

कदम कदम मिलाना है ग्राहक सफल बनाना है

Marching Towards Business Excellence



ENQUIRY

TWO PART BID

BPC 0007

E-TENDER

भारत हेवी इलेक्ट्रिकल्स लिमिटेड, पिपलानी, भोपाल- ४६२०२२ (भारत)

सामग्री प्रबंधन विभाग

BHARAT HEAVY ELECTRICALS LIMITED, PIPLANI, BHOPAL-462022 (INDIA)

MATERIALS MANAGEMENT DIVISION

TIN NO- 23573000001

ECC NO- AAACB4146PXM009

MPCT NO- HEL/05/01/0001/S15/11/79

PHONE NO : 91-755-2500100

FAX : 91-755-2500023

www.bhel.com

ENQUIRY NO

E5953008

ENQUIRY DATE

09/06/25

ENQUIRY DUE DATE

19/06/25

SUPP NAME AND ADDRESS	SUPP CODE	REV CD	REV NO	REV DATE	NO OF CATY2	NO OF CATY3	ENQ NO OF ITEMS	INDENT NO
	0	1	0	NA	1	2	1	121354535
	GUARANTEE CERTIFICATE		Y	SUPPLY CONDITION SUPPLIER'S IDENTIFICATION MARK SHOULD BE ON EACH JOB.				
	TEST CERTIFICATE		Y					
	INSTRUCTION BOOKLET		N	TECHNICAL CONDITION AS PER DRG.				
	SAMPLE		N	INSPECTION CONDITION BY BHEL AUTHORISED TPIA AT VENDORS WORK.				
	GATE PASS		Y					

NOTE: QUOTE PRICE BOTH IN FIGURES & WORDS.IN CASE OF MISMATCH PRICE IN WORDS WILL BE VALID,QUOTATIONS NOT BEARING ENQUIRY NO AND DUE DATE LIABLE TO BE REJECTED.

SL NO	MATERIAL CODE	DESC	UNIT	ITEM QTY	QTY VR%	LOT NO	LOT QTY	DEST	DELIVERY DATE
1	BP9084821270	TA7009BZ,TA7003DV SET OF POLE END PLATE (M/CD), ONE SET CONSISTS OF 1 NO. POLE END PLATE (M/CD) LH TO DRG.NO. 34303211006 ITEM 01. REV-14 & 1 NO. POLE END PLATE (M/CD) RH TO DRG.NO. 34303211006 ITEM 02. REV14.ITEM TO BE SUPPLIED IN BUNCH OF PAIR.TO BE SUPPLIED IN PROPER PACKING.	ST	400.000	30	1	200.000	213	04/08/25
						2	200.000	213	04/09/25

REMARK AS PER NIC E-TENDER

DRAWING	Y	PURCH SPEC	Y	CATALOUGE	N	Quality Surveillance Pl:	Y	TWO PART BID	Y
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NOTE:BHEL,BHOPAL'S Standard Terms & Conditions BP200102 (Latest Revision) form a part of this Enquiry. Bidders may obtain from us copies of these terms and conditions if not already available.

Note: During Bid Evaluation, No loading of price with regard to preferential payment of within 45 days will be made on vendore falling under MSMED ACT - OCT 06

Please submit your lowest quotation in sealed envelop essentially superscribed with ENQUIRY NO, DUE DATE AND PARTY'S NAME so as to reach at TENDER ROOM, GROUND FLOOR, ADM BUILDING, BHEL, PIPLANI BHOPAL-462022 by 11.00 am of due date.

1.This is only a request for Quotation & not an order.

2.Small Scale industries should indicate SSI Regn. No. in Quotation/invoice.

3.In case you are not making an offer against this Enquiry, we request you to post a regret letter.

4.Indian vendors to please indicate GSTIN on their quotation.

SPECIAL REMARK: Bid to be submitted through e-procurement. Refer eproc link on BHEL Bhopal B2B site.

Documents Enclosed

1.Drawing. 3.Purchase specification.

2.Catalogue. 4.Quality Surveillance Plan.

NAME : SHRI MANENDRA SINGH

DESG : DY.MANAGER

0755-2505880

manendra1@bhel.in

SIGN & SEAL

ENQUIRY



MATERIAL MANAGEMENT - TRACTION MACHINES
HEAVY ELECTRICAL PLANT, BHOPAL
BHARAT HEAVY ELECTRICALS LIMITED

BHEL ENQUIRY NO. E5953008
DUE ON 19-06-2025

NIT TERMS & CONDITIONS:

SL. NO.	DESCRIPTION	DETAILS
1.	RATE CONTRACT TERMS	We intend to enter into a Rate Contract (RC) for ordering up to 12 months from RC freeze date, i.e. RC is to be kept valid for ordering up to 12 months from RC freeze date. Ordering shall be done against firm requirement as & when needed by BHEL. BHEL reserves the right to cancel/ short close the RC at any point of time even before the expiry of RC validity without assigning any reason whatsoever it may be.
2.	ITEM DESCRIPTION	TA7009BZ, TA7003DV SET OF POLE END PLATE (M/CD), ONE SET CONSISTS OF 1 NO. POLE END PLATE (M/CD) LH TO DRG.NO. 34303211006 ITEM 01. REV-14 & 1 NO. POLE END PLATE (M/CD) RH TO DRG. NO. 34303211006 ITEM 02. REV14. ITEM TO BE SUPPLIED IN BUNCH OF PAIR. TO BE SUPPLIED IN PROPER PACKING.
3.	QUANTITY	400 Sets
4.	QUANTITY VARIATION	± 30%
5.	DELIVERY SCHEDULE REQUIREMENT	For first lot of 200 sets Scheduled delivery date shall be within 60 days from the PO date and thereafter for each subsequent lot of 200 sets scheduled delivery date shall be within 30 days from the scheduled delivery date of the previous lot. Early delivery acceptable.
6.	DELIVERY TERMS	FOR Destination (BHEL Bhopal)
7.	DELIVERY INSTRUCTION	IDENTIFICATION MUST. SUPPLIER'S IDENTIFICATION MARK SHOULD BE ON EACH JOB.
8.	PAYMENT TERMS	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 16) i.e. 100% payment in 90 days of receipt (45 days for Micro & Small and 60 days for Medium enterprises as registered in Udyam Certificate as per relevant MSME act in force) and subject to acceptance of material and relevant documents at BHEL. Any deviation from the above payment terms, if accepted (by BHEL), shall be loaded @ SBI base rate + 6% for the purpose of bid evaluation.
9.	SPLITTING OF ORDER	Rate contract to be finalized on two sources with quantity distribution ratio of 65% & 35% to L-1 vendor and the other bidder accepting L-1 rates respectively, subject to minimum 3 qualified bidders. For ascertaining bidder for 35% quantity, HESG equivalent rates of L-1 bidder will be sequentially counter-offered to L-2, L-3 and so on bidder until a bidder accepts the same. In case of only 2 qualified bidders, BHEL reserves the right for distribution/ non-distribution between 2 bidders. In case of only one qualified bidder or in case no bidder agrees to accept the counter offered HESG equivalent rates of L-1, BHEL may decide to award entire 100% quantity to L-1 bidder. Distribution in compliance with latest guidelines for MSE and MII will also be followed further.
10.	TECHNICAL PQR (T-PQR)	Technical Pre-Qualification Requirements (T-PQR) for procurement of the items is attached with the NIT. Compliance of all the points in T-PQR is mandatory. In absence of compliance of above and non-submission of documents required against the T-PQR, the Vendor's offer is liable to be rejected. Duly filled T-PQR with desired documents shall be submitted by the Vendor along with the offer.



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		<i>Information/ compliance/ documents submitted by vendor shall be authentic in all aspects. In case any deviation/ false information/ forged documents are observed / revealed later on, BHEL is free to initiate appropriate punitive proceeding against the Vendor as per Prevalent Processes and Guidelines of Company.</i>
11.	FINANCIAL PQR (F-PQR)	Not applicable
12.	QAP	Applicable, as attached with the tender documents
13.	BID PARTS	Offer shall be submitted by the bidders in Two Parts, i.e. Part-I Technical cum Commercial bid & Part-II Price bid.
14.	PENALTY / LD	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 9) i.e. 0.5% of the undelivered portion per week of delay or part thereof, subject to a maximum of 10% of the undelivered order value owing to delayed delivery.
15.	PRICE BASIS	Firm Price basis
16.	PRICING TERMS	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 12)
17.	PRICE VALIDITY	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 13) i.e. Offer shall be valid for a period of 90 days from the date of Techno- commercial (Part-I) bid opening date.
18.	TAXES & DUTIES	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 14)
19.	TECHNICAL CONDITION	As per attached Drg, QAP, PQR & SPEC.
20.	SAMPLE	As per attached Spec
21.	INSPECTION CONDITION	BY BHEL AUTHORISED TPIA AT VENDORS WORK
22.	TEST CERTIFICATE	All Material TC to be supplied along with material as per Spec. and TC should incorporate Spec.
23.	GUARANTEE / WARRANTY	As per BHEL GTC of ENQUIRY (BP200102B, Cl. No. 18)
24.	GUARANTEE CERTIFICATE	GC to be supplied along with the material
25.	EVALUATION CRITERIA	Overall L1 basis
26.	BID SECURITY/ Earnest Money Deposit (EMD)	Not Applicable
27.	PERFORMANCE SECURITY (PBG)	Not Applicable
28.	REVERSE AUCTION	Not Applicable
29.	MSE PREFERENCE	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 29)
30.	PUBLIC PROCUREMENT	For this procurement, Public Procurement (Preference to Make in India) Order (PPP-MII Order), 2017 vide No. P-45021/2/2017-B.E.-II dated 15.06.2017, 28.05.2018, 29.05.2019 & 04.06.2020 and subsequent Orders issued by the respective Nodal Ministry shall be



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	(PREFERENCE TO MAKE IN INDIA)	applicable even if issued after issue of this NIT but before finalization of contract / PO / WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and / or local content in respect of this procurement, same shall be applicable. Vendor to submit MII certificate in prescribed format attached with the tender.
31.	INTEGRITY PACT (IP)	Not Applicable
32.	RESTRICTION UNDER RULE 144 (xi) GFR	As per attached BHEL GTC of ENQUIRY (BP200102B, Cl. No. 34)
33.	ANNEXURE-IX	The Bidder/Supplier/Contractor will, when presenting his bid, declare whether other Family Firms or Sister Concern Affiliates/Subsidiary firms are participating in the same tender, so as to eliminate the possibility of cartel formation. Format for declaration is available in the NIT documents for this enquiry (Annexure-IX). Same is to be submitted with the offer.
34.	BIDDER'S DECLARATION	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.
35.	CONFLICT OF INTEREST AMONG BIDDERS/ AGENTS	A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if: a) they have controlling partner (s) in common; or b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or c) they have the same legal representative/agent for purposes of this bid; or d) they have relationship with each other, directly or through common third parties, <u>that puts them in a position to have access to information about or influence on the bid of another Bidder;</u> or e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. <u>However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from. one bidding manufacturer in more than one bid;</u> or f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorise only one agent/dealer. There can be only one bid from the following: 1. The principal manufacturer directly or through one Indian agent on his behalf; and 2. Indian/foreign agent on behalf of only one principal; or



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BHARAT HEAVY ELECTRICALS LIMITED

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		g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "
36.	EVALUATION IN CASE OF MORE THAN ONE L-1 BIDDER	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 L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s). Ranking will be done accordingly. Decision of BHEL in such situations shall be final and binding.
37.	SPECIAL CONDITIONS	Bidders who fall under MSE (Micro & Small Enterprises only) and fail to upload 'UDYAM Registration Certificate (URC)' shall automatically be considered as Non-MSE supplier for this tender. Further, it is to be noted that MSE benefits are not being extended to Agent/ Dealer/ Trader/ Distributor (i.e. Other than manufacturer). Supplier has to also provide supporting document(s) such as Agreement Between OEM & Bidder(s) etc. Identification must. Soon after rejection of material, it is to be ensured by supplier that material should be taken back maximum within two weeks after communication for rectification/ replacement & supply back the rectified/ fresh material to BHEL Bhopal within 30 days from rejection. In the event of non-lifting of rejected material by supplier, BHEL will not be responsible for loss of such items to the supplier in any case. Offers of suppliers who are in 'HOLD/BANNED' status in BHEL Bhopal PMD shall not be considered. Unregistered vendors to submit documents required for registration to BHEL Portal Online (https://bhel.com/supplier-registration).
38.	OTHER TERMS & CONDITIONS	Other Terms & Conditions as per attached BHEL GTC of ENQUIRY (BP200102B) Any deviation of NIT, BHEL GTC of ENQUIRY (BP200102B) and BHEL PO Terms, where vendor response is not affirmative to be clearly indicated, else BHEL will consider that all above Terms & Conditions are acceptable to vendors.
39.	GEM REGISTRATION	As you are kindly aware that Government e-Marketplace (GeM) is a one stop portal to facilitate Online Procurement of Goods & Services required by various Government Departments/ Organizations/ PSUs. BHEL being a PSU, would like that its suppliers/ contractors also have visibility on this portal so that GeM can be used for procurement by BHEL. Hence, you are requested to get yourselves registered on GeM.
40.	TENDER FEE	Not applicable
41.	BID SUBMISSION WITHIN DUE DATE & TIME	No request for extension of tender due date will be entertained at the time of tender opening and after due date under any circumstances. Hence, all bidders are requested to submit their bid well within due date and time only. <i>BHEL reserves the right for extension of tender based on the situation without assigning any reason whatsoever it may be.</i>



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42.	DOCUMENTS TO BE FURNISHED ALONG WITH YOUR QUOTATION	<p>Signed and Sealed copy of:</p> <ul style="list-style-type: none"> - NIT - BHEL GTC of ENQUIRY (BP200102B) - BHEL PO Terms <p>Duly Filled, Signed and Sealed copy of:</p> <ul style="list-style-type: none"> - T-PQR along with all supporting documents - Annexure-IX in Company Letterhead - Filled & Signed Techno-Commercial Annexure - Make in India (MII) certificate in attached format <p>Others:</p> <ul style="list-style-type: none"> - UDYAM Registration Certificate (<i>as applicable for MSME bidders only</i>)
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IT IS HEREBY MENTIONED THAT THIS IS E-TENDER SO OFFER SUBMITTED THROUGH E-PROCUREMENT PORTAL (www.eprocurebhel.co.in) SHALL ONLY BE CONSIDERED.

Techno-Commercial Annexure
(To be filled by supplier and submit with offer)

Tender No.		E5953008 due on 19/06/2025		
Description :		RATE CONTRACT FOR TA7009BZ,TA7003DV SET OF POLE END PLATE (M/CD), ONE SET CONSISTS OF 1 NO. POLE END PLATE (M/CD) LH TO DRG.NO. 34303211006 ITEM 01. REV-14 & 1 NO. POLE END PLATE (M/CD) RH TO DRG.NO. 34303211006 ITEM 02. REV14.ITEM TO BE SUPPLIED IN BUNCH OF PAIR.TO BE SUPPLIED IN PROPER PACKING.		
		TENDER QTY.: 400 sets +/- 30%		
		Delivery required as per NIT.		
Sr. No.	ELEMENTS	Standards	To be offered/confirmed by supplier	Remarks, if any
1	Quotation reference no. & date	As per supplier		
2	HSN / SAC code	As per supplier		
3	Quotation currency	In INR		
4	Contact person	As per supplier		
5	Phone / Mobile	As per supplier		
6	E-Mail	As per supplier		
7	Order to be placed on (Also provide supplier code at BHEL Bhopal, If registered)	As per supplier		
8	Address	As per supplier		
9	Please specify delivery in weeks/ days (Specify item wise, lot wise as per RFQ)	As per NIT/ Accepted with deviation (If select Accepted with deviation, please mention the deviation)		
10	Rate quoted on "Firm" price basis	Yes		
11	Quoted for all the items and full quantity of tender enquiry	Yes / No. (If "No" please mention item number with Qty of regreted items)		
12	Technical specifications	Accepted as per NIT / Accepted with deviation (If select Accepted with deviation, please mention the deviation)		
13	Inspection	As per NIT/ Accepted with deviation (If select Accepted with deviation, please mention the deviation)		
14	Test certificate & Gurantee certificate as per NIT, Drawings and specification will be submitted along with each consignment	Yes (In case of "No" your offer may be rejected).		
15	Brand name, if any.	As per supplier		
16	Supply from	As per supplier		
17	Terms of delivery ("FOR DESTINATION " means freight & insurance upto destination in supplier's scope (Destination: CRX Divn, BHEL Bhopal)	Accepted/ Accepted with deviation (If select Accepted with deviation, please mention the deviation)		
18	Transit insurance (In supplier's scope)	As per NIT/ Accepted with deviation (If select Accepted with deviation, please mention the deviation)		
19	CGST RATE (IN %)	As per supplier		
20	SGST RATE (IN %)	As per supplier		
21	IGST RATE (IN %)	As per supplier		
22	UGST RATE (IN %)	As per supplier		
23	Are you manufacturer of quoted item (s).	Yes / No		
24	Are you registered under MSMED ACT 2006 as small or micro. NOTE:- Firms registered under medium scale shall not be considered eligible for MSE benefits.	Yes / No (If select Yes, please enclosed valid UDYAM certificate)		

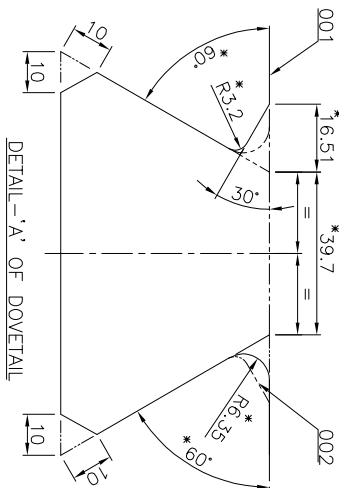
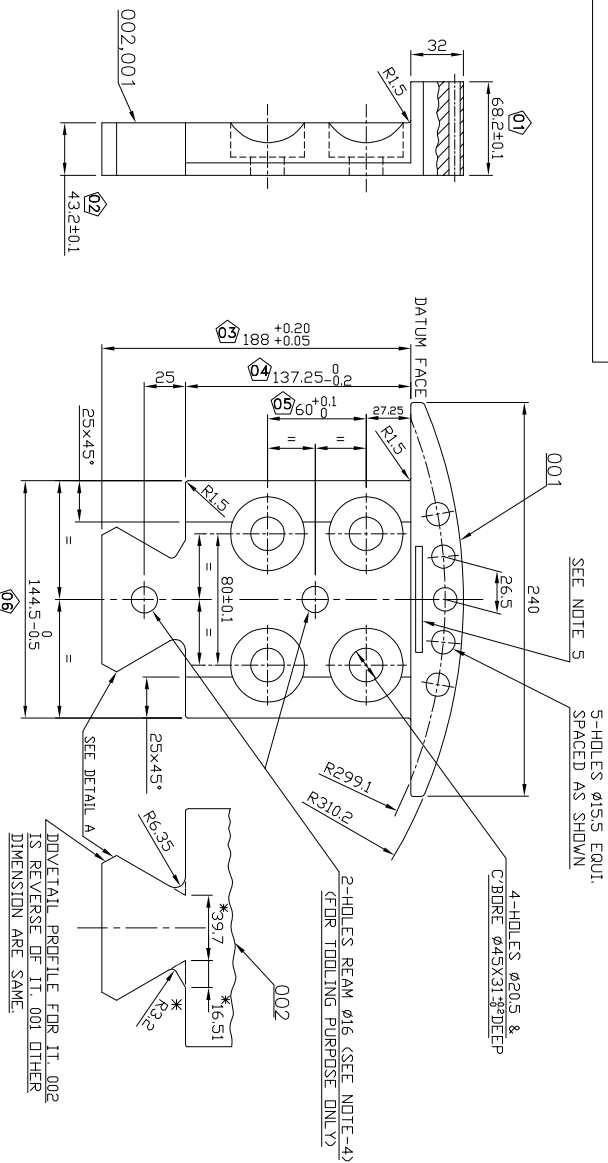
Techno-Commercial Annexure
(To be filled by supplier and submit with offer)

Tender No.		E5953008 due on 19/06/2025		
Description :		<p>RATE CONTRACT FOR TA7009BZ,TA7003DV SET OF POLE END PLATE (M/CD), ONE SET CONSISTS OF 1 NO. POLE END PLATE (M/CD) LH TO DRG.NO. 34303211006 ITEM 01. REV-14 & 1 NO. POLE END PLATE (M/CD) RH TO DRG.NO. 34303211006 ITEM 02. REV14.ITEM TO BE SUPPLIED IN BUNCH OF PAIR.TO BE SUPPLIED IN PROPER PACKING.</p> <p>TENDER QTY.: 400 sets +/- 30%</p> <p>Delivery required as per NIT.</p>		
Sr. No.	ELEMENTS	Standards	To be offered/confirmed by supplier	Remarks, if any
25	Terms of Payment (100% payment in 90 days of receipt (45 days for Micro & Small and 60 days for Medium enterprises as registered in Udyam certificate as per relevant MSME act in force) and subject to acceptance of material and relevant documents at BHEL. PI refer GTC BP200102B)	As per NIT/ Accepted with deviation (If select Accepted with deviation, please mention the deviation)		
26	SELF CERTIFICATION OF MINIMUM LOCAL CONTENT, IF MORE THAN 50% VALUE ADDITION IS IN INDIA. (Note- In case of tenders worth more than Rs. 10 crores, Suppliers shall necessarily submit certificate from statutory auditor or cost auditor or cost accountant or CA) Please also specify the amount of local content in India. EXAMPLE :if 100% INDIGENOUS (MADE IN INDIA) MARK "Y"/100%	As per supplier		
27	Details of location of value addition / manufacturing	As per supplier		
28	Other Charges (If any)	Applicable / Not Applicable. (If applicable please mention percentage (%) / Value (along with type of charges).		
29	Penalty for delayed performance as per BP200102B & NIT	Yes / No (In case of "No", your offer will be loaded suitably)		
30	Confirmation that documents pertaining to technical PQR & Financial PQR has been submitted	Yes / No		
31	Acceptance to "REVERSE AUCTION" if conducted (As per BHEL's RA policy)	Yes / No	Not Applicable	
32	Submission of Declaration format with duly sealed & signed (Annexure IX, refer attached) regarding whether other family firms or sister concern affiliates / subsidiary firms are participating in the same tender.	(Yes / No) If No please specify the reason.		
33	General terms and conditions of enquiry (Form No. BP-200102B) and BHEL PO Terms & Conditions is Acceptable.	Yes (In case of "No" your offer may be rejected).		
34	Quotation Validity will be 90 days from the date of techno-commercial bid opening.	Yes		
35	Tender fees submitted	Yes / Not Applicable	Not Applicable	

FIRST ANGLE PROJECTION




(ALL DIMENSIONS ARE IN mm)

DRG. NO. 34303211006



✓ ALL OVER

NOTES:-

1. TEMPLATE TO DRG. NO. 44303211006 TO BE USED FOR M/CG OF D44VETAIL.
2. DIMN. MARKED THUS * ARE FOR D.O. REF. ONLY.
3. ALTERNATIVELY POLE END PLATE CAN BE MADE-
~~OUT OF FORGINGS TO AA19334~~ FORGINGS TO BE
ULTRASONICALLY TESTED AS PER AA0850118 CAT.2
4. AFTER MACHINING OF POLE END PLATE, DRILL & TAP
BOTH $\phi 16$ HOLES TO M20.
5. FOR IDENTIFICATION SUPPLIER NAME, P.O. NO. & DATE
OF MFG. TO BE PUNCHED HERE.
6. ALL 6 NDS. ** MARKED DIMENSIONS ARE CRITICAL TO
QUALITY (CTQ) & S.L. NO. OF CTQ DIMENSIONS ARE
INSCRIBED IN  e.g. .

\$0

TOOL LIST	
ITEM	DESCRIPTION
001&002 1407153	DRILL JIG FOR ALL HOLES
001&002 1407071	FLY CUTTER #45
001&002 1407072	#205 CUTTER BAR
001&002 1407102	MILLING FIXTURE FOR DOWEL
001&002 1407108	MILLING FIXTURE FOR DOWEL
001&002 1407109	TURNING FIXTURE
001&002 1600357	MILLING FIXTURE for VMC SA 2140
—	DRILL JIG- 4 HOLES DIA. 20.5 & C BORE DIA. 45 31 DEEP
1600717	

STYLE LIST	
IT.NO.	STYLE NO.
001	BP9084821289
002	BP9084821270

VAR ID	REMARKS	VAR NO.	ITEM NO.	DESCRIPTION	STD.	DRAWING NO.	UNIT WT.				
							G	S	UNIT QTY.		
	SEE NOTE-3		002	POLE END PLATE R.H. (FORCED)		3-45032+003			KC	19.0	
							-00	AA19331			
	SEE NOTE-3		001	POLE END PLATE L.H. (FORCED)		3-45032+003		AA19331	KC	19.0	
							-00				

INVENTORY NO.	SIGN. & DATE	REF. DRO									
14	03.10.24 IN TOOL LIST. TOOL NO. 1600717 ADDED.	<table border="1"> <tr> <td>ALTERED</td> <td>VK</td> <td>17/10/24</td> </tr> <tr> <td>MP</td> <td>MP</td> <td>17/10/24</td> </tr> </table>	ALTERED	VK	17/10/24	MP	MP	17/10/24			
ALTERED	VK	17/10/24									
MP	MP	17/10/24									
13	12.01.23 IN TOOL LIST. TOOL NO. 1600357 ADDED.	<table border="1"> <tr> <td>ALTERED</td> <td>SDB</td> <td>16/01/23</td> </tr> <tr> <td>CHECKED</td> <td>MP</td> <td>17/10/24</td> </tr> <tr> <td>APPROVED</td> <td>MP</td> <td>17/10/24</td> </tr> </table>	ALTERED	SDB	16/01/23	CHECKED	MP	17/10/24	APPROVED	MP	17/10/24
ALTERED	SDB	16/01/23									
CHECKED	MP	17/10/24									
APPROVED	MP	17/10/24									
REV.	DATE	ALTERED									
10	20.08.14	<table border="1"> <tr> <td>APPROVED</td> <td>MP</td> <td>17/10/24</td> </tr> </table>	APPROVED	MP	17/10/24						
APPROVED	MP	17/10/24									
<p>DIMS. 57±0.1 & 32±0.1 WERE 57 & 32. STYLE NOS. ADDED. CRITICAL TO QUALITY DIMENSIONS ARE "◇" MARKED & NUMBERED. NOTE-4 ADDED & NOTE-4 MODIFIED TO MAKE BOTTOM HOLE 6.1MG. ADDED.</p> <p>(TCM-361)</p>											

[illegible]

ADDITIONAL INFORMATION		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		0A7001AZ/AY OIL RIG ALTERNATOR & 7A7003AZ/BX/CW	
STATUS OF DRAWING DRG.NO.34303211002		TITLE		POLE END PLATE M/CD	
DISTRIBUTION OF PRINTS		DATE		34303211006	
TME -1		TAX -1		DRAWING NO.	
TAM -4		TAM -4		34303211002	
REV.		DATE		REV.	
07		10.02.10		07	
APPROVED		APPROVED		APPROVED	
SPACE CREATED FOR REV. DIMN. 27.25 WAS 50.		SPACE CREATED FOR REV. DIMN. 27.25 WAS 50.		SPACE CREATED FOR REV. DIMN. 27.25 WAS 50.	



CORPORATE PURCHASE SPECIFICATION

AA 193 31

Rev. No. 11

PAGE 1 OF 6

CARBON STEEL FORGINGS, CLASS 2

1.0 GENERAL:

This specification governs the quality requirements of Carbon Steel Forgings, Class 2.

2.0 APPLICATION:

Suitable for general engineering purposes and for use in welded constructions.

3.0 CONDITION OF DELIVERY:

Normalised / Normalised and tempered..

Rough machining of the forgings shall be carried out, unless otherwise specified in the BHEL order/drawing.

4.0 COMPLIANCE WITH NATIONAL STANDARDS:

The material shall comply with the following National standards and also meet the requirements of this specification.

IS::2004 – 1991 (RA -2006) } Carbon Steel Forgings For General Engineering
 Gr: 2 (20C8), } Purposes.

5.0 DIMENSIONS AND TOLERANCES:

The dimensions and tolerances shall be as specified on the order/ drawing. Wherever these are not specified, specified, the machining allowances and tolerances shall be as specified below:

For finish machined drawings : 3 ± 1 mm

For rough machined drawings : ± 1 mm

REVISIONS :

36th MOM OF MRC (FCF+HTM)

APPROVED :

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6.0 MANUFACTURE:

Forgings shall be manufactured from steel produced by the open hearth, electric or such other ↑ process as may be agreed to between BHEL and the manufacturer.

Steel shall be fully killed.

Sufficient discard shall be made from each ingot to ensure freedom from pipe, segregation and other defects.

The amount of hot working and finishing temperature shall be such as to ensure complete soundness and adequate uniformity of structure and mechanical properties after heat treatment. The forgings shall not be overheated.

The minimum reduction ratio when forgings are made out of ingots shall be 4:1.

For sizes above 250 mm ruling section, the minimum reduction ratio shall be 3.5:1

Note: Raw material like Ingots/Blooms/Billets required for forgings should be procured from BHEL approved sources along with test certificate."

7.0 FREEDOM FROM DEFECTS:

The forging shall be free from defects, such as cracks, fold, flakes, seams, segregation, nonmetallic inclusions and other injurious defects which may affect the utility of the forging.

8.0 HEAT TREATMENT:

Forgings shall be normalised / normalised and tempered at suitable temperature to achieve the mechanical properties specified. ↑

Test pieces shall also be heat treated along with the forgings they represent.

9.0 FINISH:

As mentioned in the drawing.

10.0 CHEMICAL COMPOSITION:

The melt analysis of the steel and permissible variation in the composition of the forgings from the melt analysis shall be as follows:

Element	Percent		Permissible variation , percent
	min.	max.	
Carbon	0.15	0.25	± 0.02
Silicon	0.15	0.35	± 0.03
Manganese	0.60	0.90	± 0.04
Sulphur	---	0.040	+ 0.005
Phosphorus	---	0.040	+ 0.005



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NOTE:

1. Elements not quoted above shall not be added to the steel, other than for the purpose of finishing the heat and shall not exceed the following limits:

<u>Element</u>	<u>Percent, max.</u>
Nickel	0.30
Chromium	0.30
Copper	0.25
Molybdenum	0.05
Vanadium	0.05
Tin	0.05
Boron	0.0003

2. When steel is aluminium killed or killed with both aluminium and silicon, the requirements of minimum silicon content shall not apply. For aluminium killed steel the total aluminium content shall be within 0.02 to 0.05 percent.
3. Percent Cu + 10 X (percent Tin) shall not exceed 0.5%.
4. Carbon equivalent (Melt analysis) value (C.E.) = 0.42%, max.

$$C.E. = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Ni + Cu}{15}$$

5. $Mo \leq 0.15\%$, limiting to meeting conditions of $Cr + Mo + Ni = 0.5\%$.


11.0 TEST SAMPLES:

- 11.1** Unless otherwise specified in the order/drawing, test samples shall be taken from each melt and heat treatment batch. Test samples should be cut from the heat treated forgings by cold process only and shall receive no further heat treatment.

Test samples shall be cylindrical or rectangular in shape and cut at a distance of 12.5 mm below the heat treated surface.

- 11.2** When integral test pieces are not called for, a test sample, having similar reduction ratio and heat treatment, as the forgings it represents, shall be provided per heat, per heat treatment batch, for check testing at BHEL, along with the forgings. The samples shall be properly identified and correlated with the Heat/Heat treatment batch No./Test certificate No. Test samples shall be taken, at a distance 12.5 mm below heat treatment surface.

- 11.3** Test samples shall generally be taken in the longitudinal direction. However, for economic reasons or where the size/configuration does not permit the same, test samples may be taken in the transverse or radial direction.

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12.0 MECHANICAL PROPERTIES :

The test pieces, after being heat treated as per clause 7.0 above, shall show the following properties upto a limiting ruling section of 800 mm. Properties for thicker sections shall be subject to agreement between BHEL and the manufacturer.

Test methods are specified below:

12.1 Tensile : IS: 1608

12.2 Hardness Test (Brinell) : IS:1500

12.3 Charpy Impact Value (2mm U-Notch) : IS:1499

The test is applicable for forgings of sizes above 16mm only.

Property	Sample (CI 11.3)	Limiting ruling section, mm		
		Upto & incl.100	> 100 & upto 400	> 400 & upto 800
Tensile strength, min, N/mm ²	Longitudinal Transverse/ Radial/ Tangential	430	390	370
Yield strength, min, N/mm ²	Longitudinal Transverse/ Radial/ Tangential	230	195	185
Elongation on 5.65√So gauge length percent, min.	Longitudinal Transverse/ Radial/ Tangential	24 12 16 18	23 11 15 17	21 9 13 15
* Hardness, Brinell, HB	----	120 – 167	111 – 156	111 - 156
Charpy Impact value (2mm U-Notch) min., joules	Longitudinal Transverse/ Radial/ Tangential	47 24 28 35	43 22 26 32	40 20 24 28

Note:


1. Unless otherwise stated on the order/drawing small forgings of non-critical nature weighing less than 300 kg shall be accepted on the basis of chemical composition and hardness.

*2. Hardness test can be conducted only when tensile test can not be performed.

13.0 ULTRASONIC TESTS:

13.1 For forgings ordered by BHEL, Hyderabad: Unless other wise specified on the drawing, ultrasonic test shall be carried out as per BHEL standard AA 085 01 18 and norms of acceptance shall be as per category 2. ↑

3.13.2 For forgings ordered by other units: If specified on the drawing/order, ultrasonic test shall be carried out as per BHEL standard AA 085 01 18 and norms of acceptance shall be as per category 2, unless otherwise specified. ↑

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14.0 ADDITIONAL TESTS: If specified in the drawing /order, the following tests shall be conducted:

14.1 Bend Test (Longitudinal):

The test pieces (230mm long and 32 mm square with edges rounded off, where the dimensions permit) shall be capable of being bent cold by direct pressure without fracture, until the sides are parallel, round a mandrel having a diameter of 44 mm when tested as per IS:1599.

14.2 Magnetic particle test:

14.3 Any other tests.

"Norms of acceptance shall be as specified on the drawing/order. "

15.0 SCOPE OF THIRD PARTY INSPECTION:

Wherever, separate quality plan is not attached, the scope of third party inspection shall be as follows:

1. Review of supplier's declared chemical composition.
2. Selection of test samples for mechanical tests and witness of mechanical tests.
3. Witness of Non-destructive tests as applicable.
4. Review of HT charts.
5. Dimensional inspection.

16.0 TEST CERTIFICATES:

Three copies of a test certificates shall be supplied, unless otherwise stated in the order, in the Test Certificate proforma annexed to this specification (Annexure -I).

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their dispatch documents to facilitate quick clearance of the material.

The following details shall be furnished in the test certificate:

Dimensional inspection.
 Details of heat treatment.
 Reduction ratio
 Chemical composition including trace elements.
 Results of mechanical tests.
 Results of Ultrasonic test
 Results of ultrasonic examination.
 Results of additional tests called for in the drawing/order.

17.0 PACKING & MARKING:

Forgings shall be suitably packed to prevent damage during transit.
 Machined surfaces shall be properly protected with anticorrosive compounds.
 Each package or forging (when supplied separately) shall be legibly marked with the following information:

AA 193 31 - Carbon Steel Forgings, Class 2 (20C8).
 BHEL Order No.
 Suppliers Name
 Consignment/ Identification No.
 Batch No.
 Weight.

18.0 REFERRED STANDARDS (Latest publications Including Amendments):

1) IS:1499	2) IS:1500	3) IS:1599	4) IS:1608
5) IS:2004	6) AA 085 01 18		

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**ANNEXURE-I: RECOMMENDED TEST CERTIFICATE FORMAT FOR FORGINGS**

SUPPLIER'S NAME AND ADDRESS											
TEST CERTIFICATE FOR FORGINGS											
1. Customer:						9. Reduction Ratio } Ingot to Bloom Bloom to Blank					
2. TC No. & Date:						10. Batch No.:					
3. PO No.:						11. Heat/Melt No.					
4. Process of Melting Ingot:						12. Spec. No.					
5. Deoxidisation Process:						13. Test Bar Size & Nos.					
6. Forging Method:						14. Supplier of the ingot/billet/ Bloom and TC reference.					
7. BHEL's Reference for Approval of Bloom											
8. Discard: Top _____%; Bottom _____%											
15. FORGINGS COVERED BY TEST CERTIFICATE											
S.No.		Drawing No. & Item No.				Description				Quantity & Weight	
16. CHEMICAL COMPOSITION (PERCENT)											
Element		C	Si	Mn	S	P					
As Per Specn.		Min.									
		Max.									
Actual Values											
17. HEAT TREATMENT (To be accompanied by Recorder Chart, Whenever called for)											
Condition		Heating Rate, °C/hr.		Temp. °C		Soaking Time, Hrs.		Cooling Rate, °C/hr		Cooling Medium	
18. MECHANICAL PROPERTIES											
		T.S. N/mm ²	Y.S. 0.5/0.2% Proof N/mm ²	% Elongation 5.65√So GL	% R.A. Min.	Hardness BHN (Min. 3 values)	Impact Value Joules	Bend Test			
								Angle of bend	Dia of mandrel	Result	
As Per Specn.		Min.									
		Max.									
Actual Values											
19. SURFACE FINISH (When called for in the order/drg.)											
20. DIMENSIONAL INSPECTION											
21. NON-DESTRUCTIVE TESTS											
Nature of Test		Acceptance level		Instrument used		Range		Results		Any other detail	
Ultrasonic											
Radiographic											
Dye penetrant/ Magnetic Particle											
22. METALLOGRAPHIC EXAMINATION (To be conducted if called for and photo micrographs to be attached along with a report)											
Location of Sample		Etchant used		Magnification		Constituent observed		Relative %			
Microstructure		Macroetch		Inclusion Rating							
23. OTHER TESTS IF ANY (MICROSCOPIC, SULPHUR PRINTS, ETC)											
24. IDENTIFICATION OF FORGINGS AS PER PURCHASE SPEC.											
We hereby certify that the items mentioned above have been tested and inspected in our presence and are found to be in accordance with drawings, specifications and purchase order.											
SIGNATURE, NAME & SEAL OF THE INSPECTING OFFICER DATE:						SIGNATURE, NAME & SEAL OF THE CHIEF OF QUALITY CONTROL/ CHIEF METALLURGIST OF THE SUPPLIER DATE:					
INSTRUCTIONS											
a) Details of all heat treatment processes carried out should be furnished sequentially in 17.											
b) Test certificates are to be furnished as per Purchase order and specification, in A4 size preferably in transparent paper.											
c) All the entries including signature should be in block colour ink.											
d) If testing is done by outside agencies, the original TCs shall be furnished.											
e) The actual TC may run into more than one A4 size paper, if needed, to facilitate filling up of details.											

Duly filled Technical Pre-Qualification Requirements to be submitted along with the offer by vendor

For uploading along with enquiry

Ref No: TME/PQR/Pole End Plate Mcd./TA7009/TA7003 rev.02

Dated: 05/06/2025

Technical Pre-Qualification Requirements (PQR) for “Pole End Plate Mcd”

Vendor should comply with the following clauses in order to qualify for supply “Pole End Plate Mcd” (duly filled PQR shall be submitted along with the offer by vendor):

Cl. No.	Description	Vendor to comment	
		Complied / Not complied (Please tick to comply)	Supporting relevant document to be submitted along with offer
1	Vendor shall supply Pole End Plate Mcd. as per drawing no. mentioned in the enquiry.	Yes/No	Not Required
2	Vendor should be a manufacturer(machinist) of the enquired item and not a trader.	Manufacturer / Trader	Not Required
3	Vendor should have past experience of successfully supplying any machined component involving milling operation in 220mm length, in preceding 5 years from date of enquiry. Vendor to ensure that documents submitted against b) shall correlate with the submitted PO copy.	Yes/No	a. PO copies. b. Drawing of supplied item. c. Supply proof (copy of invoice).
4	For verification of information furnished by vendor, additional documents proofs etc. may be required by BHEL. Vendor to confirm providing the same.	Yes/No	Not Required

Notes:

1. Compliance of all the points in above T-PQR is mandatory. In absence of compliance of above, vendor's offer is liable to be rejected.
2. Information / compliance / documents submitted by vendor shall be authentic in all aspects. In case any deviation / false information / forged documents are observed, BHEL is free to initiate appropriate punitive proceeding against the supplier.

Important: This document is to be filled and submitted along with the offer. This document must be signed by authorized representative of the vendor and should contain the name of representative & seal of the company.

(Sign and Seal of Authorized representative of vendor)

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