

Expression of Interest (EOI) FOR SET OF TAPER PLUG AND RING GAUGE, DUMMY SHAFT AND TEST COUPLING

EOI-2025-26/02 Date 06.03.2026

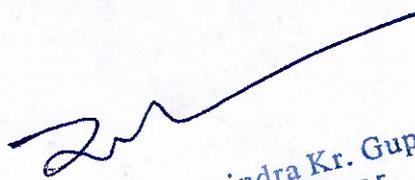
PURPOSE: Traction division of BHEL-Bhopal requires TAPER PLUG AND RING GAUGE, DUMMY SHAFT AND TEST COUPLING as per attached drawings.

technical information and drawing are attached for greater understanding and for providing latest, economical and productive solution, prevalent in the market.

The general parameters as per our past experience and requirements are tabulated below. vendor is free to provide better solutions.

In the light of above and with reference to the following technical details we express our intent to buy taper plug and ring gauge, dummy shaft and test coupling to solve our specific problem. It shall enable us to seek the solutions available in current market scenario.

S/L	Items	Motor Type	Tool Number	Application	Approx. requirements
1	SET OF TAPER PLUG AND RING GAUGE (ONE SET CONSIST 1 NO TAPER PLUG GAUGE AND 1 NO TAPER RING GAUGE)	IM4504	1607613	To check internal taper of shaft through blue ink matching method. As our shaft have various internal taper like for 6FRA 6068 shaft 1°8'45"(1:50 Taper)	1 set
2		IM 3004	1608490		1 set
3		TM3701	1410502		1 set
4		IM4507	1602518		1 set
5	DUMMY SHAFT	6FRA6068	1577813	To hold shaft centre to centre during grinding/turning operation for getting temporary axis of hollow shaft. As our shafts one side is hollow hence for holding purpose and getting hollow shaft axis dummy shaft used and inserted in hollow portion	100 shafts annually
6	SET OF TEST COUPLING (ONE SET CONSIST 2 NOS COUPLING)	IM3302/IM 3701	1410842	Used for back to back testing of various traction motors at higher rpm	5 Set
7		HS15250	1571119		5 Set
8		TM 4601	1406786		5 Set
9		TM4509	1451415		5 Set
10		TM4303	1574303		5 Set
11		TM4513	1608877		5 Set

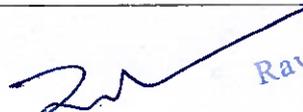

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Manager
TXM Division
BHEL, Bhopal

Basic technical requirements:

S. No	Technical Head	Remarks
01	Vendor must have Internal and external taper grinding facility with ability to machine precise tapers for tooling purpose.	Vendor to Confirm
02	Vendor shall define the grinding facility make of machine, year of manufacture and installation.	Vendor to specify and Confirm
03	Vendor should have experience of doing taper grinding work in the range of 2 degree to 10 degree or better. Or In the range of taper 1: 10 to 1: 50 or better.	Vendor to Confirm
03	Required items are very critical and during checking 90 % blue matching is required.	Vendor to note and Confirm
04	NABL accredited labs 3D CMM report is required for each item and vendor to submit the same during supply.	Vendor to note and Confirm

Table -2 Pre-Qualifying Conditions (PQC)

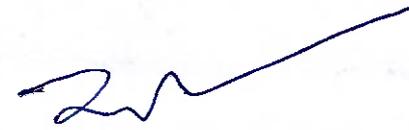
S No.	Pre-Qualifying Conditions	Remarks
01	The vendor must be either an Original Equipment Manufacturer (OEM) or its Authorised Agent for offered equipment. The product 's ultimate guarantee shall wrest with the OEM and not its authorised agent.	Vendor to comply
02	Past Performance of any one of below mentioned item: Either OEM of the product or any of authorized agent/ dealer of OEM - of the product must have supplied successfully at least to any firm/ companies in the last 7 years from tender opening date: Customized drawing-based item having internal taper grinding work in the range of 2 degree to 10 degree or better. Or In the range of taper 1: 10 to 1: 50 or better. Or Customized drawing based universal, straight milling heads.	Vendor to comply and submit PO copy and invoice copy for supply proof.


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03	Vendor shall furnish any one of the following: a) Verifiable Performance certificate/performance feedback e mails from its customer against supplies of any of the item stated in clause 2. Vendor shall share contact details live e mails and phone numbers of its customers where the product has been supplied.	Vendor to comply and submit Performance certificate/performance feedback e mails from customer.
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NOTE:

- 1) Component Drawing is for purpose of clarity/ understanding of machining requirement only. Drawings are intellectual property of BHEL and are confidential in nature, it cannot be reproduced or redistributed for any other purpose to potential bidders.
- 2) Potential Vendors are advised and encouraged to visit BHEL's shop floor for any clarification, discussion & to have more idea about our machining requirement.
- 3) Vendor to submit complete technical specification along with concept drawings.
- 4) Offers of only those vendors who qualifies PQC as mentioned in **Table-2** will be evaluated.

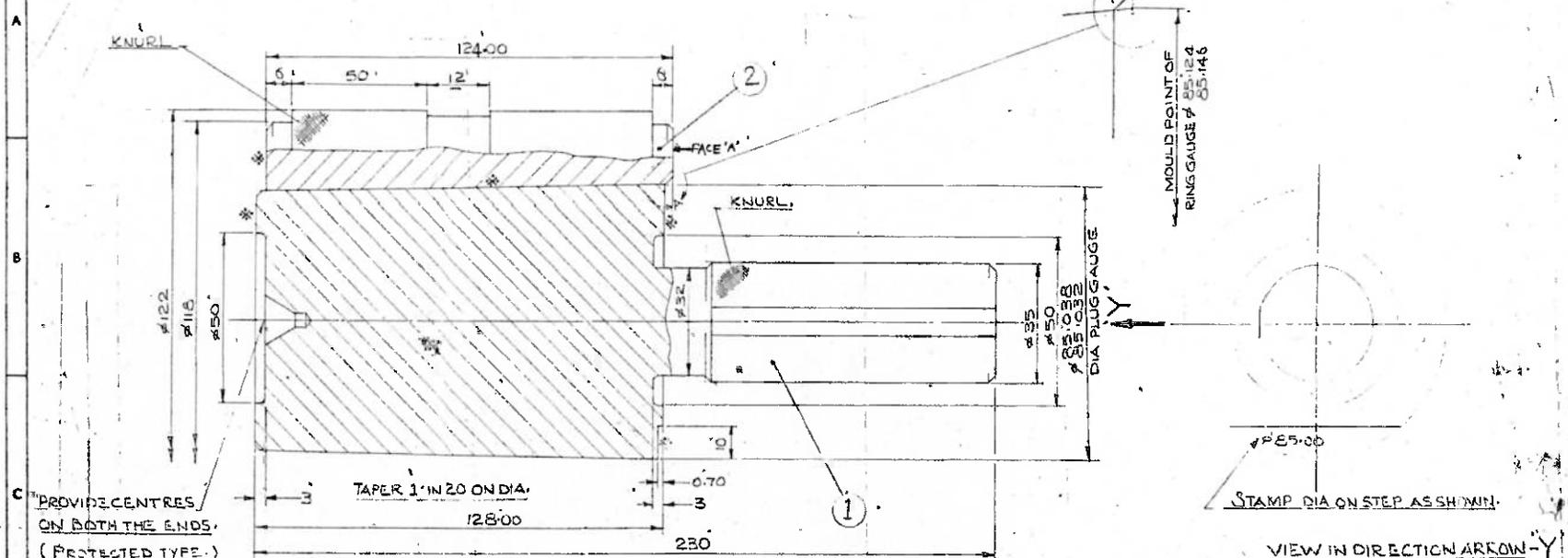


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1410502

ALL DIMENSIONS ARE IN M.M. UNLESS OTHERWISE STATED.

DO NOT SCALE DRAWING
CONSULT D. O. IF IN DOUBT



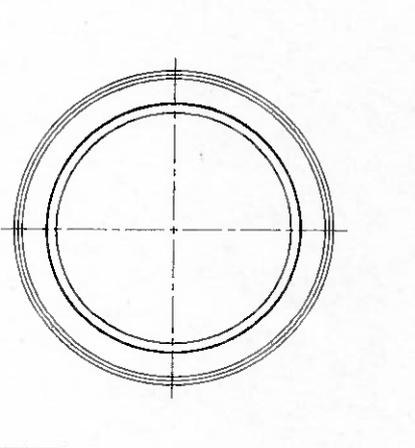
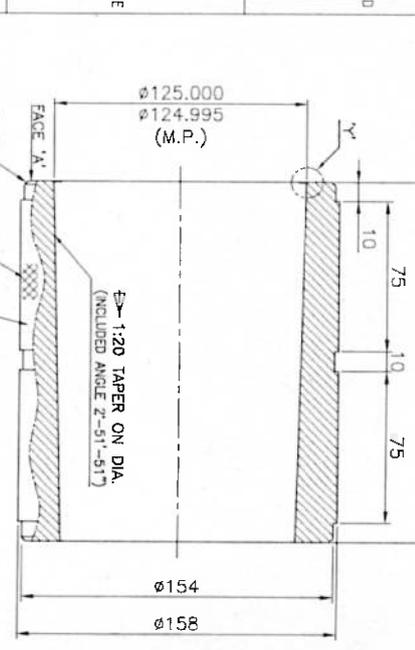
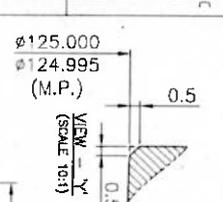
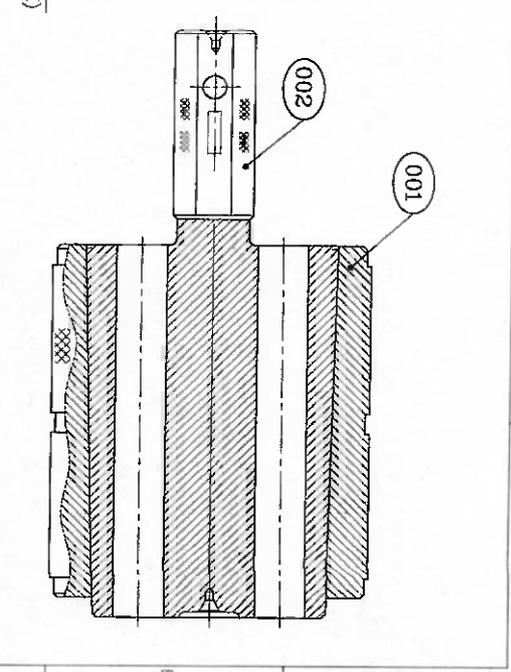
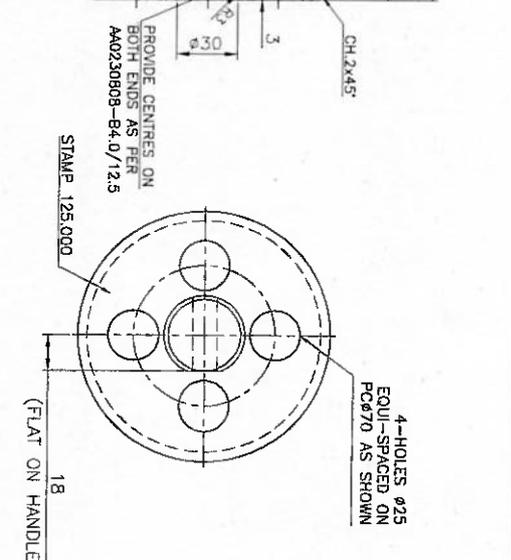
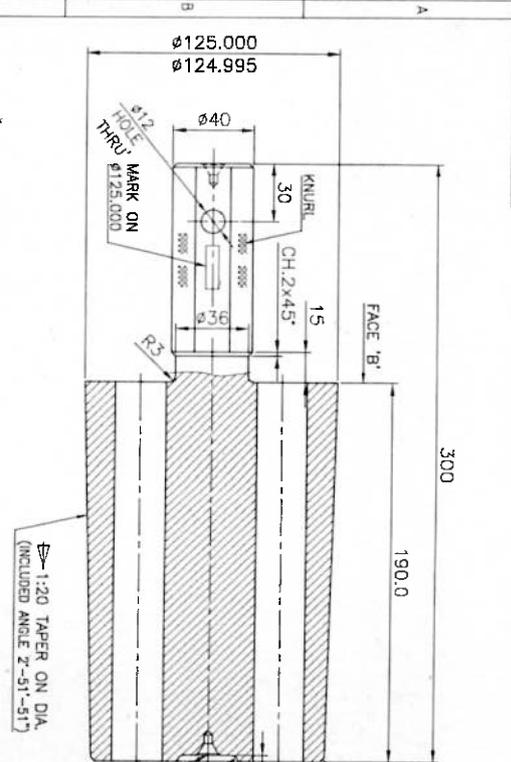
PROVIDE CENTRES
ON BOTH THE ENDS.
(PROTECTED TYPE)
CENTRE HOLE - B 4-0
AA0230808

- NOTE: 1. FACE 'A' MUST BE PERPENDICULAR TO AXIS WITHIN 0.02.
2. QUALITY / CYLINDRICITY SHOULD BE WITHIN 0.005.
3. ANGULAR VARIATION SHOULD NOT EXCEED 0°-0.5°
4. MINIMUM CONTACT OF ASSEMBLED GAUGE 95% OF TAPER AREA.
5. SURFACE ROUGHNESS 1.6 MICRON RA VALUE ON TAPER GAUGE SURFACE.

50252		BILL OF MATERIAL	
QTY.	ITEM	DESCRIPTION	REMARKS
1	2	RING GAUGE	125x120Lg. HCHCY MDN. 660 M1022 AC-58-60 HCHCY MDN. 660
1	1	PLUG GAUGE	100x236Lg. M1022 RC 58-60

ISSUE DATE	MACHINING TOLERANCES REFER TO: IS. 110-M.	FINISH NOTED	LIMITS NOTED	TYPE	USER'S DIVN.
02-05-2019					
01-3-4-94					
NOTES ADDED: MAY 20 OF 1991 2, H.C.H.C. 1991		COMP. NO. 139163100-4		ADDED.	

BHARAT HEAVY ELECTRICALS LTD., BHOPAL			
JIG AND TOOL DRAWING OFFICE			
TOOL AND GAUGE DIVISION			
TAPER RING & PLUG GAUGE FOR ARMATURE SHAFT			
COMP. REF.	1439413102	DESN APPD.	SIGMA
ITEM	REV.	COL.	DRG. APPD.
			CHECKED.
SCALE	1:1	DRAWN.	DRG. NO. 1410502



- NOTES :-
- 1) FACE 'A' & 'B' MUST BE PERPENDICULAR TO AXIS WITHIN 0.02.
 - 2) OVALITY / CYLINDRICITY SHOULD BE WITHIN 0.005.
 - 3) ANGULAR VARIATION SHOULD NOT EXCEED 0°-0'-5".
 - 4) MINIMUM CONTACT OF ASSEMBLED GAUGE 95% OF TAPER AREA.
 - 5) SURFACE ROUGHNESS 0.8 MICRON Ra VALUE ON TAPER GAUGE SURFACE.

VAR. NO.	REMARKS	VAR. ITEM NO.	DESCRIPTION	STD.	DRAWING NO.	ITNO.	MAT'L CODE	VAR.	MAT'L SPECN	UNIT	WT.	QTY.	ZONE
001	HON & GRD	00	PLUG GAUGE	-	-	-	AA10822	-	-	-	-	-	-
	RC 58-60		Ø140 x 306 LG.				H.C.H.C.F.						
001	HON & GRD	00	RING GAUGE	-	-	-	AA10822	-	-	-	-	-	-
	RC 58-60		Ø165 x 186 LG.				H.C.H.C.F.						

ADDITIONAL INFORMATION:-
FOR M/C TOLERANCE REFER TOSI-110W

STATUS OF DRAWING:- TOOL

DISTRIBUTION OF PRINTS:-
TO M (PLC.) = 4
TE (TXM) = 1
O.C. = 1

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT: IM4507AZ

DATE: 09/12/24
CHECKED: DSK
APPROVED: TBO

DATE: 22/06/15
CHECKED: W/A
APPROVED: W/A

DATE: 14/03/08
CHECKED: W/A
APPROVED: W/A

DATE: 09/12/24
CHECKED: DSK
APPROVED: TBO

DATE: 22/06/15
CHECKED: W/A
APPROVED: W/A

DATE: 14/03/08
CHECKED: W/A
APPROVED: W/A

REV.	DATE	ALTERED	CHKD	APPROVED	ZONE	REV.	DATE	ALTERED	CHKD	APPROVED	ZONE
01	09/12/24	CHECKED	DSK	APPROVED	03	01	14/03/08	CHECKED	W/A	APPROVED	W/A
02	22/06/15	CHECKED	W/A	APPROVED	02	02	22/06/15	CHECKED	W/A	APPROVED	W/A
03	09/12/24	CHECKED	DSK	APPROVED	03	03	09/12/24	CHECKED	DSK	APPROVED	TBO

1. MAT'L OF IT#001 WAS M.S.
2. NOTES ADDED.

IN IT#001 DIA. 125.000/124.995 ZONE
WAS 125.00/124.98 & IN
IT#002 DIA. 125.000/124.995
WAS 125.527/125.521
CHANGED AS PER TEL(VM) REQT.

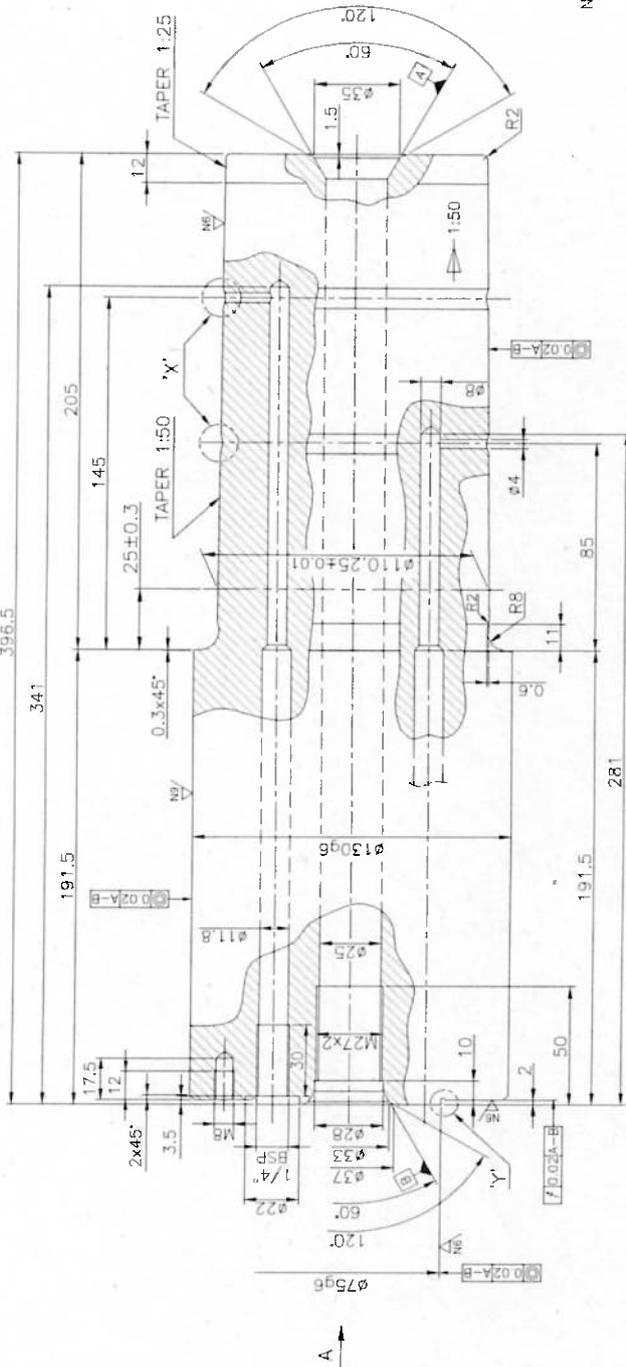
RE-DESIGNED TO SUIT
REV.NO.04 OF COMP.
DRC.NO. 14454592001.

TAPER PLUG & RING GAUGE
FOR SHAFT AND PINION (Ø125±0.01)

DRAWING NO. 1602518
SHT. NO. 01
NO. OF SH. 01

FIRST ANGLE PROJECTION

ETBZG1 ON 980

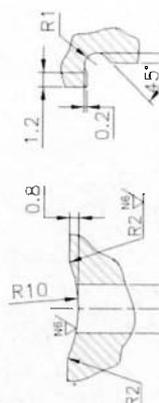


VIEW AT 'A'

NOTES FOR IT#001:-

1. ∇ WHERE NOT SPECIFIED.
2. BEDDING OF TAPER SHOULD BE 90% MIN. CHECK WITH TAPER RING GAUGE NO. 1577848/1605197.
3. DIMN. 25 ± 0.3 SHOULD BE CHECKED BY INSERTION OF TAPER RING GAUGE NO. 1577848/1605197. (RING GAUGE SHOULD NOT BE FORCED INSIDE BY MALLETING)
4. ENSURE CHECKING & REQUIREMENTS AS PER NOTES 2 & 3 ON 100% BASIS.
5. MARK EACH ITEM WITH IDENTIFICATION i.e. MAKE, SL.NO., PO NO., YEAR OF MFG. ON FACE SHOWN.

IT#001



DETAIL OF 'X'

DETAIL OF 'Y'



DETAIL OF 'P'

DETAIL OF 'Q'

VAR.00	REV	REMARKS	VAR ITEM NO.	DESCRIPTION	DRAWING NO.	UNIT	WT.	QTY.
001	00	002	00	STUD	030 x 1010 LG.	-	-	-
001	00	001	00	DUMMY PINION	Ø140 x 405 LG.	-	-	-

IT#002

NOTES FOR IT#002:-

1. MATERIAL OF STUD :- EN24
2. REFER IS:1862 FOR OTHER DETAILS.
3. THREADS ON STUD SHALL BE MANUFACTURED BY COLD ROLLING PROCESS.

CLW-21F096.015
REF. DRG. NO.
INVENTORY NO.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT
6FRA6068

ADDITIONAL INFORMATION:-
FOR M/C TOLERANCE REFER TGT-110M
STATUS OF DRAWING:- 'TOOL'

REV	DATE	ALTERED	CHECKED	D.D.A.	ZONE	REASON	REV	DATE	ALTERED	CHECKED	D.D.A.	ZONE	REASON
08	22/05/24	✓	✓	08	08	22/05/24	08	22/05/24	✓	✓	08	08	22/05/24
07	19/05/22	✓	✓	07	07	19/05/22	07	19/05/22	✓	✓	07	07	19/05/22

NAME	SIGN	DATE	NO. OF VAR.
MANANDRAI	-88-	24/07/92	00
U.S.L.S.	-88-	14/07/97	00
D.S.P.	-88-	14/07/97	00

UNTOOL	DIMS	GR	SCALE	MOPT	NO	ITEM	NO. OF
334			NTS		001	001	002

TITLE
DUMMY PINION/SHAFT
FOR 3-PHASE TRACTION MOTOR

Procedure for participation in the EOI

- 1) Vendor to mention their say against each point of EOI and duly signed seal paper must be submit.
- 2) Vendor to submit full/complete technical details along with catalogue / brochure of offered machine.
- 3) Vendor to submit all supporting documents required against PQC clause in EOI

Interested OEM vendor which are fulfilling our EOI requirements can submit their offer in following ways:

- 1) By E mail: submit above all documents for participation in the EOI before due date of EOI in the following E mail id :

- A) guptaravindra@bhel.in
- B) ajaydhuwe@bhel.in

Or

- 2) By Post/Courier: submit EOI related all documents in the following address either by Indian post or by courier (prefer Indian post):

Manager, TXM-Tooling

Block-02, Central Annexe FF

Heavy Electrical Plant, Piplani Bhopal (M.P.)

Pin code – 462023

Telephone – (0755) 2503093