturer's instructions.
- (c) All equipment shall be thoroughly cleaned before and after each use and before adding new material.
- (d) An adequate moisture trap shall be installed between the air supply and each pressure pot. The trap shall be of the type that will continuously bleed off any water or oil from the air supply.
- (e) Suitable pressure regulators and gauges shall be provided for both the air supply to the pressure pot and the air supply to the spray gun. Spray equipment and operating pressures shall comply with the recommendations of the manufacturer.
- (f) The length of hose between the pressure pot and spray gun shall not exceed 15 m.

4.3.2 Procedures

- (a) Pressure pot, material hose and spray gun shall be kept at the same elevation where possible. When spraying inorganic zinc, the elevation difference shall not exceed 3m.
- (b) The spray gun shall be held at right angles to the surface.
- (c) Each pass with the spray gun shall overlap the previous pass by 50%.
- (d) The spray width shall not exceed 300 mm.
- (e) All runs and sags shall be immediately brushed out or the surface re-coated.
- (f) Large surfaces shall receive two passes (except when applying inorganic zinc) at right angles to each other (crosshatched).

4.3.3 Airless Spray Equipment

- (a) Airless spray equipment may be used for applying inorganic zinc, epoxy or aliphatic polyurethane coatings.
- (b) The manufacturer's recommendations in selection and use of airless spray equipment shall be followed.

4.4 Brush Application

4.4.1 General Requirements

- (a) Coating shall be applied by brush on all areas, which cannot be properly spray coated such as corners, edges, and welds etc.,
- (b) Inorganic zinc primer coatings shall not be applied by brushing, not even for touch – up repairs.

4.4.2 Equipment for Brush Application

Brushes shall be of a style and quality that will permit proper application of coating. Round or oval brushes are most suitable for rivets, bolts, irregular surfaces and rough or pitted steel. Wide flat brushes are suitable for large flat areas. Brush width shall not be greater than 100 mm. No extension handles shall be used on brushes.

4.4.3 Procedure for Brush Application

- (a) Brushing shall be done so that a smooth coat, uniform in thickness, is obtained. There shall be no deep or detrimental brush marks.
- (b) Paint shall be worked into all crevices and corners.
- (c) All runs and sags shall be brushed out to prevent air pockets, solvent bubbles or voids.
- (d) When applying solvent type, coatings, care shall be taken to prevent lifting of previous coats.

4.5 Safety Equipment

Appropriate safety equipment shall be provided for blasters, painters and other workers involved in the preparation and application of coating systems as per recommendation of paint manufacturer. Work areas shall be adequately ventilated.

5.0 REPAIR OF DAMAGED AREAS

All areas of paintwork that are locally damaged during transportation, handling or erection shall be fully repaired to the satisfaction of the company.

Prior to the application of any coat, damage to previous coat(s) shall be touched-up by removing the damaged coatings, preparing the surface and reapplying the protective coat(s).

5.1 Repair Procedure for Damaged coating

Surfaces where coating is damaged after application of the finish coat shall be repaired as follows;

5.1.1 Top Coat

The top coat damaged, but base coat undamaged and the metal substrate is not exposed:

- (a) Damaged coating shall be removed with a hand file and abraded back to the sound coating using emery paper or a fine grinder.
- (b) The damaged area shall be wiped with a suitable solvent to remove debris. The periphery of repair area shall be feathered back for a minimum distance of 25 mm into the adjacent undamaged coating by light abrasion or grinding to produce a smooth chamfered surface profile.
- (c) Apply a new topcoat as specified.

5.1.2 Base Coat

Coating damaged to base metal

- a) The damaged area greater than 0.2m² in area, the surface of exposed metal shall be prepared to the original specified standard prior to repairing by power tool cleaning as per SSPC-SP3 or spot blasting to SSPC-SP5 and applying primer, intermediate coat and final coat as specified. Alternatively, high solid surface tolerant epoxy coating such may be used in place of primer & intermediate coats, followed by specified topcoat.
- b) The damaged areas less than 0.2 m² in area may be repaired as per manufacturer's recommendation or by preparing the surface of exposed metal by power tool cleaning as per SSPC-SP11 to the original specified standard.

A primer, intermediate and final coat shall be applied as specified. Alternatively, high solid surface tolerant epoxy coating such may be used in place of primer & intermediate coats, followed by specified topcoat. Brush application is acceptable. Even appearance and smooth feathering into surrounding coating in addition to correct dry film thickness and holidays must be achieved. Coating and surrounding repaired areas shall not be damaged and complete tie-in of the coating with surrounding areas shall be obtained. Zinc based products shall not be applied without Blast Cleaning to Sa 2 ½, instead Surface tolerant epoxy such at 100 microns shall be used as a primer in case blast cleaning is not possible or practical.

6.0 INSPECTION AND TESTING

6.1 Quality Control

Procedures for testing and documenting quality control shall be prepared prior to the initial start up of any work covered by this specification & submitted to company for approval. The procedures shall include methods to assure the specification requirements are met and forms to document environmental conditions, surface temperature, coating applicator, surface(s) being coated, coating applied and status of required examinations and tests.

Testing and inspection shall be carried out in accordance with Table-6.2. Surfaces shall be accessible until final inspection is carried out.

6.2 Inspection and testing requirement

Test type	Test Method	Test Frequency	Acceptance criteria	Consequence
Environmental conditions	Ambient and steel Temperature. Relative Humidity. Dew point.	Before start of each shift + minimum twice per Shift.	In accordance with Specified requirements	No blasting or coating
Visual examination	Visual for sharp edges	100 % of all surfaces	No defects, see Specified	Defects to be repaired

	weld spatter slivers, rust grade, etc.		requirements	
Cleanliness	a) ISO 8501-1 b) ISO 8502-3	a) 100 % visual of all surfaces b) Spot checks	a) In accordance with specified Requirements b) Maximum quantity and size rating 2	a) Reblasting b) Recleaning and retesting until acceptable
Salt test	ISO 8502-6 and ISO 8502-9	Spot checks	Maximum conductivity corresponding to 20 mg/m ² NaCl	Repeated washing with potable water & retesting until acceptable
Chloride test	ISO 8502-2 ISO 8502-5	-	10 microgram/sq.cm for external & 5 microgram/sq.cm for internal vessel	-
Roughness	Comparator or stylus instrument (see ISO 8503)	Each component or once per 200 m ²	As specified	Reblasting
Curing test (for Zn silicate)	ASTM D4752	Each component or once per 100 m ²	Rating 4-5	Allow to cure
Visual examination of coating	Visual to determine curing, contamination, solvent retention, pinholes/popping, sagging & surface defects	100 % of surface after each coat	According to specified requirements	Repair of defects
Holiday detection	NACE RP0188 and as per *note -1 below	As per coating system specification	No holidays	Repair & retesting.
Film thickness	ISO 19840. Calibration on a smooth surface	ISO 19840	ISO 19840, and coating system data sheet	Repair, additional coats or recoating as appropriate
Adhesion	ISO 4624 using equipment with an automatic centered pulling force	Each component or once per 200 m ²	*See note-2 below	Coating to be rejected

	& carried out when coating system are fully cured			
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*Note:

1. Holiday Testing
Holiday testing shall be conducted in accordance with NACE SP0188. Minimum 10% of the coated areas, which include weld seams, corners, and edges, shall be holiday detected. Any holiday is unacceptable and shall be marked and repaired according to spot repair procedures.
2. Adhesion test
Adhesion test shall be carried out on separate test plates, minimum adhesion values in accordance with ISO 4624 shall be 5,0 MPa when using automatically centered test equipment.

6.3 Qualification of supervisors, foremen and QC personnel at The Fabrication Yard

The contractor's quality control inspector shall be qualified as a coating inspector in accordance with NS 476 Inspector level I or NACE level-I.

The contractor's quality control inspector shall qualify the tradesman level as blast-cleaner, painter, and applicator etc. for painting application.

The personnel shall have relevant knowledge of health and safety hazard, use of protection equipment, coating materials, mixing and thinning of coatings, coating pot-life, surface requirements etc.

Contractor shall carry out tests in accordance with the company approved Coating Procedure Specification for all coating systems that are planned to be used for this project before commencement of painting work.

The test shall be supervised by the coating manufacturer's Authorized technical representative and the contractor's quality control inspector and shall be witnessed & inspected and accepted by the FQA of Adani. Contractor shall issue an inspection report covering the qualification tests for the company approval.

The test shall be carried out on a test panel (minimum 1 m x 1 m) and at least on one end of, angle, channel, beam and flat bar and an alternative location providing similar complexity on the component to be used.

The acceptance criteria are the requirement to the visual and non – destructive inspection of the coating system described in this specification. Operators failing to meet the requirement shall not be allowed to carry out the work on this project.

6.4 Equipment and Material

Materials, tools or equipment used in the surface preparation and coating applications, shall be inspected regularly and rejected if they do not comply with the Specification.

6.5 Inspection Instruments

The following items shall be inspected using the inspection instruments listed below:

Instrument Item	Inspection Instrument
Surface Profile	Keane-tator Surface Profile Comparator or Testex Press-o-Film Elcometer 124 with 122 testex tape
Holidays	Tinker – Rasor Model M – 1
Surface Cleanliness	SSPC – Vis – 1
Viscosity	Zahn Viscometer or Ford Cup
Wet Film Thickness(WFT)	Nordson Wet Film Thickness Gauge Sheen WFT Gauge
Temperature & Humidity	Gardner Certified Hydrometer And Temperature Indicator
Surface Temperature	Pandux Surface Temperature Thermometer Elcometer Surface temperature gauge
Compressed Air Quality	Dry white cloth

6.5.1 Calibration

Each test instrument shall be maintained and calibrated as prescribed by the manufacturer.

6.5.2 Dry Film Thickness

The dry film thickness of the coating system shall be determined in accordance with SSPC-PA2 or by a Micro test thickness gauge or comparable instrument in accordance with the following procedure.

- (a) Ten readings shall be taken for every 10m² of painted areas.
- (b) 90% of all readings shall be within the specified dry film thickness.
- (c) Where thickness accordance with the above procedure falls below the specified minimum an additional coat of the intermediate or finish coat shall be applied.

7.0 PAINT MATERIALS:

The coating manufacturer shall provide a Coating System Data Sheet (CSDS) for each coating system to be used, containing at least the following information for each product:

- Surface pre-treatment requirements;
- Dry Film thickness (maximum, minimum and specified);
- Maximum and minimum re-coating intervals at relevant temperatures;
- Information on thinners to be used (quantities and type);
- coating repair system.
- Practical consumption
- Expected life of product with guarantee.
- MSDS

Paint manufacturer shall furnish all the characteristics of paint materials on printed literature, along with the test Certificate with actual test values of supplied batch for all the specified characteristics given in the specifications.

All the paint materials shall be of first quality, should pass all pre qualification testing for corrosive category – C5-M as per ISO 12944 and conform to the following general characteristics as per the tables below:

TABLE 7.1: REQUIRED CHARACTERISTIC OF PAINT MATERIALS

Technical Name	Type & Composition	Volume of solids (approx.)	DFT (Dry Film thickness) per coat (approx.)	Weight Per liter in kgs/ liters (approx)	Touch Dry at 25°C (approx)	Hard dry at 25°C (approx.)	Over coating Interval (approx.)	Pot life (approx.) 25°C
Inorganic zinc silicate Coating Containing	A two pack air drying self –	65 %±2	65-75 µ	2.2+/- 0.02	30 mts.	Over night	Min.; 16-24 Hrs Max. Indefinite.	4 Hrs

minimum 85% ±2 zinc in dry film by weight & 96% Purity of Zinc.	curingsolvent basedInorganic Zinc silicatecoating.							
Epoxy MIO High build containing minimum 50% MIO in dry film.	Two pack, super high build, polyamide cured epoxy, pigmented with natural lamellar micaceousironoxide	Min. 80%± 2	125-150 µ	1.82+/- 0.02	3 Hrs.	Overnig ht	Min. : 18 Hrs. Max. : Indefinite	2 hrs.
Glossy Aliphatic acrylic Polyurethane Topcoat	Two Components High Build Aliphatic Acrylic Polyurethane.	min 62% ±2	50-75 µ	1.46 +/- 0.02	1.5 hrs	12 hrs	Min. ;12 hrs Max. ;As per suppliers data	3 Hr
Inorganic zinc silicate Coating Containing minimum 75% ±2 zinc in dry film by weight & 96% Purity of Zinc.	A two pack air drying self – curing solvent based Inorganic Zinc silicate coating.	Min 60%± 2	65-75 µ	2.0+/- 0.02	30 mts	Overnig ht	Min.; 16-24 Hrs Max. Indefinite.	4 Hrs
Epoxy MIO High build containing minimum 50% MIO in dry film.	Two pack, high build, polyamide cured epoxy, pigmented with lamellar MIO.	Min 60%± 2	100-125 µ	1.58+/- 0.02	4 Hrs	18 hrs	Min. : 18 Hrs. Max. : Indefinite	5 hrs
Epoxy Direct to Metal Primer cum Finish Coating	Two pack, rapid cure, high build epoxy DTM primer cum finish	Min 70%±2	75-150 µ	1.63 +/- 0.02	30 mts	60 mts	60 mts	2 hrs
Rapid cure epoxy high build zinc phosphate primer(16% ZP content)	Two pack, rapid cure, high build polyamide cure, epoxy zinc phosphate primer.	Min 63%±2	50-100 µ	1.51+/- 0.02	45 mts	3 hrs	3 hrs	6 hrs
Self -priming Surfaceretolerant High build Epoxycoating	Two pack amid amine cured self priming epoxy mastic.	Min. 80%± 2	100- 125u	1.46 +/- 0.02	5 Hrs.	24 Hrs	Min, ;24 Hrs Max –As recommended by manufacturer	2 hrs

8.0 COATING SYSTEMS

8.1 Scope

The following section outlines the requirement of supply & application of anti corrosive coatings for corrosion protection of steel structural's

exposed to environments classified by ISO 12944-2 as C5-I, C5-M, C- 4 & C-3 and to get long term life (High Durability – above 15 years)

8.2 Surface Preparation

All the parts to be sprayed shall be degreased according to SSPC-SP 1. The absence of oil and grease after degreasing shall be tested by method given elsewhere in the specification.

Grind all sharp edges and corners to a minimum radius of 2 mm. Remove all welding slag, spatter & blend grind all sharp welds & high spots. Remove all salt deposits by jetting with clean (potable) water. Thereafter the surface to be abrasive blasted to near white metal finish as per SSPC-SP 10. Using SSPC VIS 1, it is to be visually assessed that the blast cleaned surface meets requirement of SSPC-SP 10.

Thereafter clear cellophane tape test as per ISO 8502-3 shall be used to confirm absence of dust on the blasted surface. Finally blasted surface shall be tested for presence of soluble salts as per method ISO 8502-9. Maximum allowable salt content shall be considered 50mg/M². (5 micrograms/cm²) In case salt content exceeds specified limit. The contaminated surface shall be cleaned by method as per Annex – C of ISO - 12944-4 (Water Cleaning.) or as per ISO 8501 – 4 (Wa-Wa 2 ½). After cleaning the surface shall be retested for salt content after drying.

The blasting media shall be either chilled iron or angular steel grit as per SSPC-AB-3 of mesh size G-16 to G-40. Copper or Nickel slag or Garret as abrasive will also be suitable having mesh size in the range of G16 to G24, conforming to SSPC-AB-1.

Mesh size shall be required as appropriate to the anchor tooth depth profile requirement and blasting equipment used. The blasted surface should be having angular profile depth of 50 to 75 microns with sharp angular shape. The profile depth shall be measured according to NACE standard RP 0287 (Replica Tape) or ASTM D 4417 method B (Profile depth gauge).

Suitable enclosure shall be provided to carry out the blast cleaning operation. The contractor shall put up minimum three temporary sheds each of size 15m x 30m with handling facilities at site to carry out abrasive blasting. If required prior approval from the factory inspector/pollution

control board etc. shall be obtained regarding the method of blast cleaning and abrasives used therein.

For manual blasting one profile depth measurement shall be taken every 10-20 M² of blasted surface. Surface preparation shall be completed in one abrasive blast cleaning operation wherever possible. If rust bloom (visual appearance of rust) appears on the blast cleaned surface before priming, the affected area shall be re-blasted to achieve specified degree of cleanliness after which only application of inorganic zinc silicate.

Air blasting pressure at nozzle shall be normally maintained at 100 psi. Air pressure and media size should be reduced and adjusted to preclude damage/distortion to thin gauge materials. Blasting time on work piece should be adjusted to only clean the surface and cut required anchor tooth with minimum loss of metal. Blast angle should be as close to perpendicular as possible but in no case greater than $\pm 30^\circ$ from perpendicular to work surface. Blasting media must be free of debris, excessive fines, contaminants such as NaCl and sulfur salts (Ref. SEC 13.2.1.6 of this Spec).

F-Tests for blasting media, blasting air & surface contamination.

F-1- Blasting Media

(For every fresh batch of media and one random test during blasting)

- a) Blasting Media shall be visually inspected for absence of contamination and debris using 10 X magnification.
- b) Inspection for the absence of oil contamination shall be conducted using following procedure:
 - Fill a small clean 200 ml bottle half full of abrasive.
 - Fill the bottle with potable water, cap and shake the bottle.
 - Inspect water for oil film/slick. If present, the blasting media is not to be used.
- c) Soluble salt contamination if suspected shall be verified by method ASTM D4940. If present, media to be replaced.
- d) Clean blasting equipment, especially pot and hoses, then replace blasting media and retest.

F-2 Test for Blasting Air

(Once Daily before start of blasting & once at random during blasting)

The air for blasting shall be free from moisture and oil. The compressor air shall be checked for oil and water contamination per ASTM D 4285.

F-3-Test for presence of oil/grease and contamination

The steel substrate after degreasing as per SSPC-SP 1 shall be tested as per following procedure to validate absence of oil and grease contamination.

- a) Visual inspection - Continue degreasing until all visible signs of contamination are removed.
- b) Conduct a solvent evaporation test by applying several drops or a small splash of residue-free trichloromethane on the suspect area especially pitting, crevice corrosion areas or depressed areas. An evaporation ring formation is indicative of oil and grease contamination. Continue degreasing and inspection till test is passed.

8.3 Paint Systems

8.3.1 For C5-M Environment Classification

Primer Coat: 1 coat of inorganic ethyl self-curing zinc silicate primer (coating) at 75 microns DFT/Coat to be applied by airless/pressure pot for high durability >15 yrs. The primer should meet the requirements of SSPC-SP 20 performance standard. Minimum Metallic Zinc in the dry film by weight must be 85%. Volume solids of the primer must be 65% .

Intermediate coat – 1 coat of Super High build epoxy MIO coating cured with polyamide hardener at 150 microns DFT/Coat to be applied by airless spray. Minimum Natural Lamellar Micaceous Iron Oxide content in the dry film must be 50% by weight. Volume solids of the product must be 80% .

Finish Coat- Two coats of High Build Gloss Aliphatic Acrylic Polyurethane at 50 micron/coat dry film thickness to be applied by brush/airless spray. Total thickness of the finish coat will be 100 microns. Volume Solids of the product must be 62% .

Total DFT minimum: 325 Microns and maximum: 350 Microns.

Notes:

1. This paint system is equivalent to the protective paint system no's (S7.14 & S 6.08) recommended for corrosion category C5-M & C5-I in ISO 12944-5.
2. This system is satisfactory for surface temperatures to 90° C continuous dry temperature.
3. Colour for final coat shall be as per colour code.
4. All material shall be supplied in the manufacturers original cans, durably & legibly marked with the description of the contents. This shall include the batch number, date of manufacturing & the manufacturer's name.
5. All coating materials used shall confirm to the composition clauses given against each product in the specification. In meeting the composition clauses, the manufacturer shall provide evidence of compliance from approved third party lab before start of the job & internal test report along with every supplied batch.
6. Material containing cadmium, lead or any other toxic material to environment/personnel shall not be used.

8.3.2 For C-4 Environment Classification

Primer Coat: 1 coat of inorganic ethyl self curing zinc silicate primer (coating) at 75 microns DFT/Coat to be applied by airless/pressure pot. The primer should meet the requirements of IS - 14946 performance standard. Minimum Metallic Zinc in the dry film by weight must be 75%. Volume solids of the primer must be 60% .

Intermediate coat – 1 coat of High build epoxy MIO coating cured with polyamide hardener at 100 microns DFT/ Coat to be applied by airless spray. Minimum Natural Lamellar Micaceous Iron Oxide content in the dry film must be 50% by weight. Volume solids of the product must be 60% .

Finish Coat- One coat of High Build Gloss Aliphatic Acrylic Polyurethane at 50 micron/coat dry film thickness to be applied by brush/airless spray. Volume Solids of the product must be 62%.

Total DFT minimum: 225 Microns.

Notes:

1. This paint system is equivalent to the protective paint system no S4.30 recommended for corrosion category C-4- in ISO 12944-5.
2. This system is satisfactory for surface temperatures to 90° C continuous dry temperature.
3. Colour for final coat shall be as per colour code.
4. All material shall be supplied in the manufacturers original cans, durably & legibly marked with the description of the contents. This shall include the batch number, date of manufacturing & the manufacturer's name.
5. All coating materials used shall confirm to the composition clauses given against each product in the specification. In meeting the composition clauses, the manufacturer shall provide evidence of compliance from approved third party lab before start of the job & internal test report along with every supplied batch.
6. Material containing cadmium, lead or any other toxic material to environment/personnel shall not be used.

8.3.3 For C-3 Environment Classification

Covered Areas like TG Shed etc:

Primer cum Top Coat: Two coat of DTM – Direct to Metal epoxy primer cum finish with optimum loading of Zinc Silicate anti corrosive pigments at 75 microns DFT/Coat to be applied by airless/pressure pot. The total thickness of the system will be 225 microns. Volume solids of the DTM coating must be 70%.

Total DFT minimum: 225 Microns.

Uncovered Areas – Exposed to UV Rays:

Primer Coat: 2coat of Rapid Cure, High Build, Epoxy Polyamide Cure Zinc Silicate Primer with optimum loading of Zinc Silicate anticorrosive pigment at 175 microns DFT/Coat to be applied by airless/pressure pot. Minimum Zinc phosphate pigment in the dry film by weight must be 16%. Volume solids of the primer must be 63%.

Finish Coat- One coat of High Build Gloss Aliphatic Acrylic Polyurethane at 50 micron/coat dry film thickness to be applied by brush/airless spray. Volume Solids of the product must be 62% .

Total DFT minimum: 225 Microns.

Notes:

1. This paint system is equivalent to the protective paint system no S3.18 recommended for corrosion category C-3- in ISO 12944-5.
2. This system is satisfactory for surface temperatures to 90° C continuous dry temperature.
3. Colour for final coat shall be as per colour code.
4. All material shall be supplied in the manufacturers original cans, durably & legibly marked with the description of the contents. This shall include the batch number, date of manufacturing & the manufacturer's name.
5. All coating materials used shall confirm to the composition clauses given against each product in the specification. In meeting the composition clauses, the manufacturer shall provide evidence of compliance from approved third party lab before start of the job & internal test report along with every supplied batch.
6. Material containing cadmium, lead or any other toxic material to environment/personnel shall not be used.

9 COLOUR SCHEDULE

9.1 EQUIPMENT AND PIPING STANDARD COLOUR CODE FOR MECHANICAL

EQUIPMENT

S. No.	Description	Ground Colour
A	CLOSED COOLING WATER SYSTEM	
1	Closed cooling water pumps	Sea Green
2	Plate heat exchanger	Sea Green
3	Closed cycle cooling water pump	Sea Green
4	CCCW Expansion tank	Sea Green
5	CCCW chemical dosing tank	Sea Green

B	WATER TREATMENT PLANT	
1	River water & Raw water	
a	Raw water pump	Sea Green
b	Clarifier	Sea Green
c	- Raw / Fire water storage tank	Sea Green
d	DM plant supply pump	Sea Green
e	Filter air blower	Sea Green
f	Filter back wash pump	Sea Green
g	Lime slaking tank & agitator	Sea Green
h	Lime slurry transfer pump	Sea Green
i	Lime solution tank	Sea Green
j	Lime solution dosing pump	Sea Green
k	Alum solution tank	Sea Green
l	Alum solution metering pump	Sea Green
m	Polyelectrolyte solution tank	Sea Green
n	Polyelectrolyte solution metering pump	Sea Green
o	Sludge feed pump	Sea Green
p	Filter press	Sea Green
q	Service water tank for DM building	Sea Green
r	Service water tank for control annex	Sea Green
2	Demineralisation system	
a	Activated carbon filter	Sea Green
b	Cation exchanger	Sea Green
c	Anion exchanger	Sea Green
d	Deaasser tower	Sea Green
e	Air blower for deaasser tower	Sea Green
f	Strong base anion exchanger	Sea Green
g	Deaassed water transfer pump	Sea Green
h	Strong base anion exchanger	Sea Green
i	Mixed bed polisher	Sea Green
j	Air blower for mixed bed polisher	Sea Green
k	DM Water Storage tank	Sea Green
l	DM water transfer pump	Sea Green
m	Acid unloading cum transfer pump	Dark Admiralty Grey
n	Bulk acid storage tank	Dark Admiralty Grey
o	Acid measuring tank for SAC	Dark Admiralty Grey
p	Acid measuring tank for MB	Dark Admiralty Grey
q	Regeneration water pump	Dark Admiralty Grey
r	Caustic Lye unloading cum transfer pump	Dark Violet
s	Bulk caustic storage tank	Dark Violet
t	Caustic regeneration tank & agitator	Dark Violet
u	Caustic solution filter	Dark Violet

S.No.	Description	Ground Colour
v	Caustic dilution tank for SBA/WBA	Dark Violet
w	Caustic dilution tank for MB	Dark Violet
x	Caustic pump for regeneration for WBA/SBA	Dark Violet
y	Waste water recirculation cum disposal pump	Sea Green
C	CRANE & HOIST	
1	Power house EOT crane	Canary Yellow
2	CW pump house EOT crane	Canary Yellow
D	COMPRESSED AIR PLANT	
1	Air compressor	Sky Blue

	2	Compressed air dryer	Sky Blue
	3	Air receiver	Sky Blue
E		Chemical Dosing	
	1	Hydrazine preparation tank	Dark Admiralty Grey
	2	Ammonia preparation tank	Dark Admiralty Grey
	3	Hydrazine & ammonia dosing tank	Dark Admiralty Grey
	4	Hydrazine & ammonia dosing pump	Dark Admiralty Grey
	5	Phosphate preparation tank	Dark Admiralty Grey
	6	Phosphate dosing tank	Dark Admiralty Grey
	7	Phosphate dosing pump	Dark Admiralty Grey
	8	- Sampling system	Dark Admiralty Grey
F		FIRE PROTECTION SYSTEM	
	1	Diesel engine driven pump	Fire red
	2	Fuel tank for diesel engine driven pump	Fire Red
	3	Main hydrant pump (Electrical)	Fire Red
	4	Jockey pump	Fire Red
	5	Fire Water Storage tank	Fire Red
	6	CO2 cylinder	Fire Red
G		FUEL OIL SYSTEM	
	1	Fuel oil pumps skid	Light Brown
	2	Fuel oil Storage tank	Light Brown
	3	Fuel oil strainer	Light Brown
H		ASH DISPOSAL SYSTEM	
	1	Ash transmitting vessel	Aluminium
I		AIR CONDITIONING AND VENTILATION SYSTEM	
	1	Refrigerant compressor	Sky Blue
	2	Chilled / condenser pumps	Sea Green
	3	Condenser water pipe	Sea Green
	4	Fans	Grey

9.2 STANDARD COLOUR CODE FOR ELECTRICAL EQUIPMENT

Sl. No.	Description	Colour	Colour No.
1	Transformers	Light grey	Shade 631 of IS : 5
2	Bus ducts	Light grey	Shade 631 of IS:5
3	Junction boxes.	Light grey	Shade 631 of IS:5
4	HT/LT Switchboards, Distribution boards, Control & Relay panels		
	a) Indoor	Siemens	RAL 7032
	b) Outdoor	Light grey	Shade 631 of IS:5
5	UPS Panel, charger panels	Siemens	RAL 7032
6	DG Alternator	Onan Green	-
7	NGR	Light grey	Shade 631 of IS : 5
8	Motor	Light grey	Shade 631 of IS : 5
9	Lighting fittings	As per manufacturer's	As per manufacturer's
10	Cable trays	Galvanized	

Note: 1. All panels that are to be erected at CCR floor shall be painted using RAL 7032 (exterior colour). All Electrical, C&I, Fire alarm or any other panel shall have this colour.

9.3 COLOUR CODING FOR IDENTIFICATION OF PIPELINES USED IN THERMAL POWER PLANTS

Sl.No	Medium	Ground Shade		Band Shade		Remarks
		Color	Color No. as per IS:5	Color	Color No. as per IS:5	
1	Water system					
a)	Untreated or raw / service	Sea green	217	White	-	White is not included in IS - 5-2007
b)	Treated/dematerialized	Sea green	217	Light orange	557	
c)	Condensate	Sea green	217	Light brown	410	
d)	Potable water	Sea green	217	French blue	166	
e)	RO water	Sea green	217	Light orange	557	
f)	Service & clarified water	Sea green	217	French blue	166	
2	Steam system					
a)	Auxiliary steam	Aluminium	-	Signal red	537	with aluminium
3	Air system					
a)	Instrument	Sky Blue	101	White	-	White not included in IS-5 - 2007
b)	Service/Plant	Sky Blue	101	White	-	
c)	Vacuum pipes	Sky Blue	101	Black	-	Black not included in
5	Gas system					
a)	Hydrogen	Canary yellow	309	Signal red	537	White is not included in
b)	Chlorine	Canary yellow	309	Dark violet	796	
c)	Carbon dioxide	Canary yellow	309	Light grey	631	
e)	Oxygen	Canary yellow	309	White	218	

Sl.No	Medium	Ground Shade		Band Shade		Remarks
		Color	Color No. as per IS:5	Color	Color No. as per IS:5	
6	Oils					
a)	LDO/HFO	Light brown	410	Brilliant green	221	
b)	Transformer oil	Light brown	410	Light orange	557	
7	Chemical feed					
a)	Acid piping (in water treatment plant)	Dark admiralty grey	632	Signal red	537	Hazard mark is given
b)	Alkali Piping (in water treatment plant)	Dark violet	796	Golden yellow	356	Hazard mark is given
8	Fire services	Fire red	536	-	-	
9	Effluent pipes	Black	-	-	-	

9.4 COLOUR CODE FOR STRUCTURAL STEEL

SL. NO	ITEAM/SERVICE	COLOR	COLOR No. as per IS:5
1	Gantry girder & monorail	Brilliant green	221
2	Gantry girder & monorail stopper	Signal red	537
3	Building structural steel columns brackets, beams bracings, roof truss, purloin, side grit, louvers, stringers	Dark admiralty grey	632
4	Pipe rack structure & trestle	Dark admiralty grey	632
5	Chequered plate (Plain Face)	Black	-
6	Grating	Black	-
7	Ladder	Dark admiralty grey	632
8	Hand railing Hand rail	Signal red	537
9	Middle rail	Signal red	537
10	Toe Plate	Signal red	537
11	Vertical post	Black	-
12	Structural steel for Silo	Smoke grey	692

10 RECOMMENDED LIST OF PAINT MANUFACTURER

- 1.Asian Paints India Ltd
2. Shalimar Paints
- 3.Jotun
4. Akzonobel
5. Berger Paints
6. Good lass Nerolac Paints
7. Bombay Paints
8. Jenson & Nicholson

11 PROCEDURE OF APPROVAL OF NEW COATING MATERIAL

Following procedure recommended is to be followed for approval materials Manufactured by new manufactures (indigenous and foreign):

1. Sample shall be selected by Adani and the manufacturer should arrange testing of the coating materials as per the List of tests given in Para 5 below from one of the reputed Government Laboratories. Testing charge shall be borne by manufacturer.
2. Samples of coating materials should be submitted to the Govt. Laboratory in sealed containers with batch number and test certificate on regular format of manufacturer's testing laboratory.
3. All test panels should be prepared by the Govt. testing agency colored photographs of test panels should be taken before and after the test and should be enclosed along with test report.

Sample batch number and manufacturer's test certificate should be enclosed along with the report. Test report must contain detail of observations and rating if any as per the testing code.

Suggested Govt. laboratories are:

RRL, Hyderabad
HBTI, Kanpur
DMSRDE, Kanur
IIT, Bombay
BIS, Laboratories
UDCT, Mumbai

4. Manufacturers should intimate the company, details of samples submitted for testing, name of Govt. testing agency, date. Contact personnel of the Govt. testing agency. At the end of the test the manufacturer should submit the test reports to the Company for approval. The manufacturer(s) shall be qualified based on the results of these tests and the Company's decision in this regard - shall be Final and binding on the manufacturer.
5. All tests required for evaluation of acceptance coating materials for structural steel in thermal power plant shall be as per C5-M classification in ISO 12944 – 2 relevant ISO/ASTM standards.

Types of Environment

ISO 12944 classification	Typical Environments
C1 & C2	Rural areas, low pollution. Heated building/neutral atmosphere.
C3	Urban and industrial atmospheres. Moderate sulphur dioxide levels. Production areas with high humidity.
C4	Industrial and coastal. Chemical processing plants.
C5I	Industrial areas with high humidity and aggressive atmospheres.
C5M	Marine, offshore, estuaries, coastal areas with high salinity.

BTG & AUXILIARIES

	OWNER MAHAN ENERGEN LTD. (MEL)
	OWNER'S ENGINEER TATA CONSULTING ENGINEERS LIMITED
	BTG CONTRACTOR BHEL

Digitally signed by
 Bhavesh Patel
 Date: 2024.07.12
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Categories:

☒ Cat-I

☐ Cat-I*

☐ Cat-II

☐ Cat-III

☐ Cat-IV

☐ Cat-IV*

Approved. Good for Manufacturing/Construction/Fabrication.

Approved with minor comments. No resubmission is required. To be incorporated in As-Built. Good for Manufacturing/ Construction/ Fabrication subject to incorporation of comments.

Resubmission is required. Approved & Released for Manufacturing/ fabrication/ construction subjected to incorporation of comments.

Not Approved. Revise & Resubmit for Approval

For Information & Records.

Incorporate Comments & resubmit for Information & records.

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 Date: 2024.07.12
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Note: "Approval of this document does not absolve the Contractor/ Supplier/Fabricator from fulfilling Contractual obligations in any way"

PLANT	BHEL, HEEP HARIDWAR.
DOCUMENT TITLE	PAINTING SCHEME FOR STEAM TURBINE, TURBOGENERATOR, CONDENSER AND AUXILIARY SYSTEMS
OWNER DOC. NO.	552H-E-BTG-TGA-DM-N-V-0018
CONTRACTOR / SUPPLIER DOC. NO.	10868-ENGG-N001A
PACKAGE DISCIPLINE	STEAM TURBINE & GENERATOR
PREPARED BY	PRATEEK AGARWAL, SATENDER KUMAR & ANCHAL PANDEY
REVIEWED BY	DHRUV GARG
APPROVED BY	DHRUV GARG

TATA CONSULTING ENGINEERS LIMITED. CONTRACTOR DOCUMENT REVIEW STATUS

☒ 1

☐ 1*

☐ 2

☐ 3

☐ 4

☐ 4*

Approved, Further work can Proceed

Approved with minor comments. No resubmission is required. To be incorporated in As-Built. Good for Manufacturing/Construction / Fabrication subject to incorporation of comments.

Approved with comments. Work can proceed subject to incorporation of comments

Not Approved. Revise according to comments & resubmit

Retained for Information

Incorporate Comments & resubmit for Information & records

Approval conveyed herein neither relieves CONTRACTOR of his contractual obligations and his responsibilities for correctness of dimensions, materials of construction, weights, quantities, design details, assembly fits, system / performance requirements and conformity of supplies with National/ international statutory laws as may be applicable , nor does it limit the Employer's rights under the contract.

Reviewed by: RS/PMJ

Date: 12-07-2024

Revision Control History

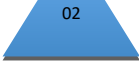
Sr. No.	Revision No.	Date	Reasons for Change
1	00	04.12.2023	First issue
2	01	22.01.2024	Document revised in line with customer Comments. Changes are marked with Rev01.
3	02	14.02.2024	Document revised in line with customer Comments. Changes are marked with Rev02.
4	03	26.02.2024	Document revised & Change is marked with Rev03.
5	04	06.06.2024	Document revised & Changes are marked with Rev04.
6	05	10.07.2024	Document revised & Changes are marked with Rev 05.



**PAINTING SCHEME FOR STEAM TURBINE, GENERATOR,
CONDENSOR & AUXILIARIES**
PROJECT: MAHAN TPS UNIT-1 & 2 (2x800 MW)
CUSTOMER DOCUMENT NO.: 552H-E-BTG-TGA-DM-N-V-0012

**PAINTING SCHEME FOR STEAM TURBINES, GENERATOR,
CONDENSOR & AUXILIARIES**

Painting Scheme 1.

Paint (Coat)	Paint Type		No. of coat	Total DFT*
Primer Paint	: Epoxy base Zinc rich primer paint		1 Coat	75
Intermediate Paint	: High build epoxy MIO coating cured with polyamide hardener		1 Coat	100
Finish (Final) Paint	: Aliphatic Acrylic 2 Pack Polyurethane Finish paint		1 Coat	50
			Total DFT	225

Details of Color Scheme:

(Legend: W- at BHEL works; V- at vendor's works; S- at site; N A -Not applicable)

No	Assembly	Shade as per IS-5 or	Primer	Int. Paint	Final Paint	Touch-up	Remarks
a	Bearing pedestals with assembled parts (outer unmachined surfaces)	Light Blue RAL 5012	W	W	W	S	
b	Front walls & Side Walls of LPT. (Outer unmachined surfaces)	Light Blue RAL 5012	W	W	W	S	
c	Rupture Diaphragm Assembly	Light Blue RAL 9011	W	W	W	S	
d	Hydraulic Turning motor	Light Blue RAL 5012	V	V	V	S	
e	LP upper parts (outer unmachined)	Light Blue RAL 5012	W	W	W	S	
f	Suspension arrangement for LPBP & overload valves (unmachined)	Graphite Black RAL 9011	V	V	V	S	
g	Shaft Supports (IP & LP) & Casing Supports	Light grey ISC No. 631	W	W	W	S	
h	Assy fixture for HPT (unmachined)	Light Blue RAL 5012	W	W	W	S	
i	Turning over device (unmachined) for HPT	Light Blue RAL 5012	W	W	W	S	
j	Assy tools for main turbine (unmachined surfaces)	NA	W	W	W	S	TRP HE 1712 (Light Green/Light brown) (Rust preventive)

BHARAT HEAVY ELECTRICALS LIMITED, HARIDWAR

BHEL DOCUMENT NO. 10868-ENGG-N001



**PAINTING SCHEME FOR STEAM TURBINE, GENERATOR,
CONDENSOR & AUXILIARIES**
PROJECT: MAHAN TPS UNIT-1 & 2 (2x800 MW)
CUSTOMER DOCUMENT NO.: 552H-E-BTG-TGA-DM-N-V-0012

k	Assy device for valves & Support for valves	NA	W	W	W	S	Red oxide primer Grease TRP HE 1712 (Light Green/Light brown) (Rust preventive)
l	Support of Breech block (Valve support)	NA	W	W	W	S	TRP HE 1712 (Light Green/Light brown) (Rust preventive)
n	Mounting frame of bearing shell	Graphite Black RAL 9011	W	W	W	S	
o	Shaft Lifting device (LPT)	Light Blue RAL 5012	W	W	W	S	
p	Grating Coverings for LPT	NA	W	W	W	S	Red oxide primer Grease
q	Shaft seal lifting device & dev. Axial holding of I P shaft	Light Blue RAL 5012	W	W	W	S	
r	Stretching device for Breech Block & Breech Nut Heating Device	NA	V	V	V	S	
s	Hand barring gear	NA	W	W	W	S	TRP HE 1712 (Light Green/Light brown) (Rust preventive)

03

Note: Any type of Imported Item is transported in Sea worthy packing and painting is done as per C-4 Environment classification. Total DFT is of 225 Microns.

01

Following Items are not painted as these are of Stainless Steel Compensators



**PAINTING SCHEME FOR STEAM TURBINE, GENERATOR,
CONDENSOR & AUXILIARIES**
PROJECT: MAHAN TPS UNIT-1 & 2 (2x800 MW)
CUSTOMER DOCUMENT NO.: 552H-E-BTG-TGA-DM-N-V-0012

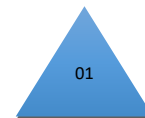
PAINTING SCHEME NO	TYPE OF PAINT	COMPONENTS
2.	Heat resistant Aluminum paint (IS 13183) No. of coats: -2, Total DFT- 40µm	1. Casing and covers of valves (outside) 2. HPT & IPT outer casing & IPT supporting arm for Push-Rod (Outer Unmachined) 3. HP & IP Stop & Control valve casings outer (Unmachined) 4. LP Shaft Seal Casings 5. Cross over pipe Assembly 6. Overload Valve & overload valve casing assembly. 7. Seal Steam Supply Valve 8. Leak-off Steam Valve



Note: Above components are exposed to steam from inside and are covered with insulation.

Surface Preparation:

- 1- It is necessary that the surface to be painted is free from loose dust, mill scale, rust, grease, oil, old film etc. Surface cleaning and preparation is to be done for all the components as per BHEL standard practice. The surfaces before painting should correspond to standard degree of purity SA 2.5.
- 2- Checking of surface preparation, / measurement of dry paint thickness, adhesion, gloss & finish of painted surface is done as per Adani's Technical Specification (Vol-II, Annexure-1) for Painting & Coating of Equipment & Structures (Clause 6.0, Inspection & Testing)



PAINTING SCHEME FOR
Condenser & Heat Exchangers (BHEL Hardwar)

1

02	Sl. No.	Paint (Coat)	Paint Type			No. of coat	Total DFT		
		Primer Paint	: Epoxy base Zinc rich Primer Paint			1 Coats	75		
		Intermediate Paint	: High build epoxy MIO coating cured with polyamide hardener			1 Coat	100		
		Finish (Final) Paint	: Aliphatic Acrylic 2 Pack Polyurethane Finish paint			1 Coats	50		
		Total DFT 225 microns min.							
		For Gland Steam Condenser:							
		Paint (Coat)	Paint Type			No. of coat	Total DFT		
		Primer Paint	: Epoxy base Zinc rich Primer Paint			1 Coats	75		
		Intermediate Paint	: High build epoxy MIO coating cured with polyamide hardener			1 Coat	100		
		Finish (Final)	: Heat Resistant Aluminum paint			1 Coats	50		
	Total DFT 225 microns min.								
A.	Details of Color Scheme (Outside Surfaces):								
	(Legend : W-at BHEL works; V- at vendor's works; S-at site; NA-Not applicable)								
01		Assembly	Shade as per IS-5 or Eq.	Primer	Int. Paint	Final Paint	Touch-up	Re-marks	
		Condenser	RAL 7001-Silver Grey	W	W	S	S		
		LP Heater	-- Do --	W	W	W	S		
		Hydrogen Coolers & Exciter Air Coolers.	Grey RAL 9002	W	W	W	S		
		Gland Steam Condenser	-- Do – and Heat Resistant Aluminum paint	W	W	W	NA		
		Air Exhauster for Gland Steam Condenser	Grey RAL 9002	V	V	V	S		

Following Items are BOI.

1. Condenser Air Evacuation Equipment:
2. Turbine Oil Coolers (PHE Type):

Painting is done as per C-4 Environment classification. Total DFT is of 225 Microns

PAINTING SCHEME FOR
Condenser & Heat Exchangers (BHEL Hardwar)

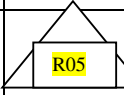
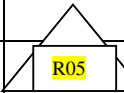
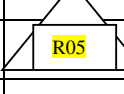
2

B.	Details of Painting (Inside Surfaces):						
01	Assembly	Shade as per IS-5 or Eq.	Primer	Int. Paint	Final Paint	Touch-up	Remark
	<u>Condenser</u>						
	# Cooling water side surfaces (water boxes inside)	Black	W (DFT 75 microns)	--	W (High Build Black Coal Tar Epoxide Paint, Total DFT 0.25mm)	NA	
	# Tube plate surface towards water box side.	-do-	S @	--	-do-	-do-	After tubing.
	# Shell side inside surfaces (steam side)	Shell side inside surfaces are supplied coated with Steam Washable Paint at Works. This paint is to be washed before commissioning.					
02	LP Heater & Gland Steam Condenser	Shell side & Water box inside surfaces are supplied coated with Steam Washable Paint at Works. This paint is to be washed before commissioning.					

@ Tube plate surface is supplied painted with steam washable paint which is to be cleaned before applying Primer on water box side surface.



PAINTING SCHEME FOR TURBOGENERATOR AND AUXILIARY SYSTEMS

Sl No	Details							
01	The following are the details of painting scheme:							
	Paint (Coat)	Paint Type					No. of coat	DFT*
	Primer Paint	: Epoxy based Zinc rich primer paint					1 Coat	75
	Intermediate Paint	: High build epoxy MIO coating cured with polyamide hardener					1 Coat	100
	Finish (Final) Paint	: Aliphatic Acrylic 2 Pack Polyurethane Finish paint					1 Coat	50
							Total DFT	225
	* DFT – Dry Film Thickness (final) in microns.							
02	Details of Color Scheme :							
	(Legend : W-at BHEL works; S-at site; V-at vendor’s works; NA- Not Applicable)							
No	Assembly	Shade as per IS-5 or Eq.	Primer	Int. Paint	Final Paint	Touch-up	Identification Band Colour (For Piping)	Remarks
A	Turbogenerator (Stator, end-shields etc.)	Blue RAL 5012	W	W	W	S		
B	Exciter	NA	W	NA	NA	NA		
C	Exciter Cover	Blue RAL 5012	V	V	V	NA		
D	S.O. Unit	Grey RAL 9002	W	W	W	S		
E	S.O. Storage Tank	Grey RAL 9002	W	W	W	S		
F	Liquid Detector Rack	Grey RAL 9002	W	W	W	S		
G	S.O. Piping	Grey RAL 9002	W	S	S	NA	Light Brown ISC 410	Legend - SO
H	Gas Unit	Grey RAL 9002	W	W	W	S		
I	H2 Distributor	Grey RAL 9002	W	W	W	S		
J	CO2 Distributor	Grey RAL 9002	W	W	W	S		
K	N2 Distributor	Grey RAL 9002	W	W	W	S		
L	CO2 Vapouriser	Grey RAL 9002	W	W	W	S		
M	Refrigeration Gas Dryer	Grey RAL 9002	V	V	V	S		
N	H2 Piping	Grey RAL 9002	W	S	S	NA	Canary Yellow ISC 309	Legend - H
O	CO2 Piping	Grey RAL 9002	W	S	S	NA	Canary Yellow ISC 309	Legend – CO2
P	ACW Piping for H2 coolers	Grey RAL 9002	W	S	S	NA	Sea Green ISC 217	Legend - ACW

Q	Bearing Vapour Exhauster	Grey RAL 9002	V	V	V	S		
R	PW pump & filter unit	Grey RAL 9002	W	W	W	S		
S	PW coolers	Grey RAL 9002	V	V	V	S		
U	PW Piping & impulse piping	Grey RAL 9002	W	S	S	NA	Sea Green ISC 217	Legend - DMW
V	PW tank	Grey RAL 9002	W	W	W	S		
W	Hanger & Pipe supports	Black RAL 9011	W	S	S	NA		



NOTE: 1) Erection of generator piping and hangers / supports mentioned at sl. No. G, N, O, P, U & W is done at site. Hence, painting of these items (Int. paint & Final paint) shall be done at site by erection agency and paint shall be supplied by BHEL Haridwar.

As discussed and agreed, the final coat and Intermediate coat of painting is in BHEL scope and same shall be applied by BHEL at site.



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन

SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली

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

		(यदि लागू हो)
7.	Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc) मैनेपावर विवरण के साथ समय संकलन का चार्ट (डिजाइन / विनिर्माण / गुणवत्ता आदि)	<i>Details attached at Annexure – F2.3</i> विवरण अनुलग्नक – F2.3 में संलग्न है।
8.	After sales service set up in India, in case of foreign sub-vendor (Location, Contact Person, Contact details etc.) भारत में बिक्री सेवा की स्थापना के बाद, विदेशी उप-विक्रेता के मामले में (स्थल, संपर्क व्यक्ति, संपर्क विवरण आदि)	<i>Applicable / Not applicable</i> लागू / लागू नहीं <i>Details attached at Annexure – F2.4</i> विवरण अनुलग्नक - F2.4 पर संलग्न है।
9.	Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any फ्लोचार्ट सहित विनिर्माण प्रक्रिया निष्पादन योजना, जिसमें आउटसोर्स प्रक्रिया, यदि कोई हो, सहित कच्चे माल से तैयार उत्पाद तक विनिर्माण के विभिन्न चरणों को दर्शाया गया हो,	<i>Details attached at Annexure – F2.5</i> विवरण अनुलग्नक - F2.5 में संलग्न है।
10.	Sources of Raw Material/Major Bought Out Item कच्चे माल के स्रोत / खरीदे हुए मुख्य मद	<i>Details attached at Annexure – F2.6</i> विवरण अनुलग्नक - F2.6 में संलग्न है।
11.	Quality Control exercised during receipt of raw material/BOI, in-process, Final Testing, packing कच्चे माल / खरीदे हुए मद, प्रक्रियाबद्ध, अंतिम परीक्षण, पैकिंग करते समय गुणवत्ता नियंत्रण	<i>Details attached at Annexure – F2.7</i> विवरण अनुलग्नक - F2.7 पर संलग्न है
12.	Manufacturing facilities (List of machines, special process facilities, material handling etc.) विनिर्माण सुविधा (मशीनों की सूची, विशेष प्रक्रिया सुविधाएं, सामग्री रख-रखाव आदि)	<i>Details attached at Annexure – F2.8</i> विवरण अनुलग्नक - F2.8 में संलग्न है।
13.	Testing facilities (List of testing equipment) परीक्षण सुविधाएं (परीक्षण उपकरण की सूची)	<i>Details attached at Annexure – F2.9</i> विवरण अनुलग्नक – F2.9 में संलग्न है।
14.	If manufacturing process involves fabrication then- यदि निर्माण प्रक्रिया में फेब्रिकेशन की गई है तो- List of qualified Welders पात्र वेल्डर की सूची List of qualified NDT personnel with area of specialization विशेषज्ञता के क्षेत्र सहित पात्र एनडीटी कार्मिकों की सूची	<i>Applicable / Not applicable</i> लागू / लागू नहीं <i>Details attached at Annexure – F2.10</i> विवरण अनुलग्नक - F2.10 में संलग्न है। <i>(if applicable)</i> लागू / लागू नहीं
15.	List of out-sourced manufacturing processes with Sub-Vendors' names & addresses सब-वेंडर द्वारा बाह्य स्रोतों (उनके नाम और पते सहित) से करवाएं गए निर्माण प्रक्रियाओं की सूची	<i>Applicable / Not applicable</i> लागू / लागू नहीं <i>Details attached at Annexure. –F2.11</i> विवरण अनुलग्नक - F2.10 में संलग्न है।



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन

SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली

		(if applicable) (यदि लागू हो)			
16.	Supply reference list including recent supplies नवीनतम आपूर्ति सहित आपूर्ति संदर्भ सूची	Details attached at Annexure – F2.12 विवरण अनुलग्नक - F2.12 में संलग्न है। (as per format given below) (नीचे दिए गए प्रारूप का अनुसार)			
Project/ package परियोजना /पैकज	Customer Name ग्राहक का नाम	Supplied Item (Type/Rating/Model /Capacity/Size etc) आपूर्ति की गई वस्तु (प्रकार / रेटिंग / मॉडल / क्षमता / आकार आदि)	PO ref no/date पीओ संदर्भ सं. / तिथि	Supplied Quantity आपूर्ति की मात्रा	Date of Supply आपूर्ति की तारीख
17.	Product satisfactory performance feedback letter/certificates/End User Feedback उत्पाद का संतोषजनक प्रदर्शन संबंधी फीडबैक पत्र / प्रमाण पत्र / अंतिम उपयोगकर्ता फीडबैक		Attached at annexure - F2.13 अनुलग्नक F2. 3पर संलग्न है		
18.	Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product (similar or higher rating) प्रस्तावित उत्पाद (एक समान या उच्च रेटिंग वाले) के लिए टाइप टेस्ट रिपोर्ट (टाइप टेस्ट विवरण, रिपोर्ट संख्या, एजेंसी, जांच की तारीख) का सारांश नोट:- रिपोर्ट प्रस्तुत करने की आवश्यकता नहीं है Note:- Reports need not to be submitted		Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.14 विवरण अनुलग्नक - F2.1 4में संलग्न है (if applicable) (यदि लागू हो)		
19.	Statutory / mandatory certification for the proposed product प्रस्तावित उत्पाद के लिए वैधानिक / अनिवार्य प्रमाणीकरण		Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.15 (if applicable) (यदि लागू हो)		
20.	Copy of ISO 9001 certificate आईएसओ 9001 प्रमाण पत्र की प्रति (if available(यदि उपलब्ध हो)		Attached at Annexure – F2.16 अनुलग्नक में संलग्न - F2.1 6 है		
21.	Product technical catalogues for proposed item (if available) प्रस्तावित मद के लिए उत्पाद तकनीकी कैटलॉग (यदि उपलब्ध हो)		Details attached at Annexure – F2.17 विवरण अनुलग्नक - F2.1 7 में संलग्न है		
Name: नाम:		Desig: पद:		Sign: हस्ता क्षर:	Date: तिथि:

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



Bharat Heavy Electricals Limited
(A Govt. of India Undertaking)
HEEP, Ranipur Haridwar
MAIN CONTRACTOR's PROPOSAL

1.	Name of proposed vendor and factory location	
2.	Item details for which vendor approval is requested <ul style="list-style-type: none">• Item/Equipment• Size• Capacity• Rating• Service (Steam/Water/Other)• Plant System (Application)	<ol style="list-style-type: none">1. Item/Equipment: Specify the exact item or equipment name.2. Size: Provide the dimensions or size specifications.3. Capacity: Mention the capacity, such as volume, weight, or power.4. Rating: Include any relevant ratings, such as voltage, pressure/temp class, or efficiency.5. Service: Indicate the type of service (e.g., Steam, Water, Other).6. Plant System (Application): Describe the plant system or application where the item will be used.
3.	Approval Status: Whether approved by NTPC for project supply? (No/Yes) If Yes , provide the following details: <ul style="list-style-type: none">• Name of Project:• Plant Capacity:• Max Size/Rating of Item/Equipment Delivered:• Commissioning Date:• Operational Since:• Whether Supplied Through BHEL:	
5.	Project supply experience for clients other than NTPC <ul style="list-style-type: none">• Name of Project:• Plant Capacity:• Max Size/Rating of Item/Equipment Delivered:• Commissioning Date:• Operational Since:• Whether Supplied Through BHEL:	
6.	Reason for additional vendor proposal	
7.	Additional information if any	

Signature:
Name:

Main Contractor (name and Signature)



MAIN SUPPLIER'S EVALUTION REPORT OF THE PROPOSED SUB-SUPPLIER

1. Name of Main Supplier :

2. Project Name :

3. Package Name :

4. Name of item/equipment to be procure :
(with Rating/Type/Size)

5. .Brief specification of equipment to be procured :

6. Name of the proposed sub-supplier :

7. Address of sub-supplier's Regd. office :
(with phone no. Fax no. & Email)

8. Address of the sub-supplier's manufacturing unit :
(with phone no. Fax no., & Email)

9. Name of the contact person of the sub- supplier :
(with phone no. Fax no., Mob no. & Email)

Format No. ADANI/Q/F-01 Rev 01



10. Reference List :

(Extensive experience in particular type of equipment to be procured)

Name of customer with address	Name of the plant where equipment were installed	Type/ Rating/ Capacity	Date of dispatch of equipment	Date of Commissioning of equipment	Nos. of years in operation	Performance feed back from customer

11. Main supplier's to submit their own assessment report of the sub-supplier:

Attached / Not attached

12. Main supplier's recommendation:

Name

Designation
Dept. / Company

Signature

Date

List of enclosures :-

- 1.
- 2.
- 3.





ASSESSMENT OF SUPPLIER

Name of item/equipments for which assessment is required:-----

1.0 GENERAL INFORMATION :-

1.1) Name of the company	
1.2) Address of their Regd. office with telephone No., Fax No.& E-Mail	
1.3) Address of the Supplier's factory / works with telephone No., Fax No.& E-Mail a) Weekly off :- b) Shift working per day:-	a) ----- b) One/Two/Three
1.4) Address of the Supplier's Branch offices with telephone No., Fax No.& E-Mail	
1.5) Nature of the firm: (Govt. Undertaking / State Govt. Undertaking / Private Company / Co-operative society / Partnership Firm / Proprietorship / Any other)	
1.6) Nature of Business (Manufacturing Unit / Agent / Distributor / Stockiest)	
1.7) Year of establishment	
1.8) Year of commencement of manufacturing	
1.9) Name of the Chief Executive/ Proprietor & Plant Manager	
1.10) Contact Person	



ASSESSMENT OF SUPPLIER

(Name, Designation, Address, Telephone no. , Mob. No. Fax & Email)	
1.11) Total Nos. of employees (Attach organization chart)	i) Administration & Commercial ----- ii) Engineering & Technology ----- iii) Manufacturing ----- iv) Quality ----- v) Maintenance ----- vi) Site Management ----- vii) Other ----- viii) Total -----
1.12) Total area of the Factory a) Covered b) Uncovered	
1.13) Electrical Power and alternative arrangement for power: (Give Details)	

2.0 FINANCIAL INFORMATION:-

	Year 1	Year 2	Year 3
2.1) Share Equity Capital			
2.2) Long Term Debt			
2.3) Investment in :- i) Land & building ii) Plant & Equipment iii) Other Fixed Assets			
2.4) Net Current Assets			
2.5) Net Current Liabilities			
2.6) Sales			
2.7) Profit before tax			
NOTE:- Copies of annual Balance Sheet for the last three years along with audit report to be submitted.			

3.0: TECHNICAL INFORMATION :-



ASSESSMENT OF SUPPLIER

3.1 Manufacturing Capacity for the item / equipment for which approval is required

Sl. No	Name of Product	Licensed Capacity	Installed Capacity

3.2 Brief details of the item / equipment manufactured in the past three years:-

Sl. No.	Item Description	Specn/Grade/Size	Annual Production in the last three Years		

3.3 Manufacturing facilities including material handling facilities:-

Sl. No.	Description of machines used for manufacturing	Capacity, Size	Make	Yr of installation	Limitations	Remarks

3.4 Measuring, inspection, testing and heat treatment facilities (in house):-

Sl.No.	Description of equipment	Size, range, Capacity & accuracy	Make	Last date of calibration

3.5 Measuring, inspection, testing and heat treatment facilities (out sourced):

Sl. No.	Description of test	Name of the agency carrying out the test

3.6 Foreign collaboration, if any:



ASSESSMENT OF SUPPLIER

Product	Name & address of the Collaborator	Year of Collaboration	Whether current or not

3.7 Details same/ similar item supplied in the last three years:-

Item description	Specn.& size	Major Customer Name	Project Name	Po. No. & date	Qty	Year of Supply	Remark

3.8 Source of raw materials:-

Description of raw materials	Name & address of the suppliers

3.9 Copies of Qualification Approval / Type Test certificates / Test Reports for the item / equipment witnessed by any independent agency may be attached.

3.10 Furnish process flow chart including inspection stages

3.11 Details and experience of technical personnel (Head of various departments)

3.12 Performance feed back if any – Attach feed back certificates.

4.0 QUALITY MANAGEMENT SYSTEM:-

4.1 Furnish organization chart of Quality department including NDT (non destructive test) personnel

4.2 Whether QA system is certified as per ISO- 9001? If yes then attach a copy of the certificate.

4.3 Incoming material control:-

Format No. ADANI/Q/F-12 Rev 01

A formalized supplier rating, evaluation & certification programme which includes quality performance criteria.	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Verification of incoming material prior to storage	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No

4.4 Process control:-

Work instructions have been documented by the sub supplier and followed by the worker.	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Required tools, jigs & fixtures are identified and used.	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Procedure for qualification & revalidation of qualification of welder and NDT operator or any other special processes	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Testing facilities for Chemical, Mechanical, Electrical and NDT tests. Trained personnel carry out the tests and records are maintained.	i)Whether such procedure exist? ii) Whether system is effective? iii) Whether records are available? iv) Whether details of trained personnel submitted?	Yes/No Yes/No Yes/No Yes/ No
Preventative maintenance activities are performed critical machines and records maintained.	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Material identification and acceptance status is maintained throughout the manufacturing process and storage.	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Identification / Preservation, & Packing procedures	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No

4.5 Control of non-conformance:-



ASSESSMENT OF SUPPLIER

Record of rework /rectification	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
System of review and analysis of repeated non-conformities/ failures and their prevention in future.	i)Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No

4.6 Calibration of measuring & testing equipments:-

System of calibration of gauges, fixtures and instruments	i) Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
Master gauges / standards are traceable to recognized national standards.	i) Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No

4.7 Inspection & testing of finish product:-

System of inspection and testing of finished product exits.	i)Whether such procedure exists? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
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4.8 System of recording, attending and monitoring customer complaint & corrective action.

System of recording, attending and monitoring customer complaint and corrective action exits.	i) Whether such procedure exist? ii) Whether system is effective? iii)Whether records are available?	Yes/No Yes/No Yes/No
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4.9 Any other information:-

Enclosures:-

Place:

Signature

Date:

Name and Designation

Seal

NON DISCLOSURE AGREEMENT

THIS NON DISCLOSURE AGREEMENT (this "**Agreement**") entered into on this day of June, 20.. (the "**Effective Date**")

By and Between

Bharat Heavy Electricals Limited (a Public Sector Undertaking of Government of India), a company incorporated under the Companies Act, 1956 and having its registered office at having its registered office at "BHEL House", Siri Fort, New Delhi - 110 049, India (hereinafter referred to as "**BHEL**" of which the expression shall unless repugnant to the context or the meaning thereof be deemed to include its successors and permitted assigns) (hereinafter referred to as "BHEL"),

And

ABC, a Company incorporated under the laws of and having its registered office at (hereinafter referred to as "ABC").

The party who is receiving information would be referred as Receiving Party and the party who is disclosing information would be referred as Disclosing Party, as the context requires.

WHEREAS

- (A) The Disclosing Party and The Receiving Party wish to explore and discuss the potential of certain mutually advantageous business relationships for _____, for the purpose ofproducts in India ('the Purpose');
- (B) The Disclosing Party, in furtherance of such business relationship, will disclose certain information, including but not limited to, scientific, development, financial, marketing, sales or other proprietary information;
- (C) The Receiving Party and the Disclosing Party wish to protect and preserve the confidentiality of such information provided by the Disclosing Party to the Receiving Party by preventing its unauthorized disclosure and use, in accordance with the terms of this Agreement; and
- (D) The Receiving Party agrees to hold such information in strict confidence and not to disclose or to use, directly or indirectly, for any purpose other than the performance of this Agreement

NOW, THEREFORE and in consideration of the promises made herein, their mutual and individual interests, and other good and valuable consideration, the receipt and sufficiency of all of which is hereby acknowledged, the Parties agree as follows:

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-
1. **PURPOSE:** Purpose to ne mentioned here.
 2. **DISCLOSING PARTY.** means a Party that discloses the confidential information to the other party under this agreement.
 3. **RECEIVING PARTY** means a Party that receives the confidential information from the other party under this agreement.
 4. **Confidential Information**
 - (a) Subject to the provisions of this Agreement, all information disclosed by the Disclosing Party to the Receiving Party, shall be deemed to be "Confidential Information" for the purposes of this Agreement.
 - (b)
 - (i) It is clarified that Confidential Information shall include, but is not limited to, any trade secret, technique, strategy, component, concept, program, report, study, memorandum, correspondence, documentation, information, manual, record, data, technology, product, plan, design, procedure, method, invention, sample, notes, summaries, analyses, compilations and other writings, producing any such sample, medium, test data relating to any research project, work in progress, future development, engineering, manufacturing, marketing, pricing, billing, servicing, financing, personnel matter, its present or future products, sales, suppliers, clients, customers, employees, investors, or any other information which the Disclosing Party provides to the Receiving Party whether in oral, written, graphic or electronic form and whether or not such information is identified as such by an appropriate stamp or marking. The Confidential Information shall also include all reports, notes or other material prepared by the Receiving Party based on the Confidential Information and/ or any discussion thereon.
 - (ii) Confidential Information includes information disclosed by the Disclosing Party or by any individual, firm or corporation controlled by, controlling, or under the common control of the Disclosing Party.
 - (c) Confidential Information shall not include any information which the Receiving Party can demonstrate to the Disclosing Party:
 - (1) is now, or has become, through no act or failure to act on the part of the Receiving Party, generally known or available to the public;
 - (2) is known by the Receiving Party at the time of receiving such information as evidenced by its records;
 - (3) is discovered/independently developed by the Receiving Party independent of any disclosures by the Disclosing Party; or

-
- (4) is hereafter furnished to the Receiving Party by a third party, as a matter of right and without restriction on disclosure.

- (d) Notwithstanding any other provision of this Agreement, the Receiving Party shall be permitted to disclose Confidential Information if such disclosure is in response to a valid order of a court or other governmental body, provided, however, that the Receiving Party shall be required to give prior notice in writing to the Disclosing Party so that the Disclosing Party may seek an appropriate protective order including that the Confidential Information so disclosed be used only for the purposes for which the order was issued;

5. Disclosure

In consideration of the disclosure of Confidential Information by, the Recipient hereby agrees to:

- (a) Shall treat as confidential and safeguard all information disclosed and/or its Affiliates in connection
- (b) to hold the Confidential Information in strict confidence and to take all necessary precautions to protect such Confidential Information (including, without limitation, all precautions the Recipient employs with respect to its own confidential materials);
- (c) limit disclosure of any Confidential Information to its concerned directors, officers and employees, (collectively "Representatives") strictly only to who have a need to know such Confidential Information in connection with the Transaction between the parties to which this Agreement relates, and only for that purpose;
- (d) advise its Representatives of the proprietary nature of the Confidential Information and of the obligations set forth 2 in this Agreement and require in writing such Representatives to keep the Confidential Information confidential;
- (e) shall keep all Confidential Information strictly confidential by using a reasonable degree of care, but not less than the degree of care used by it in safeguarding its own confidential information;
- (f) not disclose any Confidential Information received by it to any third party; and
- (g) not to copy or reverse engineer any such Confidential Information.
- (h) not to use the Confidential Information for any purpose other than the Transaction.
- (i) not use the information for any scientific research or any other research.
- (j) Confidential information does not include information:
 - a. Which is generally available to the public other than as a result of a breach of this Agreement; or
 - b. Which is already in the possession of Recipient without restriction prior to any disclosure hereunder; or

-
-
- c. Which is or has been lawfully disclosed to Recipient by someone who is free lawfully to disclose the same without confidentiality restrictions; or
 - d. Which is independently developed by Recipient or its Affiliates and no Confidential information disclosed hereunder has been used directly or indirectly in such development; or
 - e. Whose applicable period of confidentiality pursuant hereto, or such other period specifically agreed to in writing by the parties, has ended
- (k) This agreement is not intended to, and does not, oblige either party to enter into any further agreements or to proceed with the transaction, any possible relationship or other transaction. Recipient acknowledges that Discloser makes no representation or warranty whether express or implied, as to the accuracy or completeness of Confidential information, and Discloser disclaims any and all liability unless contained in any definitive agreement.

Each Party will comply with all applicable data protection laws and regulations. Where applicable in particular if one Party receives access to and processes personal data on behalf of the other party in connection with this Agreement and such processing agreement, the Parties will enter into any required data processing of other data protection agreement

6. Restriction on Use

- (a)** The Receiving Party and its Representatives shall hold the Confidential Information received from the Disclosing Party in confidence, and shall not, directly or indirectly:
 - (i) disclose the Confidential Information to any third party; or
 - (ii) use the Confidential Information for any purpose other than the permitted Purpose.
- (b)** The Receiving Party shall not use the Confidential Information for any purpose or in any manner, which would constitute a violation of any applicable laws or regulations, directly or indirectly.
- (c)** The Confidential Information shall be the property of the Disclosing Party. No rights, licenses or interests including, but not limited to, trademarks, inventions, copyrights or patents are implied, transferred or granted in relation to the Confidential Information provided by the Disclosing Party to the Receiving Party under this Agreement.
- (d)** The Receiving Party shall not reproduce the Confidential Information in any form except as needed for the Purpose of the Agreement as set out above or with the prior written consent of the Disclosing Party.

(e) All the title and rights in the Confidential Information shall be reserved with the respective Discloser and/or its licensors and no rights or obligations other than those expressly set out in this Agreement are granted or to be implied from this Agreement. In particular no license is granted to the Recipient, directly or indirectly, by this Agreement relating to any invention, discovery, patent, copyright or other industrial or intellectual property right now or in the future.

7. Protection of Confidential Information

- (a) The Receiving Party represents and warrants that it shall protect the Confidential Information received with utmost care and diligence.
- (b) All Confidential Information shall be promptly returned to the Disclosing Party after the Receiving Party's need for it has expired, or upon request of the Disclosing Party, and in any event, upon completion or termination of this Agreement.

8. No Further Warranties

The Confidential Information shall be disclosed on an "**as is**" basis only and without any warranties of any kind, including but not limited to, warranties of merchantability or fitness for a particular purpose.

9. No Further Business Arrangement

Nothing contained herein shall be construed to obligate either Party to enter into any further agreements with each other. This Agreement does not create any other business arrangement, including but not limited to any partnership, agency or joint venture, between the Parties.

10. Term

The term of this Agreement shall commence on the Effective Date and valid for the period of two (2) years. The Disclosing party shall have a right to terminate this Agreement by giving a written notice of 30 days to the Receiving Party. However, the Receiving Party obligation to protect and restrict the use of Confidential Information under this Agreement shall continue until such time as the Disclosing Party discloses it to the public or when it otherwise becomes part of the public domain through no action of the Receiving Party.

11. Injunctive remedy

The Recipient acknowledges that the Confidential Information to be disclosed hereunder is commercially sensitive of a unique and valuable character, and that the unauthorized dissemination of the Confidential Information would destroy or diminish the value of such information. The damages that would result from the unauthorized dissemination of the

Confidential Information would be impossible to calculate. Therefore, Recipient hereby agrees that the affected Discloser shall be entitled to injunctive relief preventing the dissemination of any Confidential Information in violation of the terms hereof. Such injunctive relief shall be in addition to any other remedies available hereunder, whether at law or in equity. The affected Discloser shall be entitled to recover all its damages, costs and fees, including reasonable attorneys' fees, incurred in obtaining any such relief. Further, in the event of litigation relating to this Agreement, the prevailing party shall be entitled to recover its reasonable attorney's fees and expenses.

12. Return of Confidential Information

Recipient shall immediately return and redeliver to the respective Discloser all tangible material embodying the Confidential Information provided hereunder and all notes, summaries, memoranda, drawings, manuals, records, excerpts or derivative information deriving there from and all other documents or materials ("Notes") (and all copies of any of the foregoing, including "copies" that have been converted to computerized media in the form of image, data or word processing files either manually or by image capture) based on or including any Confidential Information, in whatever form of storage or retrieval, upon the earlier of (i) the completion or termination of the dealings between the parties contemplated hereunder; (ii) the termination of this Agreement; or (iii) any breach of this agreement, in which case the party in breach shall also be liable towards the Disclosers under the law and this Agreement or (iv) at such time as the respective Discloser may so request; provided however that the Recipient may retain such of its documents as is necessary to enable it to comply with its document retention policies. Alternatively, the Recipient, with the written consent of the respective Discloser may immediately destroy any of the foregoing embodying Confidential Information (or the reasonably non-recoverable data erasure of computerized data) and, upon request, certify in writing such destruction by an authorized officer of the Recipient supervising the destruction).

13. Notice of Breach

Recipient shall notify the Disclosers immediately upon discovery of any unauthorized use or disclosure of Confidential Information by Recipient or its Representatives, or any other breach of this Agreement by Recipient or its Representatives, and will cooperate with efforts by the Discloser regain possession of Confidential Information and prevent its further unauthorized use.

14. Survival

The provisions of Clauses 8, 9 & 10 of this Agreement, and the rights and obligations contained there under shall not terminate upon termination of this Agreement.

15. Governing Law & Dispute Resolution

The contract shall be governed by the Law for the time being in force in the Republic of India. Civil Court having original Civil Jurisdiction at (name of Place) shall alone have exclusive jurisdiction in regard to all matters in respect of this agreement.

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to arbitration. The arbitration shall be conducted by three arbitrators, one to be appointed by each of the Parties and a third arbitrator to be appointed by the mutual consent of the two arbitrators so appointed by the Parties.

The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be _____(the place from where the contract is issued)

16. No Publication

Neither Party shall disclose, publicise or advertise in any manner the discussions or negotiations contemplated by the Agreement without the prior written consent of the other Party, except as may be required by law.

17. Miscellaneous

- (a) This Agreement constitutes the entire understanding between the parties and supersedes any and all prior or contemporaneous understandings and agreements, whether oral or written, between the parties, with respect to the subject matter hereof. This Agreement can only be modified by a written amendment signed by the party against whom enforcement of such modification is sought.
- (b) Any failure by a Discloser to enforce the Recipient's strict performance of any provision of this Agreement will not constitute a waiver of its right to subsequently enforce such provision or any other provision of this Agreement.

- (c) Although the restrictions contained in this Agreement are considered by the parties to be reasonable for the purpose of protecting the Confidential Information, if any such restriction is found by a court of competent jurisdiction to be unenforceable, such provision will be modified, rewritten or interpreted to include as much of its nature and scope as will render it enforceable. If it cannot be so modified, rewritten or interpreted to be enforceable in any respect, it will not be given effect, and the remainder of the Agreement will be enforced as if such provision was not included.
- (d) Any notices or communications required or permitted to be given hereunder may be delivered by hand, deposited with a nationally recognized overnight carrier, electronic-mail, or mailed by certified mail, return receipt requested, postage prepaid, in each case, to the address of the other party first indicated above (or such other addressee as may be furnished by a party in accordance with this paragraph). All such notices or communications shall be deemed to have been given and received (a) in the case of personal delivery or electronic-mail, on the date of such delivery, and (b) in the case of delivery by a nationally recognized overnight carrier, on the third business day following dispatch.
- (e) Parties shall not directly or indirectly assign or transfer it by operation of law or otherwise without the prior written consent of the Disclosers, which consent will not be unreasonably withheld. All obligations contained in this Agreement shall extend to and be binding upon the parties to this Agreement and their respective successors, assigns and designees.
- (f) Paragraph headings used in this Agreement are for reference only and shall not be used or relied upon in the interpretation of this Agreement.

18. Notices

All notices, documents, consents, approvals or other communications (a 'Notice') to be given hereunder shall be in writing and shall be transmitted by first class registered or recorded delivery mail to the person at the address specified herein below, or by telex, facsimile or other electronic means in a form generating a record copy to the party being served at the relevant address for that party shown herein below. Any Notice sent by mail shall be deemed to have been duly served on receipt of delivery confirmation. Any Notice sent by telex facsimile or other electronic means shall be deemed to have been duly served at the time of transmission.

Notice if to:

BHEL, then to,

Phone :

Fax :

E-mail :

ABC, then to,

(Name)_____

(Designation)_____

Phone :

Fax :

E-mail :

19. Counterparts, Telefax Signatures

This Agreement may be signed in two counterparts, each of which is to be considered an original, and taken together as one and the same document.

IN WITNESS WHEREOF, of their Agreement to the terms and conditions contained herein, the undersigned have caused this Agreement to be executed by their duly authorized representatives:

For Bharat Heavy Electricals Limited	For ABC
Signature: Name: Designation:	Signature: Name: Designation:
Signature: Name: Designation:	Signature: Name: Designation:

BOTH SIDED

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.

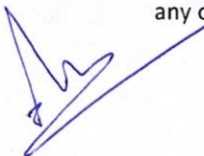
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit 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)

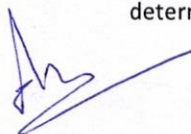
- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are 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.

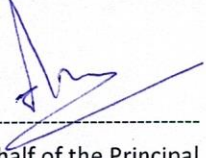
Section 9 - Pact Duration

- 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 Haridwar
Date _____

Witness: _____
(Name & Address) _____

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

Witness: _____
(Name & Address) _____

Clause on IP in the tender

Integrity Pact (IP)

- (a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

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

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)
Name: VIRENDRA SINGH ____
Deptt: PPX-EM ____
Address: BHEL HARIDWAR ____
Phone: 01334-28-1644 ____
Email: v_singh@bhel.in ____
Fax: ____

(2)
Name: HARI SINGH MEENA ____
Deptt: PPX-EM ____
Address: BHEL HARIDWAR ____
Phone: 01334-28-1995 ____
Email: hsmeena@bhel.in ____
Fax: ____