

A-FORM  FORM NO BP-0021	BHARAT HEAVY ELECTRICALS LIMITED - BHOPAL MM DEPARTMENT ESTIMATE SHEET FOR ISSUE OF MATERIAL/COMPONENTS FROM BHEL CHECKLIST	A-FORM NO : A203A94 REV NO : 0 A-FORM DATE 15-SEP-26 PRINT DATE : 15-SEP-26 PAGE : 1 / 2											
DEPARTMENT : 203PROJECT : 4X39MW PO NO : A203A94END PRODUCT : M/CED TOP BKT & ARM CHILLA H INDENT NO : 220362601WORK ORDER NO : 39225A23156PO DATE :DELY REQD : 15122026 INDENT DATE : 15092026MATERIAL ISSUE DIV : 203SUPP CODE :SUPP NAME :													
DETAILS OF FINISHED GOODS													
<table><tr><td>A-SLNO</td><td>PO IT NO</td><td>PI IT NO</td><td>QUANTITY REQUIRED</td><td>UNIT</td><td>SHOP NO</td><td>DEST CD</td><td>COST CD</td><td>H.CELL</td></tr></table>			A-SLNO	PO IT NO	PI IT NO	QUANTITY REQUIRED	UNIT	SHOP NO	DEST CD	COST CD	H.CELL		
A-SLNO	PO IT NO	PI IT NO	QUANTITY REQUIRED	UNIT	SHOP NO	DEST CD	COST CD	H.CELL					
DESCRIPTION OF SUB-ASSEMBLY/ITEM & WEIGHT/VOLUME/AREA													
FREE ISSUE MATERIAL PER UNIT OF FINISHED GOODS													
<table><tr><td>MATL CODE</td><td>QTY PSL UNIT</td><td>PSL UNIT</td><td>RATE PSL UNIT</td><td>TOTAL MATL TO BE ISSUED</td><td>ISSUE UNIT</td><td>PSL/ WIP</td><td>SMIV/ PPMIV NO</td><td>MATERIAL VALUE</td><td>TARRIF HEAD</td><td>MATL ISSUE QTY</td></tr></table>			MATL CODE	QTY PSL UNIT	PSL UNIT	RATE PSL UNIT	TOTAL MATL TO BE ISSUED	ISSUE UNIT	PSL/ WIP	SMIV/ PPMIV NO	MATERIAL VALUE	TARRIF HEAD	MATL ISSUE QTY
MATL CODE	QTY PSL UNIT	PSL UNIT	RATE PSL UNIT	TOTAL MATL TO BE ISSUED	ISSUE UNIT	PSL/ WIP	SMIV/ PPMIV NO	MATERIAL VALUE	TARRIF HEAD	MATL ISSUE QTY			
DESCRIPTION OF FREE ISSUE MATERIAL AND WEIGHT /VOLUME/AREA													
<table><tr><td>1</td><td>0</td><td>1</td><td></td><td>2.000</td><td>ST</td><td>203</td><td>203</td><td>203</td><td>203</td></tr></table> COMPLETELY MACHINED TOP BRKT CENTRE AND ARM ASSY HG43320162971.0000NO3200729.7002.00NOWIP6401459.4001.0000 RAW MATERIAL TO BE ISSUED AS TOP BRACKET CENTRE ASSY(FABRICATED) TO DRAWING 12560110701. R/M WT (kg) PER UNIT: 21467F/M WT (kg) PER UNIT: 21019Scrap Rate (Rs/kg): 31.3			1	0	1		2.000	ST	203	203	203	203	
1	0	1		2.000	ST	203	203	203	203				
<table><tr><td>2</td><td>0</td><td>1</td><td></td><td>2.000</td><td>ST</td><td>203</td><td>203</td><td>203</td><td>203</td></tr></table> COMPLETELY MACHINED TOP BRKT CENTRE AND ARM ASSY HG43121460046.0000NO395259.30012.00NOWIP4743111.6006.0000 RAW MATERIAL TO BE ISSUED AS TOP BRACKET ARM ASSY(FABRICATED) TO DRAWING 22560110702 . R/M WT (kg) PER UNIT: 2742F/M WT (kg) PER UNIT: 2563.9Scrap Rate (Rs/kg): 31.3			2	0	1		2.000	ST	203	203	203	203	
2	0	1		2.000	ST	203	203	203	203				
<table><tr><td>3</td><td>0</td><td>1</td><td></td><td>2.000</td><td>ST</td><td>203</td><td>203</td><td>203</td><td>203</td></tr></table> COMPLETELY MACHINED TOP BRKT CENTRE AND ARM ASSY BP901300388572.0000NO420.650144.00NOWIP60573.60072.0000 RAW MATERIAL TO BE ISSUED AS HEX SCREW M-48X160MM LG , R/M WT (kg) PER UNIT:F/M WT (kg) PER UNIT:Scrap Rate (Rs/kg):			3	0	1		2.000	ST	203	203	203	203	
3	0	1		2.000	ST	203	203	203	203				
<table><tr><td>4</td><td>0</td><td>1</td><td></td><td>2.000</td><td>ST</td><td>203</td><td>203</td><td>203</td><td>203</td></tr></table> COMPLETELY MACHINED TOP BRKT CENTRE AND ARM ASSY BP901300323072.0000NO91.790144.00NOWIP13217.76072.0000 RAW MATERIAL TO BE ISSUED AS HEX NUT M-48 . R/M WT (kg) PER UNIT:F/M WT (kg) PER UNIT:Scrap Rate (Rs/kg):			4	0	1		2.000	ST	203	203	203	203	
4	0	1		2.000	ST	203	203	203	203				

1 MATERIAL TO BE ISSUED ON :-	FREE ISSUE BASIS	SIGNATURE OF INDENTOR	SIGNATURE OF ASC EXECUTIVE
2.TRANSPORT TO BE PROVIDED BY :-	SUPPLIER	NAME	NAME
3.EXCISE DUTY ON ISSUE MATL TO BE BORNE BY :-	SUPPLIER	DESIGNATION	DESIGNATION
4.SCRAP TO BE RETURNED :-	NO	TELEPHONE	TELEPHONE
5 INVARIABLY ISSUE WT. TO BE RECORDED ON SMIV/PMIV		10	

A-FORM  FORM NO BP-0021	BHARAT HEAVY ELECTRICALS LIMITED - BHOPAL MM DEPARTMENT ESTIMATE SHEET FOR ISSUE OF MATERIAL/COMPONENTS FROM BHEL CHECKLIST	A-FORM NO : A203A94 REV NO : 0 A-FORM DATE 15-SEP-26 PRINT DATE : 15-SEP-26 PAGE : 2 / 2							
A-SLNO	PO IT NO	PI IT NO	QUANTITY REQUIRED	UNIT	SHOP NO	DEST CD	COST CD	H.CELL	
DESCRIPTION OF SUB-ASSEMBLY/ITEM & WEIGHT/VOLUME/AREA									
FREE ISSUE MATERIAL PER UNIT OF FINISHED GOODS									
MATL CODE	QTY PSL UNIT	PSL UNIT	RATE PSL UNIT	TOTAL MATL TO BE ISSUED	ISSUE PSL/ UNIT	SMIV/ PPMIV NO	MATERIAL VALUE	TARRIF HEAD	MATL ISSUE QTY
DESCRIPTION OF FREE ISSUE MATERIAL AND WEIGHT /VOLUME/AREA									
5012.0000 NO 52.14024.00NO WIP2.000 ST203203203203									
COMPLETELY MACHINED TOP BRKT CENTRE AND ARM ASSY									
BP901300456312.0000 NO 52.14024.00NO WIP1251.36012.0000									
RAW MATERIAL TO BE ISSUED AS DOWEL DIA 32X90MM LG.									
R/M WT (kg) PER UNIT: F/M WT (kg) PER UNIT: Scrap Rate (Rs/kg):									
REMARKS FREE ISSUE MATERIAL FOR COMPLETE MACHINING OF TOP BRACKET CENTRE AND ARM ASSY									
TOTAL NO OF CANCEL ITEM 0									
AFORM TOTAL 11219613.720									

1 MATERIAL TO BE ISSUED ON :-	FREE ISSUE BASIS	SIGNATURE OF INDENTOR	SIGNATURE OF ASC EXECUTIVE
2.TRANSPORT TO BE PROVIDED BY :-	SUPPLIER	NAME	NAME
3.EXCISE DUTY ON ISSUE MATL TO BE BORNE BY :-	SUPPLIER	DESIGNATION	DESIGNATION
4.SCRAP TO BE RETURNED :-	NO	TELEPHONE	TELEPHONE
5 INVARIABLY ISSUE WT. TO BE RECORDED ON SMIV/PMIV		11	

HGM PLANNING DEPARTMENT**INDENT NO-220362435****ANNEXURE-A****PROJECT: RMU OF CHILLA****ITEM: COMPLETE MACHINING OF SET OF TOP BRACKET CENTRE AND ARM ASSEMBLY (RMU OF CHILLA)**

Scope of work and other details are as below:

1. SCOPE OF WORK:**Complete machining of Set of top bracket center and arm assembly includes: -**

S No	SCOPE OF WORK	QTY/SET
1	Complete Machining of Top Bracket Centre Assy as per drawing no. 12560110711	1 no in each Set
2	Complete Machining of Top Bracket Arm Assy as per drawing no. 22560110702	06 nos. in each Set
3	Complete Assembly and Machining of Top bracket Centre and Arm Assy as per drawing no. 12560110709	1no. center & 06 nos. arm in Each Set
4	Performing the required operations such as Vertical Boring, Horizontal Boring, Marking, Drilling, Welding, Assembly etc. to ensure complete Machining as per drawing 12560110711 ,22560110702 & 12560110709.	

2. FREE ISSUE MATERIAL:

S No	<u>FREE ISSUE MATERIAL</u>	QTY
1	Top Bracket Centre Assy (fabricated) as per drawing no.12560110701	1 no in each Set
2	Top Bracket Arm Assy (fab.) as per drawing no. 22560110702	06 nos. in each Set
3	ITEM no. 3 of drawing 12560110709 (SCREW Hex. M48x160 LG. as per ITEM no 002 of drawing 32998801006) for assembly.	Qty - 144 nos. (common for 2sets)
4	ITEM no. 4 of drawing 12560110709 (NUT Hex. M48 as per ITEM no 001 of drawing 42998801003) for assembly.	Qty – 144 nos. (common for 2 sets)
5	ITEM no.5 of drawing 12560110709 (Dowel dia 32x90 as per ITEM no 001 of drawing 42998801001)) for assembly.	12 nos.in each set

3. Tools:

- Segmental Drill Jig for drilling 10sets of 57 holes of dia 16.5 & 20 holes M64x4 PCD 1040 & PCD 1580 in Intermediate Plate will be issued on returnable basis.
- All other Tools and Tackles required will be in vendors scope and to be arrange by vendor.

4. Transportation & Insurance:

- Both To & fro transportation (Raw material transportation from BHEL Bhopal to vendor's shop and finish material transportation from vendor shop to BHEL Bhopal) & transit insurance is **under Vendor's scope.**
- TRP to be applied properly on m/cd surface to avoid rusting .

5. Scrap/Swarf Clause:

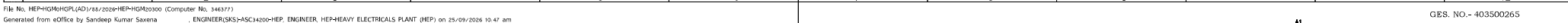
- Scrap generated during machining of job to be retained by vendor and cost of scrap along with applicable GST and other taxes (if any) shall be recovered from supplier's invoice in lieu of scrap retained by them. For this purpose, scrap selling rate shall be taken as Rs **31.3/KG**.
- The difference between the raw material weight (R/W) and finished weight (F/W) would be taken for determining the quantum of scrap generation. The scrap weight is calculated as per the followings:

FREE ISSUE MATERIAL	SCRAP GENERATION STAGE	DRAWING No.	QTY (NO)	ITEM WT BEFORE M/CING(KG)	FINISH MATERIAL WT (Kg)	APPROX TOTAL SCRAP WT (kgs)
TOP BRACKET CENTRE ASSY	Machining of Top Bracket Centre Assy	12560110711	1NO	21467 Kgs	21019 Kgs	448 Kgs
TOP BRACKET ARM ASSY	Machining of Top Bracket Arm Assy	22560110702	6NOS	2742X6 = 16452 Kgs	2582X6= 15492 Kgs	960 Kgs
	Machining of Assembled Top bracket Centre and Arm Assy	12560110709		37433.74 kgs	37325 kgs	108.74 Kgs
TOTAL SCRAP GENERATED (kgs)						1516.74 Kgs

6. Inspection clause:

- QA plan is applicable. Inspection will be done at vendor works by BHEL QC/TPIA as per the discretion of BHEL in compliance to BHEL approved QAP mentioned in NIT.
- MDCC/Dispatch clearance is applicable:** Dimensional report TC, GC, CQIR etc. as the case to be furnished by BHEL. Vendor to obtain the dispatch clearance from BHEL before dispatch of items.

7. Delivery schedule: 8 weeks from the date of issuance of Free Issue Material.



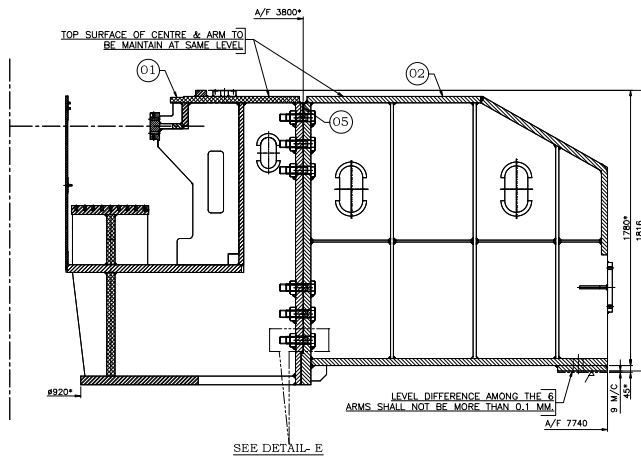
VAR.	MAIL. SPON.		5	DATE.	0
28		CARD TYPE-2			
HGT 674/104-32D					
U OF CHILLA HEP (X39 MW)					
टेस्ट	डिवाइस	डिवाइस / NAME	हस्ताक्षर / SIGN	दिनांक / DATE	डिवाइस की संख्या / NO. OF DIS.
CHN	KS	कृष्ण		29.07.24	
चिप	AK	अज्ञात		06.08.24	
फ्लिप	DKC	दिक		08.06.24	00
आपड					
भारत	जो. इडेंटिफाई	मद. चिप	मद. डेटा	मद. डेटा	
WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.	ITEM NO.	ITEM NO.	
2745 (M.B.)					013
2552 (M.C.)					01
ड्राइंग नं.	ड्राइंग नं./DRAWING NO.			ड्राइंग नं./REV	
2	2 256 01 10702			01	
ड्राइंग नं./REV	01	ड्राइंग नं./REV			01

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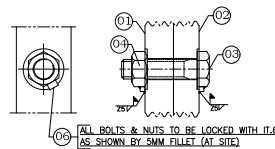
1. TOP BRACKET CENTRE AND ARM COUPLING BOLTS TO BE TIGHTENED UNIFORMLY FOR NO GAP AT JOINT. IDENTIFICATION MARKS TO BE STAMPED WHERE MARKED (X) THUS IN CENTRE AND ARM ASSEMBLY.
FOR M/C (NO-1) 1A-1A, 2A-2A, 3A-3A, 4A-4A, 5A-5A, 6A-6A.
FOR M/C (NO-2) 1B-1B, 2B-2B, 3B-3B, 4B-4B, 5B-5B, 6B-6B.
FOR M/C (NO-3) 1C-1C, 2C-2C, 3C-3C, 4C-4C, 5C-5C, 6C-6C.
FOR M/C (NO-3) 1D-1D, 2D-2D, 3D-3D, 4D-4D, 5D-5D, 6D-6D.
2. SURFACE FINISH OF ALL MACHINED SURFACE SHALL BE 3.2 MICRONS OR BETTER.
3. DIMENSIONS MARKED THUS (X) ARE FOR D.D. REF. ONLY.
4. ALL WELDS TO GR 301 TO A06022101.
APPLY TRIP ON MACHINED SURFACE TO BP06690084.
5. BOTTOM CUSTOMER CENTR ASSY. & ARM ASSY. TO BE TRIAL ASSEMBLED AT WORKS PRIOR TO DISPATCH.
7. REFER. CUSTOMER APPROVED QUALITY PLAN FOR INSPECTION.

TOOL LIST		
SL.NO.	TOOL NO.	DESCRIPTION

REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED
		APPROVED			APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE			ZONE		
B											

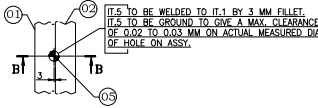


SECTION- AA



ENLARGED DETAIL- E

SECTION-BB



ENLARGED DETAIL-D

[illegible]

ADDITIONAL INFORMATION NO. 39223 TO 26-A-23156		उपकरण का प्रकार या वर्गीकरण/प्रकार का नाम TYPE OR CLASS OR NAME OF CUSTOMER/PRODUCT		28 - Serial/Type - 2 HGT 674 174-32D	
STATUS OF DRAWING <u>U</u>		भारत के लिए निरूपण प्रमाणित है मेकानिकल INDIA भारत HEAVY ELECTRICALS LTD. BHOPAL		UJVN/RMU OF CHILLA HEP (4x39 MW)	
DISTRIBUTION OF PRINTS 1 HQ - 1 FW - 2 TEX - 1				DRG. NAME हस्ताक्षर/सिगनेचर DATE दिनांक DRN. M.K.SHWAR 15.03.25 DR. L.KARAT 15.03.25 DR. K.UDHAKARAN 17.03.25	
REV. DATE ALTERED CHECKED APPROVED 01.12.09 _____ _____ _____		EXPL. HSNL. NO. UNIT. DMS. GR. CODE 400 010404		कुलगा SCALE मैट्रिक्स ड्राइंग का पैमाना NTS M/C	
WEIGHT OF ITEM - 1 AND MACHINING WEIGHT OF ASSY. UPDATED.		ड्राइंग का वजन DRG. WGT.		ड्राइंग का क्रमांक DRG. NO.	
TOP CRACKLET CENTRE & ARM ASSEMBLY		ड्राइंग का क्रमांक DRG. NO.		ड्राइंग का क्रमांक DRG. NO.	
ड्राइंग का क्रमांक DRG. NO.		ड्राइंग का क्रमांक DRG. NO.		ड्राइंग का क्रमांक DRG. NO.	



 BHOPAL	TECHNICAL PRE-QUALIFICATION REQUIREMENTS (TPQR) FOR COMPLETE MACHINING OF TOP BRACKET CENTRE & ARM ASSY	DOC. NO.: HGM/2413-CHILLA DATE: 04-09-2026 REV.: 00 PAGE 01 OF 01
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Bids are invited for Complete machining of Top bracket centre and arm Assy as per Annexure -A.

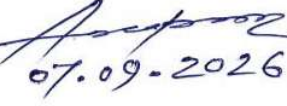
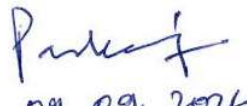
Following are the Technical Pre-Qualification Requirements (TPQR):

Sr. No.	Description of pre-qualification requirement	Supporting Documents required to accept compliance
1	Availability of compatible machines to carry out- i Machining of Top Bracket Centre Assy as per drawing no. 12560110711. (01 No in Each Set). ii Machining of Top Bracket Arm Assy as per drawing no 22560110702 (06 Nos in Each Set) iii Complete Machining of Top bracket Centre and Arm Assy as per drawing no. 12560110709 (01 No Centre and 6 Nos Arms in each Set).	(1) Bidder to submit the following details of available machine-(i) Maximum Weight carrying capacity of machine (ii)Maximum turning radius/diameter of the machine. (iii)Maximum height of the job that can be machined (iv)Table bed turning capacity in terms of turning radius. (v)Maximum radial swing of Arm of the drilling machine. (2) Bidder to submit Make with specifications & photographs of the machines.
2	Experience of machining- Complete Top Bracket Centre & Arm Assy or similar (i.e. Job Involving Vertical Turning Lathe, Horizontal Boring & Drilling operations etc.) and supply of the same during last 7 years having following criteria: - Two supplies having vertical turning Lathe operation of minimum turning diameter 7740 meters.	(1) Purchase order and (2) Test certificate Or Invoice.
3	Compliance to Complete machining of Top bracket centre & arm assembly as per BHEL drawing 12560110709 ,12560110711,22560110702 and as per scope of work in Annexure-A	Self-certification of having the capability.
4	Lifting capacity at vendor's work-Availability of Crane facility having lifting capacity sufficient to carry out the complete scope of machining as per Annexure-A.	Bidder to submit the Make with specification & photographs of the crane.

Note: Compliance to above Technical Pre-Qualification Requirements are mandatory for being technically qualified in the tendering.

1. BHEL has the right to verify information / confirmation furnished, by asking additional documents, proofs, visit of vendor's works etc.
2. The reference date will be the date of enquiry.

3. No Relaxation for MSME/Startup.

Aniket Shirgaonkar Manager (HGM-planning)	Anupam Maurya Sr. Manager (HGM-shop)	Anupam Kumar Sr.Manager (HGE)	Pankaj Chandrakar Sr. Manager (TEX)
 07.09.26	 07.09.26	 07.09.2026	 09.09.2026

MANUFACTURING QUALITY PLAN										
ITEM DESCRIPTION : MACHINING OF TOP BRACKET/ BOTTOM BRACKET/ CENTRE & ARM ASSY										FOR BHEL BHOPAL
Q.P.NO: QP/HGM/TOP BRACKET/BOTTOM BRACKET/ CENTRE & ARM ASSY /01										
REV: 0										
DATE: 6-09-2026										
PAGE										
DRG. NOS : AS PER ENQUIRY										
S/NO	COMPONENTS & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE OF NORMS	FORMAT OF RECORDS	AGENCY	REMARKS
1	2	3	4	5	6	7	8	9	M 8	11
1.0 INPROCESS-STAGE INSPECTION										
1.1	MACHINED TOP BRACKET CENTRE ASSY	Verification of dimensions, surface finish, flatness and visual inspection	Critical	Measurement	100%	As per BHEL Drawing	BHELDrawing	Dimension Report	P	W
1.3	MACHINED TOP BRACKET ARM ASSY	Verification of dimensions and visual inspection	Critical	Measurement	100%	As per BHEL Drawing	BHELDrawing	Dimension Report	P	W
2.0 FINAL INSPECTION										
2.1	COMPLETELY MACHINED TOP BRACKET CENTRE & ARM ASSY	Visual, Dimensional check & Trial assembly of Complete Top bracket centre and arm assy. Inspection to be done as per drawing. Check and ensure all dimensions within tolerance mentioned in drg. All technical requirements to be met as mentioned in drg.	Critical	Measurement	100%	BHEL Drawing	BHELDrawing	Dimension Report	P	W
	Free from burrs & dents	Critical	Visual	100%	BHEL Drawing	BHELDrawing	Internal Report	P	W	Item shall be dispatched to BHEL after acceptance by BHEL/BHEL nominated agency after duly identifying by P.O. No.drg. No.
	Preservation	Major	Visual	100%	Preservation to be done properly so that item does not suffer any dents or scratches. Protection of Machined surface against any rust / corrosion to be done.					
LEGEND: M=VENDOR B= BHEL NOMINATED AGENCY/ BHEL P= PERFORMED BY V= VERIFIED BY W= WITNESSED BY All requirements of PO, drawing and scope of work shall be fulfilled.										
 Anupam Maurya (Sr.Mgr./HGM)			 Narendra Agrawal (Mgr./QEM)			 Anupam Kumar (Sr.Mgr./HGE)				