



TENDER TERMS & CONDITIONS OF HANDWHEELS

[Address: BHEL Industrial Valve Plant: 433, Industrial Complex, Goindwal Sahib,
Distt Tarn Taran, Punjab-143422]

THIS TENDER IS THROUGH E-PROCUREMENT MODE.

Online bids in two parts are invited for the Procurement of HANDWHEELS. The relevant documents can be downloaded from <https://bhel.abcprocure.com>.

Tender Enquiry No	1920-009E
Enquiry date	19-Apr-19
Last time and date of tender submission	1400 Hrs 03-May-19
Tender opening time and date	1530 Hrs 03-May-19
Quotation Parts	<u>Two-part Bid</u>
Item Description	HANDWHEELS
Material details/ standard	<u>Refer sheet List of Items / Technical Specification</u>
Delivery schedule (In days)	<u>120 days from date of release of PO/LOI</u>
Validity of offer (In days)	<u>60 days</u>
Test Certificate	<u>Required</u>
Guarantee Certificate	<u>Required</u>

Item: HANDWHEELS.

Technical Specification:

- As per List of items.

Pre-Qualification Term

P1. Bidders should primarily be engaged in manufacturing of products of any SG Iron/ Malleable Iron/ A216 WCB (Certified) items. Supplier need to submit any customer's Purchase Order(s) (Not older than Dt. 01.04.2016) copy/ies of any SG Iron/ Malleable Iron/ A216 WCB (Certified) items, having cumulative value not less of Rs. 6,00,000.00 (Six Lakh). For MSEs, the required cumulative value of PO shall be Rs. 3,00,000.00 (Three Lakh). This Pre-Qualification terms shall not be applicable to Start-Up Firms. These relaxations and exemptions are in line with D.O. No. 5(4)/2016-BE-I dated 15.02.2017. For claiming Start-Up exemption, bidders have to give documentary evidence or undertaking. For Claiming MSE benefits, bidder have to give documentary evidence like NSIC, UAN, etc. Bidder has to give undertaking that he is manufacturer of SG Iron/ Malleable Iron/ A216 WCB (Certified) items castings.

SPECIAL TERMS

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S1. Scope of Supply



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Material shall be supplied as per the applicable Material Standard requirements/BPS/Drawing/IS and other requirement as given in the Purchase Order. National & International material Standards shall have to be arranged by vendors themselves. Refer list of items for details.

Comparison and procurement shall be done for Individual item, i.e HANDWHEELS, where one bidder is found to L1, then for individual quantity PO will be released and bidders have to execute the order what so ever be the quantity and PO value.

S2. General Contract Conditions (GCC)

These Special terms and conditions and General Contract Conditions (GCC) collectively form the part of tender terms and conditions

S3. LOADING CRITERIA CUM COUNTER OFFER

CASE-A

BHEL will give counter-offer to vendors other than L1 as per provisions of CASE-A, in order to have broader vendors base for ensuring timely delivery for the items where the quantity is more than 500 nos. Following directions shall be followed when allotting the tender quantities

1. Tender quantity shall be divided in the proportion 60:15:25 (60% for L1, 15% for L2 and 25% for MSE's) in case the L1 vendor is not a MSE subject to following conditions:

I. L2 acceptance of L1 rates.

II. In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be offered 25% quantity of tender quantity at L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally. If there are more than one MSE in the price band of L1+15% to whom the offer has been sent and some of them reject the offer, then the remaining quantity shall be distributed equally to the MSEs accepting L1 prices.

III. 25% from the 25% quantity (i.e. 6.25% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 6.25 per cent quantity for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from other Micro and Small Enterprises. 3% from within the 25% quantity offered to the MSE's will be offered to women owned MSE's. Failure to participate by any MSE owned by women; this 3% quantity shall be offered to other MSEs.

IV. In case any MSE vendor does not accept the counter offer, the above mentioned 25% quantity shall be offered to L2.

V. If there is no MSE in the Price band of L1+15% then the 25% quantity shall be offered to L2 vendor.

VI. If other suppliers (other than L1) are not under MSE then 60% qty shall be given to L1 and 40% qty shall be offered to L2 supplier.

2. In case if the L1 vendor is MSE then quantity shall be provided as 60 % for L1, 30.75% for L2 and 6.25% tender quantity shall be offered to the MSEs owned by SC/ST's in the price band of L1+15%. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 3% quantity offered to women owned MSE's. Failure to participate by any MSE owned by women; this 3% quantity shall be met from L2 vendor.



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3. In case L1 vendor is MSE owned by SC/ST Women entrepreneur then quantity shall be provided as 60 % to L1 and 40% to L2.

All above offered qty are subject to acceptance of L1 rates.

In case of non- acceptance of counter offer by any vendor after above applicable provisions the whole quantity shall be given to L1 vendor.

All above mentioned preferences shall be given to MSEs, SC/STs & women only on the submission of documentary evidence.

BHEL will not give counter offer to highest bidder in any case.

If there are more than one L1 bidders, quantity shall be equally divided, except MSE portion.

CASE B

For items where quantity is less than or equal to 500 nos. only MSE benefit will be given as mentioned below:

1. Tender quantity shall be divided in the proportion 75:25 (75% for L1 and 25% for MSE's) in case the L1 vendor is not a MSE subject to following conditions:

a. In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be offered 25% quantity of tender quantity at L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally. If there are more than one MSE in the price band of L1+ 15% to whom the offer has been sent and some of them reject the offer, then the remaining quantity shall be distributed equally to the MSEs accepting L1 prices.

b. 25% of the 25% quantity (i.e. 6.25% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 6.25 per cent quantity for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from other Micro and Small Enterprises.

c. 3% from within the 25% quantity offered to the MSE's shall be reserved for women owned MSE's. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 3 per cent quantity for Micro and Small Enterprises owned by women entrepreneurs shall be met from other Micro and Small Enterprises.

d. In case any MSE vendor does not accept the counter offer, the above mentioned 25% quantity shall be given to L1.

e. If there is no MSE in the Price band of L1+15% then the 25% quantity shall be given to L1 vendor.

f. If other suppliers (other than L1) are not under MSE then 100% quantity shall be given to L1 supplier.

2. In case if the L1 vendor is MSE then quantity shall be provided as 90.75 % for L1, 6.25% tender quantity shall be offered to the MSEs owned by SC/ST's and 3% tender quantity shall be offered to the MSEs owned by women in the price band of L1+15%. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 6.25 per cent sub-target for procurement earmarked for Micro and Small Enterprises owned by SC/ST entrepreneurs and 3 per cent sub-target for procurement earmarked for Micro and Small Enterprises owned by women entrepreneurs shall be met from L1 vendor.



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3. In case the L1 vendor is a MSE owned by a SC/ST & women entrepreneur then the 100 % quantity shall be loaded on L1 bidder.

In case of non- acceptance of counter offer by any vendor after above applicable provisions the whole quantity shall be given to L1 vendor.

This ratio can be altered in case of any failure on part of L1 regarding delivery commitment/quantity/quality of material.

All above mentioned preferences shall be given to MSEs and SC/STs only on the submission of documentary evidence.

BHEL will not give counter offer to highest bidder in any case (except MSE Vendors whose rates falling in the range of L1 +15%).

If there are more than one L1 bidders, quantity shall be equally divided, except MSE portion (if any).

S4. OTHER CONTRACT CONDITIONS

These Special terms & conditions and GCC collectively are the part of tender terms and conditions.

List of Items

Sr. No.	Material	Material Description	Unit of measurem ent	Req. Qty	Drawing No.	TDC No./ BPS no. applicable
1	922005460000	HAND WHEEL (IMPACT)- DIA 630	no	50	2VK65206166R/03	TDC:0:412/26
2	921501350000	Hand Wheel_GLV_4_1500-G003	no	10	2VG00315006R/000/06	TDC:0:412/26
3	920100870000	HAND WHEEL-2480-DIA 560 - RV	no	100	3V248003010R/02	TDC:0:412/26
4	920100800000	HAND WHEEL-BPS 419027-DIA 250	no	2900	BPS 419027	BPS 419027
5	920100590000	HAND WHEEL (IMPACT)-DIA 500	no	400	2VK65006166R/03	TDC:0:412/26
6	920090550000	HAND WHEEL-BPS 419027-DIA 450	no	1500	BPS 419027	BPS 419027
7	920090540000	HAND WHEEL-BPS 419027-DIA 400	no	700	BPS 419027	BPS 419027
8	920090530000	HAND WHEEL-BPS 419027-DIA 315	no	900	BPS 419027	BPS 419027
9	920090260000	HAND WHEEL-BPS 419026-DIA 450-	no	30	BPS 419026	BPS 419026
10	920090240000	HAND WHEEL-BPS 419026-DIA 315	no	700	BPS 419026	BPS 419026
11	920090230000	HAND WHEEL-BPS 419026-DIA 250	no	200	BPS 419026	BPS 419026
12	921501360000	H WHEEL_ WCB_GLV_2.5_1500-G004	no	400	2VG00415008R/03	TDC:0:412/26

Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder.

G1. INSTRUCTION TO BIDDER

Quotations shall be submitted before due date and time. Late offers are liable to be rejected, so please ensure to submit bid well within due date and time. Techno-commercial part will be opened on due date.

Based on evaluation of techno-commercial offers, Price bids of bidders who qualify from techno-commercial evaluation shall be opened. BHEL may decide to open the Price bid same day at 1700 hrs. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids by email/fax/post/courier/E-procurement system generated email.

G1.1 INSTRUCTION TO BIDDER (In case of Non-E-Procurement / Paper/ Manual/ Hard Copy based tenders)

Sealed Tenders can be dropped in the tender box labeled as 'Tender box for MM contracts'. This tender box is located at the entrance of Admin block BHEL Goindwal. Fax (01859-222061) / E-Mail (tendermm_ivp@bhel.in) offers received in time shall be considered only when such offers are complete in all respects. In case of bulky tender please handover quotation to Sh Rakesh Kumar/ SDGM/Head-MM or Sh Gurcharan Singh / AGM-Operations & MM. [Contact: 01859 224 615/631]. Bid can be send to following address:

**BHEL, Industrial Valve Plant,
#433, Industrial Complex,
Goindwal Sahib, Distt. Tarn Taran,
Punjab-143422.**

G1.2 INSTRUCTION TO BIDDER (In case of E-Procurement)

Interested bidders/Suppliers shall submit their offer through e-Procurement mode at <https://bhel.abcpurchase.com>. **Offers in any other mode will not be accepted.**

For Enterprise Procurement System (EPS) Bidders/Suppliers are requested to follow these steps:

a. Requirements

1. Computer with good Internet Connection.
2. Operating System should be Windows Vista / Windows 7 and above.
3. Web Browsers: Internet Explorer 9.0 (32-bit Browser only) & above

b. Mandatory Requirements:

Suppliers interested for registration for BHEL Open Tenders should have a valid DSC (Digital Signature Certificate) before Proceeding forward for Registration. Herein a Valid DSC refers to a Class-II/III Digital Signature Certificate (DSC) for Signing & Encryption (Required both digital signature certificate: Signing & Encryption) of bids issued by any of the valid Certifying Authorities (approved by Controller of Certifying Authorities) in India. Valid Digital Signature Certificate (DSC) must be installed in a computer system from where you want to access the website.

For Unregistered Suppliers in EPS:

Procedure for Online Registration in EPS for Open Tender Suppliers for BHEL. Please follow the below steps for registration: -

1. Click Register Button (Top of the Screen).


05/01/19



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2. Please input your organization PAN No (in case of Indian supplier) or select your "country" in case you are an overseas Supplier.
3. Select Units to participate in.
4. Fill up Company details.
4. Key in your desired login id If you have registered by keying in PAN No. then your desired login id will be prefixed by "OTI", In case of overseas suppliers it will be also prefixed with "OTI".
5. Fill in the Captcha code & agree to the terms & conditions and privacy policy of this website and click SUBMIT.

Once the above steps are completed, contact to M/s eProcurement Technologies Limited for ID Activation. M/s e Procurement Technologies limited, Ahmedabad will activate your ID within 2 business hours. After registering, follow the steps provided in "For Registered Supplier" to view RFQ.

NB: - 1 BHEL Administrator or user will have no role for approving Registration and Open Tenders and DSC for any supplier who has registered himself from the front END which is in case of OT.

For Registered Supplier in EPS:

1. Supplier visits EPS home page
2. Supplier Login in with their user id and password
3. Search the RFQ ID and views it.
4. Attaches themselves to the RFQ by clicking the "I/We wish to participate".
5. Supplier fills the bid template and makes necessary attachments
6. Supplier submits their bid by clicking Sign, Encryption & Save button.

In any problem is faced by supplier while login/registration in EPS (<https://bhel.abcprocure.com>) and any other assistance, please contact the support team of M/s e Procurement Technologies limited, Ahmedabad as per details mentioned in table below: -

Name	Contact Nos.	e-mail ID	Role	Location
Mukunthan	+91 6353215001	Trichy.bhel@eptl.in	Support Executive	Trichy
Swapnil Hamilton	+91 7940270549	swapnil.h@eptl.in	Support Executive	HO – Ahmedabad
Hardik Oza	+91 7940270560	Hardik.oza@eptl.in	Support Executive	HO – Ahmedabad
Ankur Bhatt	+91 7940270590	ankur.bhatt@eptl.in	Support Executive	HO – Ahmedabad
Prashant Rajyaguru	+91 7940270545	prashant@eptl.in	Asst. Manager – Implementation & Support	HO – Ahmedabad
Dharam Rathod	+91 7940270596	dharam@eptl.in	Manager – Implementation & Support	HO – Ahmedabad
Pradip Parmar	+91 7940270532	pradip@eptl.in	Sr Mgr – Implementation & Support	HO – Ahmedabad
Devang Patel	+91 7940270576	devang@eptl.in	Sr Manager – Implementation & Support	HO – Ahmedabad

G2 OTHER IMPORTANT INFORMATION RELATED TO E-PROCUREMENT TENDERS

1. The bidder has to keep track of any changes by viewing the addendum / Corrigendum's issued by the Purchaser on time-to- time basis in the E-Procurement platform. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.
2. The user should complete all the processes and steps required for bid submission. The successful bid submission can be ascertained once acknowledgement is given by the system through bid submission number after completing all the processes and steps. BHEL and M/s e Procurement Technologies limited will not be responsible for incomplete bid submission by users. Users may also note that the incomplete bids will not be saved by the system and are not available for the Purchaser for processing.
3. Before uploading scanned documents if any, the bidders shall sign on all the statements, documents, certificates uploaded by him, owning responsibility for their correctness / authenticity.
4. On the due date of tender opening, only technical bids will be opened. The opened technical bids will be evaluated by us and clarifications required, if any, will be called for from the bidders on technical and commercial points. If no reply is received from the vendor for the clarification raised by BHEL with in the final cut-off date, those vendors offer will be processed with the documents available / submitted against this tender. Offers not meeting the required specification and technical condition will be summarily rejected. The price bids of technically suitable bidders will be opened on a later date with prior intimation to techno-commercially suitable bidders.
5. Ranking L-1, L-2 etc. shall be done for individual item for the techno-commercially acceptable offers on landed cost to BHEL, IVP Goindwal basis and BHEL reserves the right to place order for individual items with different vendors. In the event of more than one vendor becoming L1 for the item, the enquiry quantity will be shared equally among all the L1 vendors.
6. BHEL reserves the right to negotiate with L1 vendor or re-float the tender for items where, L1 price is not the lowest acceptable price; BHEL reserves the right to increase or decrease the tender quantity.
7. **If supplier is mentioning delivery destination within state/ outside state depending upon his location of factory, Free On Road etc these are assumed as on FOR Goindwal. If supplier is wishing to give delivery on Ex works basis, then he has to clearly mention about it.**

G3 PRICE BASIS

- a. Order of enquiry item sl. No. shall be maintained in the quotation.
- b. The rates quoted shall be firm and fixed. No price variation is proposed and allowed.
- c. Rates quoted should be F.O.R Goindwal basis. If bidder has quoted Ex Works, loading shall be done as per BHEL discretion for tender evaluation.

Variation in GST or any other statutory levies during contractual delivery period shall be to BHEL's account

G4 VALIDITY OF OFFERS:

The offers shall be kept open for acceptance 'for number of days mentioned in special terms and conditions' from the date of opening of the tender. In case of extension of tender opening date, the validity shall be suitably revised.

G5 SCOPE OF SUPPLY

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Tender

GCC: REV:08

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Enquiry. National & International material Standards shall have to be arranged by vendors themselves.

G6 REPLACEMENT OF REJECTION

If the material is rejected due to defective workmanship during inspection or at the time of actual use, within the guarantee period (i.e. as per clause 13), the rejected material shall be replaced by the supplier. Corresponding quantity shall be treated as unsupplied against respective purchase order till replacement is received at BHEL. If the material is found defective and rejected during use for which payment has already been released the rejected quantity shall be supplied free of cost by the vendor within a month of intimation of the rejection by BHEL.

Lifting of rejected material is under Supplier's scope. BHEL will inform related invoice, qty etc to supplier. Supplier is expected to give the plan to lift and advance intimation when visiting to lift the material. Material should be lifted within one month from date of intimation. After one month BHEL will not be responsible for rejected material. BHEL may decide to send the rejected material on to Pay basis to supplier. Any leniency/ unresponsiveness/delay on part of supplier may lead to appropriate action by BHEL. Any request to postpone in written may be considered but replacement should not be linked with lifting of material.

G7 SUPPLIED MATERIAL ADJUSTMENT

Item/s pending in previous PO has to be billed in previous PO only. Otherwise BHEL will be free to adjust the supplies in previous PO. Any implication of tax will be on supplier's account. For this it is desirable to reconcile the pending PO statement every month/frequently. BHEL will give pending PO statement every month. This can also be viewed at Portal (<http://vis.bheltry.co.in/mm/index.jsp>).

G8 DELIVERY SCHEDULE

Supplies shall be affected and completed as per schedule mentioned in special terms and conditions. **Further, BHEL may release delivery schedule from time to time based upon our requirement with mutual understanding.** Vendor shall be required to complete the order as per the BHEL schedule requested.

G9 ACCESS TO MANUFACTURING PREMISES:

While Purchase Orders placed on the vendor are under execution, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of purchase orders. This access will also be extended to representatives of BHEL's customers accompanying the authorized representative/s of BHEL (which shall be intimated in advance), if our contractual requirements with our customers call for the same.

G10 TERMS OF PAYMENT:

- a. Due payment against supplies received shall be due after 30 days of receipt and acceptance of material and shall be paid within next 15 days' period. In case of any deviation from standard payment term mentioned, BHEL at its discretion may load on the item price at "Base rate of SBI (as applicable on the date of bid opening; Techno-commercial bid opening) + 6% shall be considered for loading for the period of relaxation sought by bidders.
- b. Documents to be submitted (if applicable)
 - i. Tax invoice (Invoice shall be GST compliant and should contain all the required information such as GST No, HSN code etc.)
 - ii. Transporter copy along with material/consignment.
 - iii. Material Test Certificates (MTC) and
 - iv. Compliance Certificate.
- c. GST registration number is to be submitted by qualified vendor as per GST law.
- d. It is mandatory to mention proper material codes in the invoices and separate invoices to be raised for different POs.

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e. BHEL releases payment through EFT mode ONLY. Necessary details may please be submitted by filling required format before release of payment.

f. Conditions relating to release of GST portion:

Payment of GST portion will be released to vendor only upon completion of statutory requirement and further subject to following:

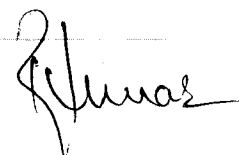
The reimbursement of GST portion of invoice shall be released only upon: -

1. vendor declaring such invoice in his GSTR-1 and
 2. receipt of goods and Tax invoice by BHEL and
 3. Confirmation of payment of GST thereon by vendor on GSTN portal.
 4. Above is subject to receipt of goods/service and tax invoice thereof along with vendor declaring invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL.
- In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from vendor along with interest levied / leviable on BHEL.
 - In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from vendor/contractor along with interest levied / leviable on BHEL.

G11 AVAILING INPUT TAX CREDIT (ITC) BY BHEL:

1. Since ITC can be availed only when BHEL is in possession of GST Tax invoice and after receipt of goods. Thus, vendor to ensure timely dispatch of goods and Tax invoice. It may be noted that in case of any delay in receipt of Tax Invoice and/or receipt of goods, the ITC availment by BHEL will get delayed thus entailing additional cash outflow & may even get denied if ITC availment timelines are breached.
2. Further ITC can be availed only when vendor has declared such invoice in his outward supply Return GSTR-1 and after GST thereon has been paid by him at the time of filing of monthly Return.
3. If GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from vendor along with interest levied/leviable on BHEL.
4. Further, in case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from vendor/contractor along with interest levied/leviable on BHEL.

G12 LIABILITY UNDER REVERSE CHARGE (RCM)



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Any GST liability arising on BHEL under Reverse Charge (RCM) before actual receipt of goods and/ or Invoice thereof would be subject to recovery of Interest leviable for the period between the date of such liability and actual date of eligibility of ITC based on receipt of goods, receipt of Invoices and other conditions specified in GST Law as applicable.

G13 INSPECTION

- a. All required tests as called in referred material standard/BHEL/TDC/drawing etc shall be carried out by vendor at no extra cost. **BHEL may decide to inspect itself/arrange third party at vendors' works itself as and when necessary with prior intimation to the vendor.** No additional charges shall be claimed for such inspections.
- b. Third party inspection charges will be borne by BHEL. Moreover, all required infrastructure (testing, tools etc) have to be arranged by supplier.
- c. **Vendor will give inspection call sufficiently in advance considering the delivery period stipulated in the purchase order.**
- d. Material Test Certificates (MTC), Inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies.
- e. Latest applicable revisions of standards/procedures to be referred. International/National standards are to be arranged by vendor.
- f. Any inspection carried out before supply by vendor/incoming stage at BHEL notwithstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by vendor at no extra cost.
- g. Necessary tooling including thread gauges etc. have to be arranged by vendor. Only in exceptional cases, based on BHEL discretions item/nature, BHEL may consider request to provide gauges if available with BHEL. But in no case this shall be linked with delivery of material.
- h. BHEL representative from unit or CQ is authorized to carry out audits along with TPIA at vendor's works before clearing the items for dispatch.

G14 PREFERENCES FOR MSE's

Preferences as mentioned in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" & "Public Procurement Policy for Micro and Small Enterprises (MSEs) Amendment Order, 2018", shall be given to Micro and Small enterprises.

Main points which are mentioned in the above orders are as follows:

- 25% Procurement of the tender value shall be made from MSE (Micro, Small Enterprises) firms.
- 25% of the 25% quantity (i.e. 6.25% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. Failure to participate by any MSE owned by SC/ST's; this 6.25% quantity shall be procured from other MSEs.
- 3% from within the 25% quantity offered to the MSE's shall be reserved for women owned MSE's. Failure to participate by any MSE owned by women; this 3% quantity shall be procured from other MSEs.
- EMD shall be exempted for MSE's. All these benefits are subject to production of all statutory documents
- In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 25 per cent of total tendered

value. In case of more than one such Micro and Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

“MSE suppliers can avail the intended benefits only if they submit along with the offer UAM (Udyog Aadhaar Memorandum), attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure -1 where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.

G15 GUARANTEE/WARRANTEE

Vendor shall give a guarantee of 18 months from the date of dispatch or 12 months from date of receipt, against manufacturing defects, whichever is earlier. In case of non-acceptance of this term bid will be rejected.

G16 PENALTY FOR LATE DELIVERY

‘Time is the essence of the contract’. As such, delivery of goods specified in the Purchase Orders released under the scope of this contract shall be made within the time limit prescribed therein. Penalty for late delivery will be applicable @ 0.5% per week or part thereof subject to a maximum of 10.0 %.

If any vendor does not accept LD ½% of the supply for each week of delay subject to a maximum of 5%, their offer is likely to be rejected by BHEL and the price bid shall not be opened. Bidders accepting for 10% LD shall not be loaded on account of LD. However, bidders who offer any other % LD [between 5% to 10%] shall be loaded @ % deviation from 10% and their accepted %. e.g. If a bidder accepts for a max of 7% LD only, their offer would be loaded @ 3% (10 – 7 = 3).

BHEL reserves the right to receive or not receive the material after the due date of PO. Applicable GST shall also be recovered from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number.

G17 RISK PURCHASE

BHEL shall be entitled to terminate the contract/pending POs at any stage and to purchase elsewhere at the risk and cost of the vendor, either the whole of the goods or any part thereof which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase.

G18 SUB-CONTRACT

The purchase order or any part thereof shall not be sub-contracted, assigned or otherwise transferred without previously obtaining the BHEL's consent in writing.



General Contract Conditions (GCC) of MM Tenders

[Address: BHEL Industrial Valve Plant: 433, Industrial Complex, Goindwal Sahib, Distt Tarn Taran, Punjab-143422]

G19 FORCE MAJEURE

If at any time during the continuance of the contract, the performance in which or in any part by either party of any obligations under the contract are prevented or delayed by reason of any war, hostilities, acts of public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine restrictions, or acts of God (hereinafter referred to "an events" then provided the notice of happening of any such event is given by either party to the other within 21 days of the occurrence thereof, neither party shall by reason of such event be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of any such event, claims of extension of time shall be granted for periods considered reasonable by BHEL subject to prior notification by the vendor to BHEL of the particulars of the event and supply to BHEL, if required, of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed a waiver of time in respect of remaining deliveries.

G20 DISPUTES

In the event of any dispute and/or difference arising between the Vendor and BHEL as to interpretation and/or execution of the contract and/or the respective rights and liabilities of the parties, such disputes and/or differences shall be referred to the sole arbitrator nominated by BHEL. The provisions of the Indian Arbitration Act and the rules there under shall apply to such arbitration. The award passed by the arbitrator shall be final and conclusively binding on all the parties.

G21 JURISDICTION

The court of the place from where the purchase order is issued during the contractual period shall alone have jurisdiction to decide any dispute arising out of or in connection with the purchase order.

G22 CLARIFICATIONS

The correspondence exchanged against the tender from both tenderer and BHEL through email/e-procurement are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business. Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the parties to the business.

G23 LOI (Letter of Intent)

BHEL may issue LOI prior to the PO for any reason whatsoever. The LOI in such cases is to be treated as PO for all practical purposes and all the Terms & Conditions of the tender shall be applicable from the date of issue of LOI.

G24 WORDS AND FIGURES

- If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity}, the unit price shall prevail and the total price

corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.

- b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
- d. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.
- e. Bids 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 shall be liable for rejection.
- f. All overwriting/cutting, etc will be numbered by bid opening officials and announced during bid opening.

G25 GENERAL

- a. BHEL will not be bound by any power of attorney granted by the vendors or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the vendor concerned.
- b. BHEL reserves the right to extend the due date of opening, which shall be informed. Validity of offer shall be deemed to be revised accordingly.
- c. BHEL reserves the right to accept or reject any part or whole of the tender of a bidder by assigning a valid reason thereof. BHEL reserves the right to cancel the tender without assigning any reason thereof and without any obligation before any commitment.
- d. If possible, please submit soft copy of price quotation [copied on a blank CD of standard make] put in the sealed offer.
- e. Acceptance of all terms and conditions, in the form of signed copy of T&C or confirmation separately written, shall be submitted along with quotation. If nothing is mentioned, it shall be concluded that terms and conditions are acceptable.
- f. BHEL may increase/decrease item/s based on BHEL requirement before price bid opening. Suitable price implication may be asked from suppliers.
- g. BHEL may drop item/items from tender at any stage of tender before placing PO. BHEL may also delete PO with consent with supplier within delivery date of PO.
- h. After releasing PO, it is assumed that supplier has accepted PO if we do not receive acknowledgement from supplier within 5 days of date of PO.
- i. Any term is special tender terms and conditions will supersede the GCC.
- j. BHEL reserves the right to negotiate with L1 bidder/s.

G26 BANNED FIRMS

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage in the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com.

G27 DISCLAIMER CLAUSE: (Only for E procurement)

Neither the Organization (Bharat Heavy Electricals Ltd.) nor the service provider (M/s e Procurement Technologies limited) is responsible for any failure of submission of bids due to failure of internet or other connectivity problems or reasons thereof.



General Contract Conditions (GCC) of MM Tenders

[Address: BHEL Industrial Valve Plant: 433, Industrial Complex, Goindwal Sahib, Distt Tarn Taran, Punjab-143422]

G28 FRAUD PREVENTION POLICY

The 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.

G29 REVERSE AUCTION

BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.

If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

G30 SUSPENSION OF BUSINESS DEALINGS WITH DEFAULTERS

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

1.0 Integrity commitment, performance of the contract and punitive action thereof:

1.1. Commitment by BHEL:

BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

1.2. Commitment by Bidder/ Supplier/ Contractor:

1.2.1. The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit 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.

1.2.2. The bidder/ supplier/ contractor 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 and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

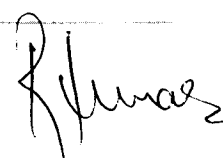
1.2.3. The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

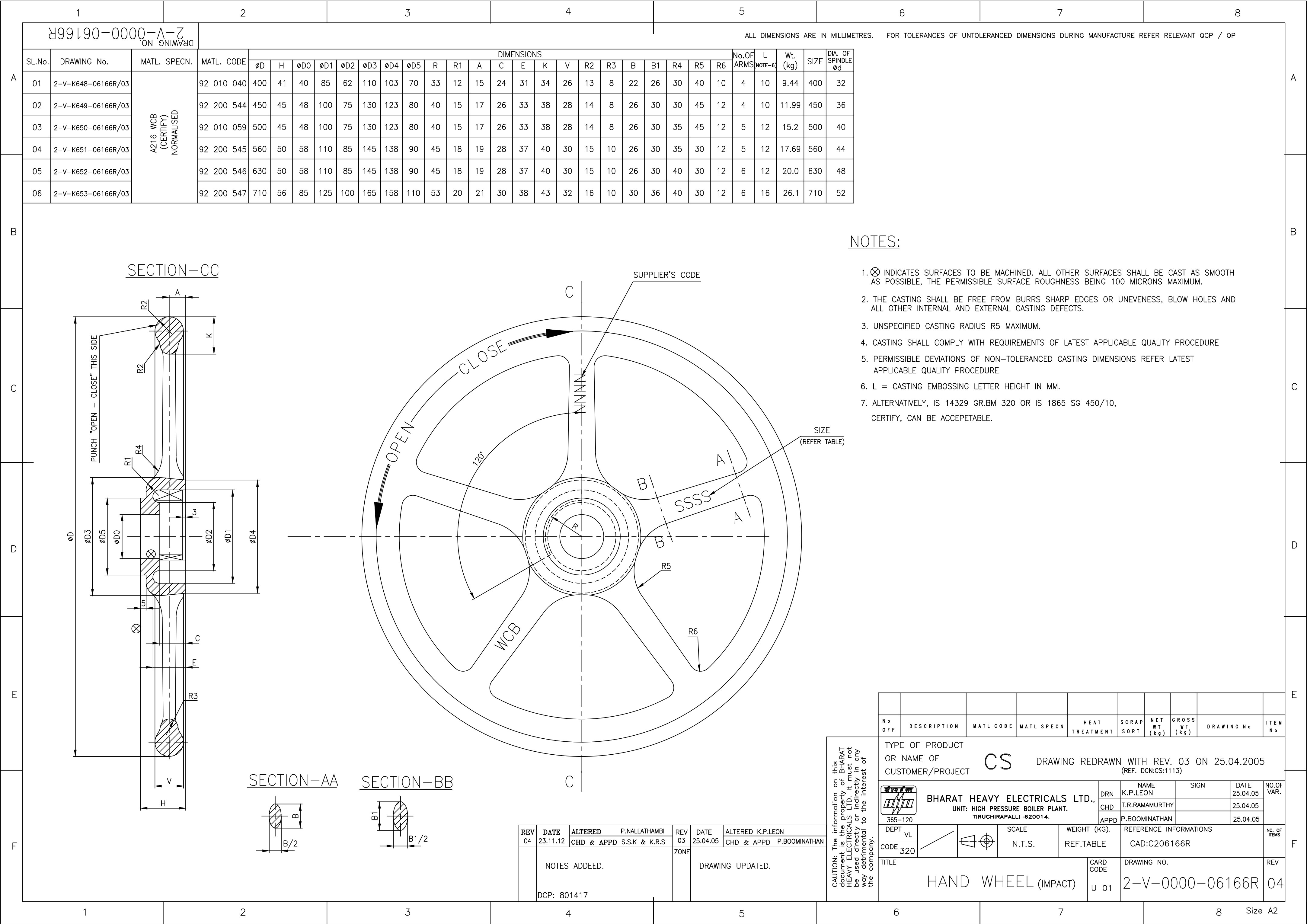
If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits 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

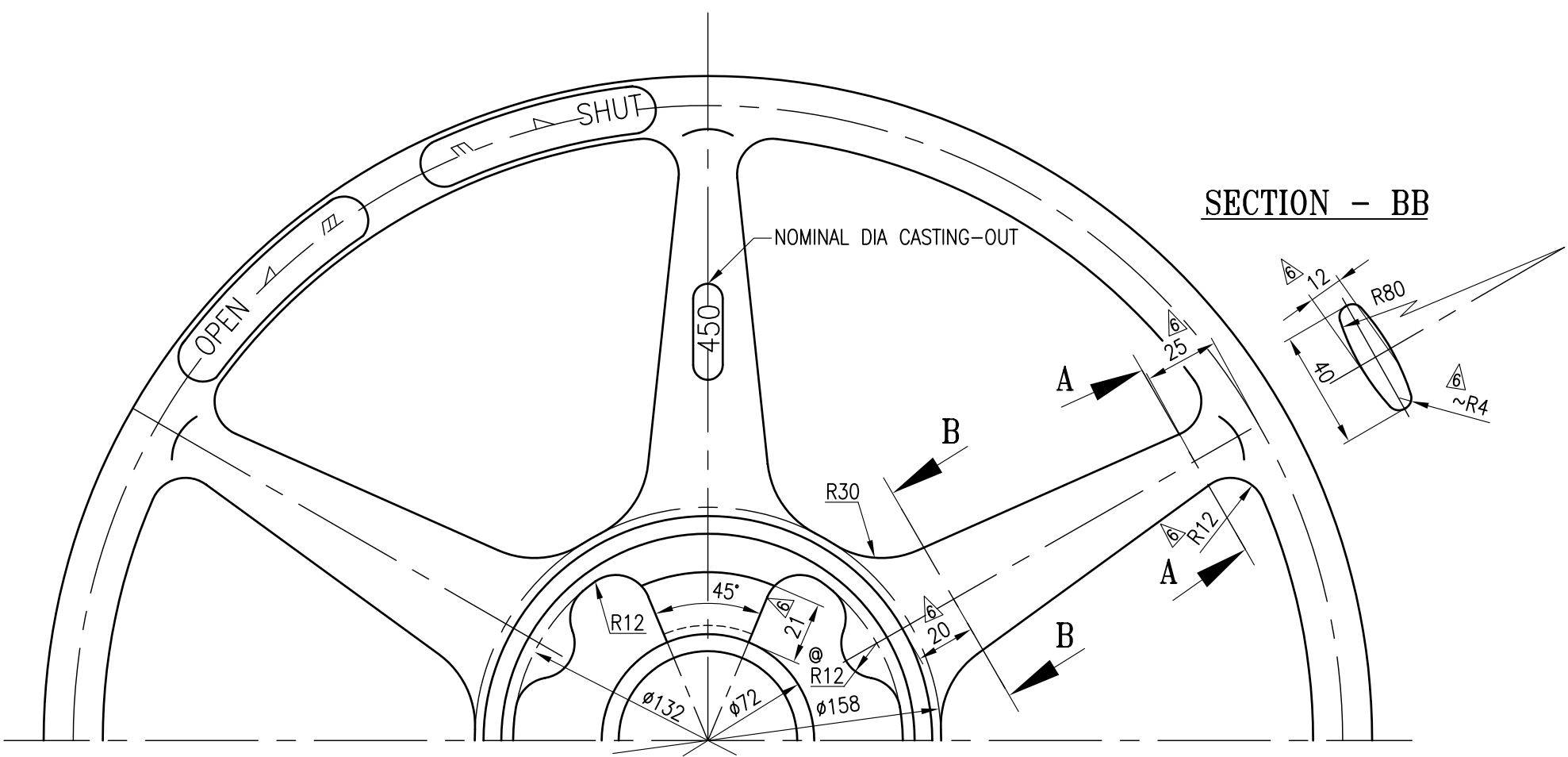
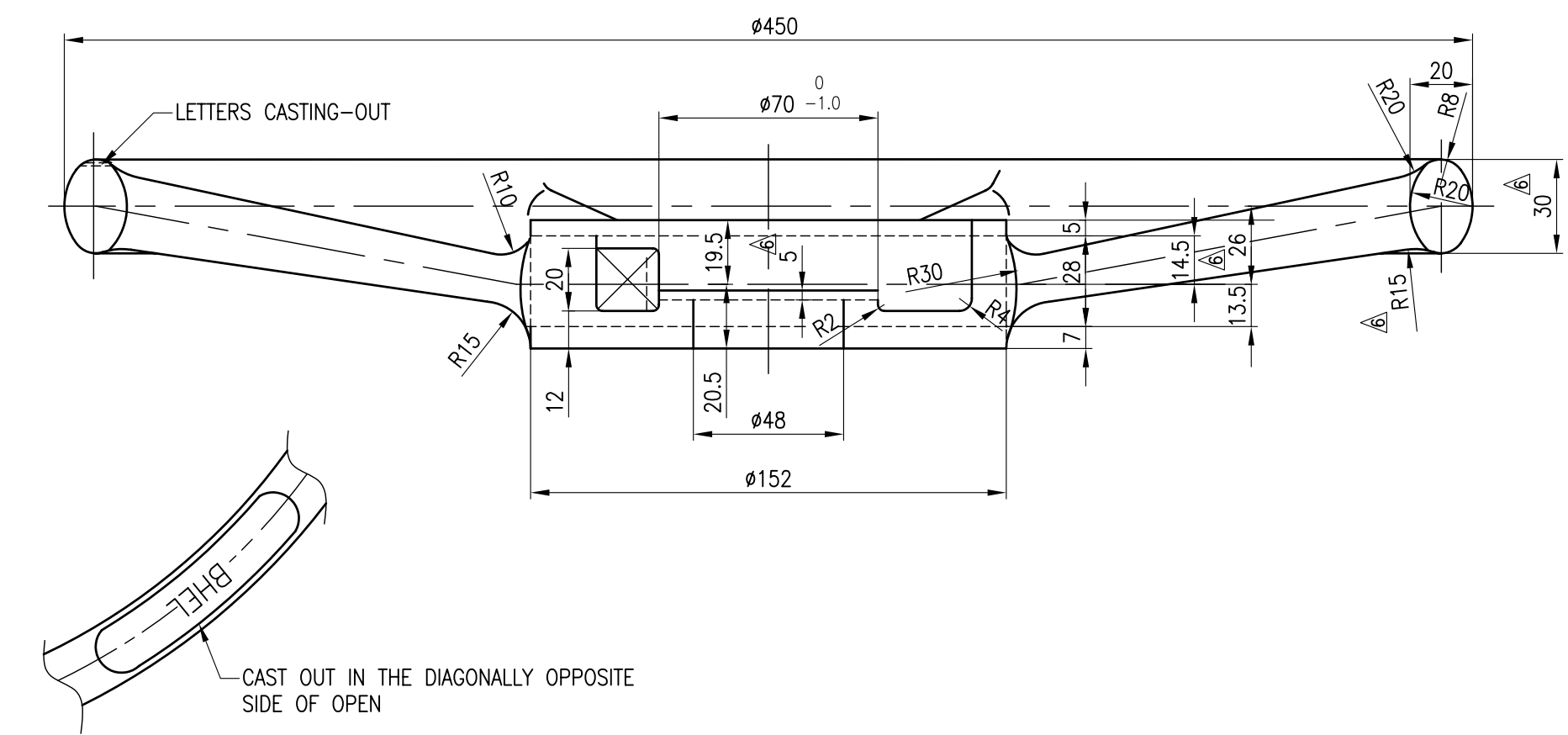
G31 PREFERENCE TO MAKE IN INDIA

For the procurement, Public Procurement (Preference to make in India), order 2017 dated 15.06.2017 & 28.05.2018 and subsequent Orders issued by respective Nodal Ministry shall be applicable even if issued after issue of this NIT before finalisation of contract/PO/WO against this NIT.

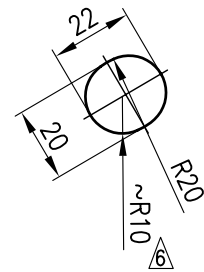
In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and / or local content in respect of this procurement, same shall be applicable.



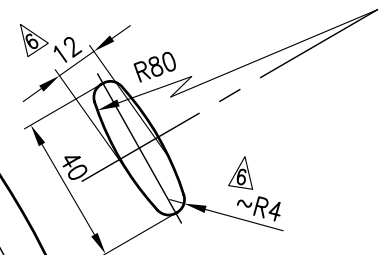




SECTION - AA



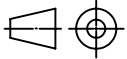
SECTION - BB



NOTES

01. DOTTED LINES SHOWS FINISH MACHINED CONFIGURATION.
02. FOR ALL OTHER DETAILS LIKE DIMENSIONAL TOLERANCE, EMBOSSING ETC., REFER LATEST APPLICABLE TDC

REDRAWN WITH REV.5 ON 12.04.08

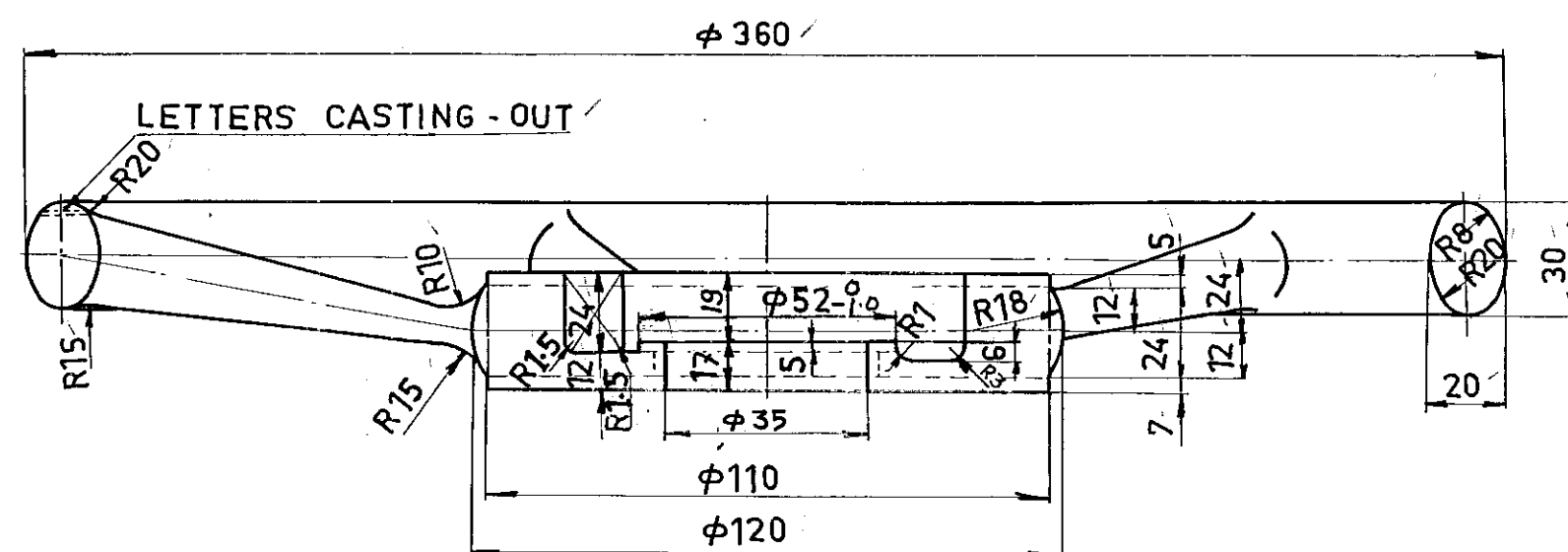
1.		921501350000	A216 WCB, AN, CERTFY							
No OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										
 365-120 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI -620014.					DRN	NAME V.BAIRAVAN	SIGN	DATE 12.04.08	NO.OF VAR.	
					CHD	K.RAJASEKARAN		12.04.08		
					APPD	M.RAJAKUMAR		12.04.08		
DEPT VL		SCALE NTS	WEIGHT (KG). 11.0		REFERENCE INFORMATIONS 3-E 25644 (0330)				NO. OF ITEMS	
CODE 320										
TITLE HAND WHEEL (H-TYPE)					CARD CODE U 01	DRAWING NO. 2-V-G003-15006R				REV 6

REV 6	DATE 08.07.08	ALTERED VB CHD & APPDKRS&MRK	REV 5	DATE 12.04.08	ALTERED VB CHD & APPD KRS&MRK
DIMENSIONS ALTERED. DIMENSIONS 30 & 12 INCLUDED.			DRAWING CONVERTED INTO SOFT COPY		
DCP NO. 800835			DCP No.800813		

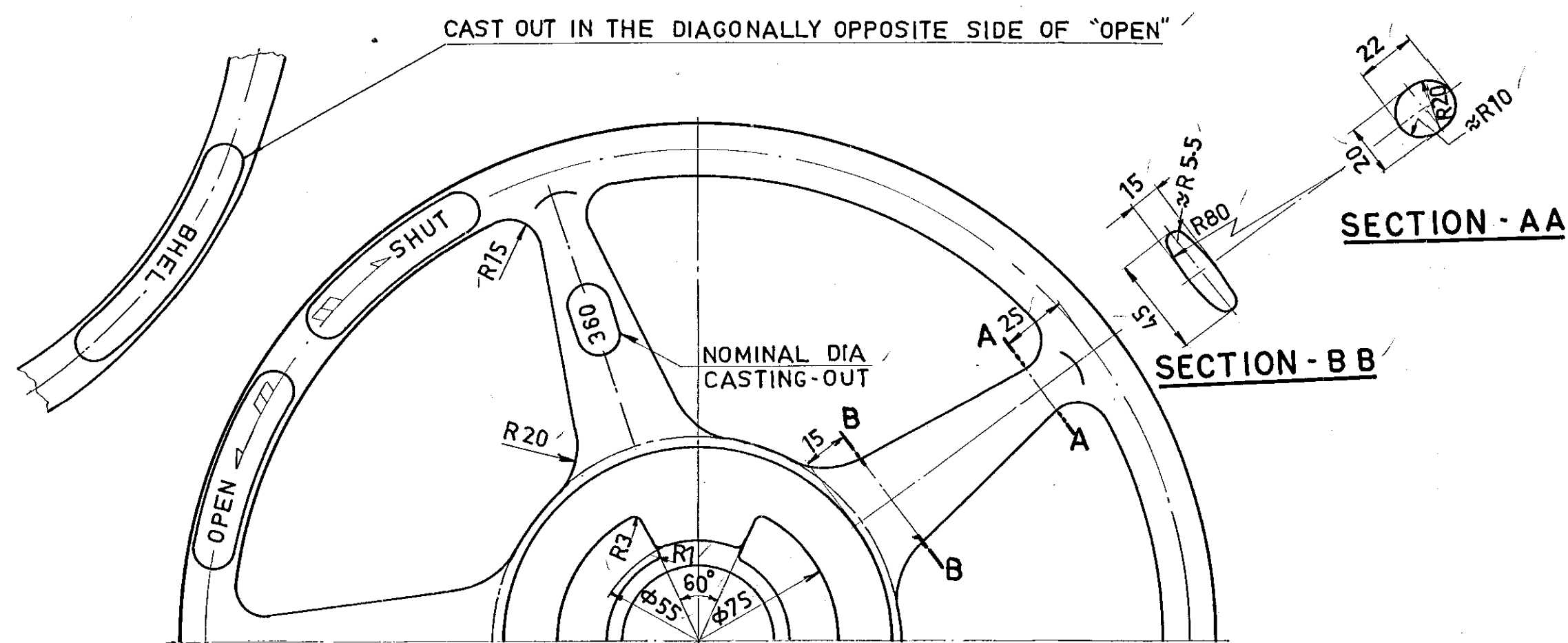
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

2-V-G004-15008R/03

DRAWING NO.

**NOTE**

1. DOTTED LINES SHOWS FINISH MACHINED CONFIGURATION.
2. FOR ALL OTHER DETAILS LIKE DIMENSIONAL TOLERANCE, EMBOSSING, ETC. REFER LATEST APPLICABLE TDC.



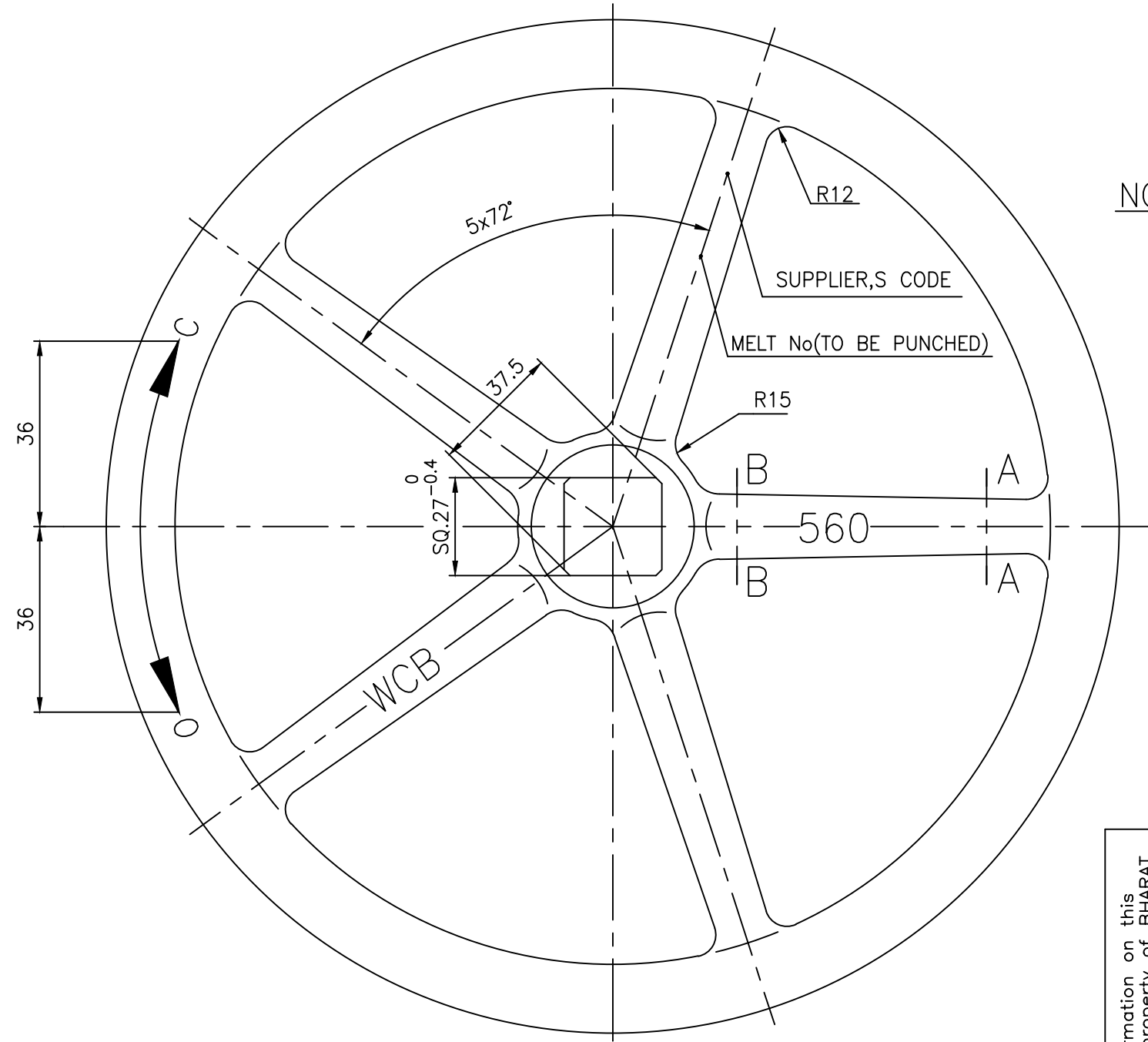
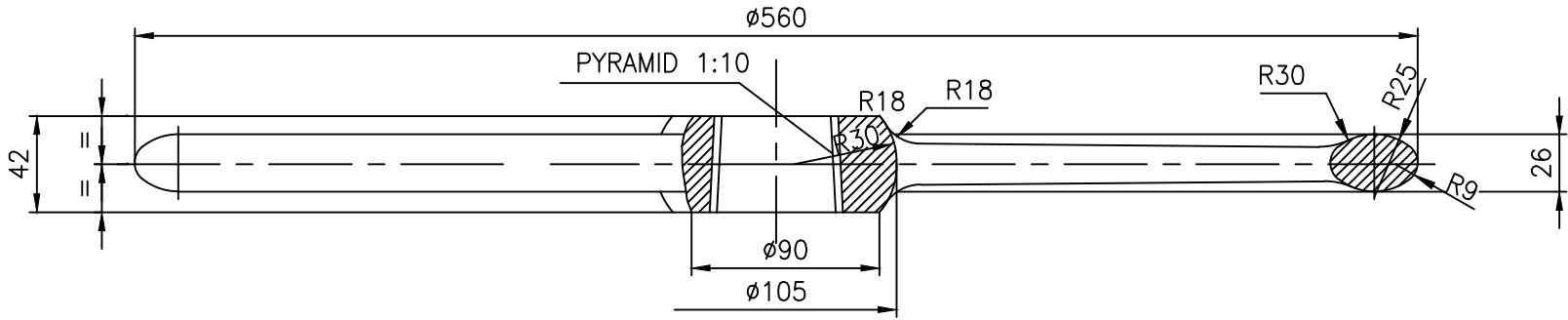
1	2-V-G004-15008R/03	A216 WCB, AN, CERTIFY	92 150 136
SL.NO.	DRAWING NO.	MATERIAL SPECN	MATL CODE
		BHARAT HEAVY ELECTRICALS LTD., BOILER PLANT UNIT, TIRUCHIRAPALLI-620 014	
DEPT	CODE	SCALE	WEIGHT (KG)
VL	320	NTS	8.0
TITLE		REF. TO ASSY. DRG	IT NO.
HAND WHEEL (H-TYPE)		3-E 26108 (0015)	
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$		CARD CODE	U01
		1	4
		2-V-G004-15008R/03	

REV	DATE	ALTERED	REV	DATE	ALTERED
03	24.4.97	Y.A. M. CHD & APPD: S.C. M. M.	02	5.12.94	CHKD: H.R. M. M.
MATERIAL SPECN. A216 WCB WAS IS 1030 DCN NO. TA0809			NOTE NO.2 MODIFIED. DCN NO: TA 0425		

SCANNED

SIZE A2

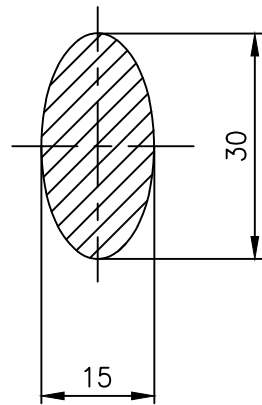
3-V-2480-03010R
DRAWING NO.



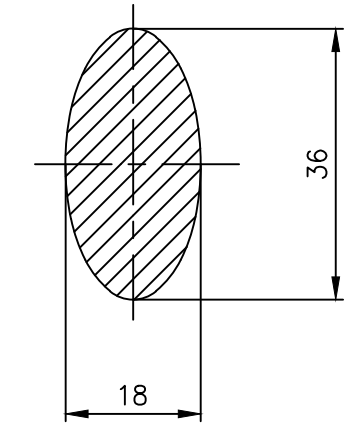
NOTE:-

1. CASTING SHALL COMPLY WITH REQUIREMENT OF APPLICABLE QUALITY PROCEDURE.
2. ALL SURFACES MUST BE OF HIGH QUALITY WITH OUT SURFACE UNEVENNESS.
3. HEIGHT OF CAST LETTERS 12 MM.
4. * TOLERANCE TO BE MAINTAINED IN THE FINISHED HAND WHEEL MAINTAINED BY FILING THE PYRAMIDAL HOLE NEATLY.
5. MATERIAL MARK,HAND WHEEL SIZE 560,OPENING & CLOSING MARK "O" & "C" AND THE ARROW MARKS ARE TO BE CAST.
6. ALTERNATIVELY, IS 14329 GR.BM 320 OR IS 1865 SG 450/10, CERTIFY, CAN BE ACCEPTABLE.

SECTION-AA



SECTION-BB



REV	DATE	ALTERED : R.P.SINGH	REV	DATE	ALTERED
02	11.11.17	CHD & APPD : S.S.K & K.R.S	01	23.06.97	CHD & APPD
ALTERNATE MATERIAL INCLUDED.			MATL SPECN IS 2108 Gr.A CHANGED AS A216 WCB REFER DCN CS:0718		

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

	CASTING	92 010 087	A216 WCB CERTIFY	NR	10		14.0		
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
CS									
Bharat Heavy Electricals Ltd. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.					DRN	NAME T.R.R.MURTHY	SIGN	DATE 20.06.97	NO.OF VAR.
365-121					CHD	N.DHANAPAL		20.06.97	
					APPD	A.V.NATHAN		20.06.97	
DEPT VL			SCALE N T S	WEIGHT (KG). -	REFERENCE INFORMATION				NO. OF ITEMS
CODE 320					CAD.CODE.C303010R				
TITLE HAND WHEEL 560						CARD CODE U 01	DRAWING NO. 3-V-2480-03010R		REV 02



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419026

Rev. No. 02

PAGE 01 OF 03

HANDWHEEL WITH PYRAMID HOLE (DIA 200 mm AND ABOVE)

0.0 SCOPE

0.1 This standard covers the requirements of off-set arm type handwheel with pyramid hole for sizes Ø 200 mm and above.

1.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Figure 1 and Table 1 of this standard
Unspecified tolerances	As per relevant QWI
Material	Malleable Iron casting conforming to IS:14329
Surface finish	The surface should be smooth. Should be free from sharp edges and unevenness.
Marking (by embossing)	As shown in figure 1.
Manuufacture, workmanship, Packing, Preservation and other requirements	As per relevant quality procedures.

2.0 REFERRED STANDARDS (Only current versions are applicable)

IS : 14329 - Malleable iron castings.

3.0 DESIGNATION

3.1 A hand wheel of rim diameter 250 mm shall be designated as :

- i) Material spec column : -----
- ii) Description column : **HAND WHEEL 250**
- iii) Drawing No. column : **BPS 419026**
- iv) Material code column : -----

4.0 ORDERING DESCRIPTION

4.1 For placing indents, issuing enquiries and on purchase order, ordering description given below shall be followed.

HAND WHEEL 250 TO BPS 419026

Revisions 02 Brought upto date			Approved STANDARDS SECTION PRODUCT ENGINEERING/ FOSSILE BOILER HPBP, TIRUCHIRAPPALLI		
Rev. No. 02	Amd. No.	Reaffirmed	Prepared STANDARDS	Issued STANDARDS	Dt of 1st Issue MAY 1977
Dt. 30-06-2000	Dt.	Year			

5.0 ADDITIONAL INFORMATION

5.1 Copies of this standard shall be sent along with purchase order.

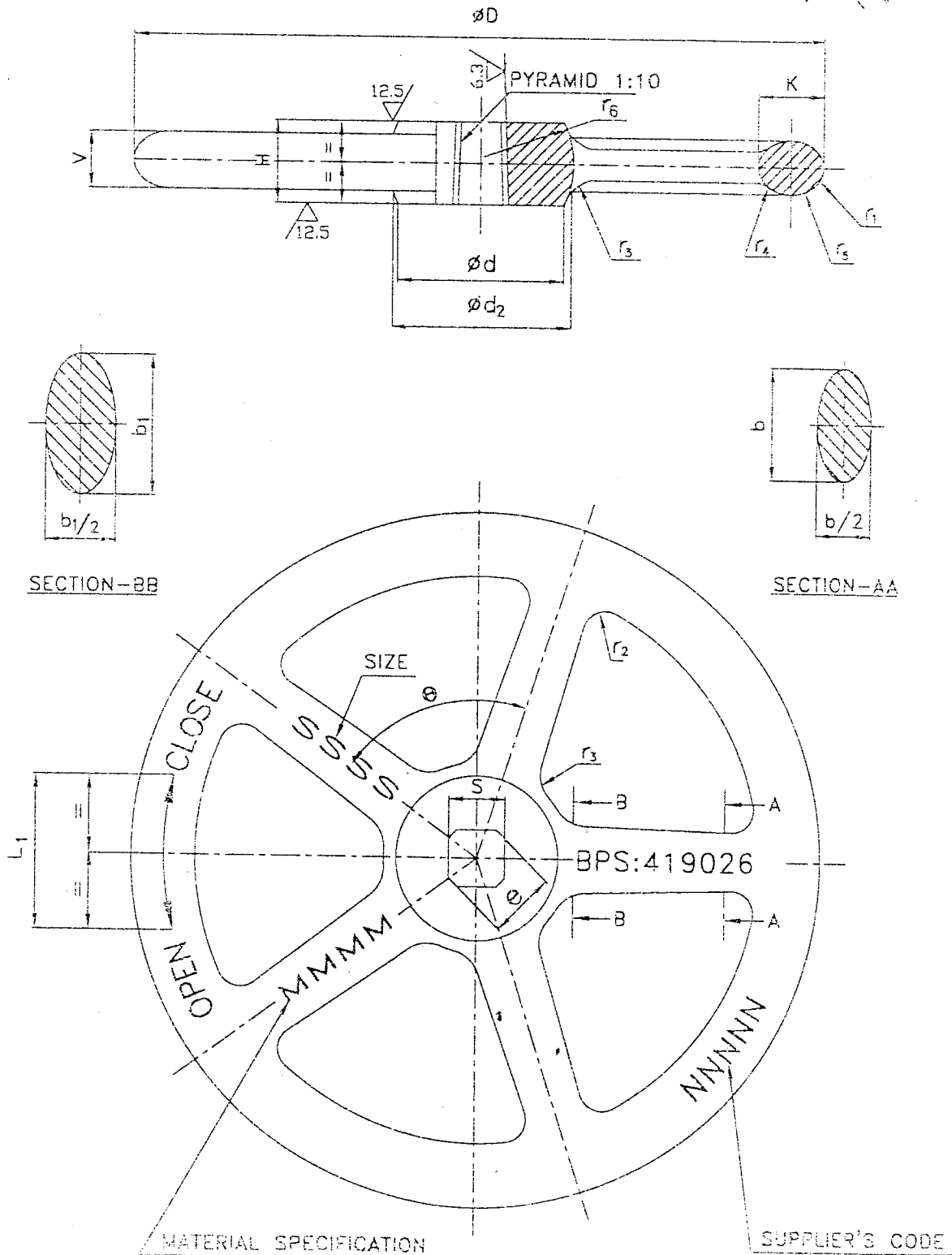
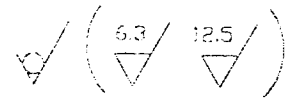
TABLE - 1

(All dimensions are in millimetres)

Rim ϕ of handwheel	ϕD	200	250	315	400	450	500	560	710
Dia of corresponding spindle	ϕd	20	24	28	32	36	40	44	52
Height of handwheel	H	24	28	32	37	42	47	52	62
Hub	S	15	18	21	24	27	30	33	39
		+ 0.0 - 0.3		+ 0.0 - 0.4					
	e	20.8	25	29	33.5	37.5	41.5	46	53
	ϕd_1	40	60	68	70	70	70	90	110
	ϕd_2	45	66	75	80	80	80	105	125
	r_3	10	12	12	15	15	15	15	15
Rim	r_6	28	28	30	30	30	30	30	40
	V	18	20	22	23	24	24	26	40
	k	24	26	30	34	36	36	38	60
	r_1	6	7	7	8	9	9	9	15
	r_4	16	16	18	20	22	24	24	26
	r_5	16	18	20	24	27	30	30	36
Arm	l_1	56	60	60	68	72	72	72	80
	b	18	20	22	26	30	30	30	38
	b_1	24	26	28	34	36	36	36	46
	r_2	6	8	10	11	12	12	12	15
No. of arms	N	3	3	3	4	4	4	5	7
Letter size (height) for embossing	l	8	8	10	10	12	12	12	15
Weight in Kg/piece		2.0	2.3	4.0	5.4	7.0	12.8	14.0	38.0

Figure-1

(ALL DIMENSIONS ARE IN MILLIMETRES)
(First Angle Projection)



Note : Size, Material spec and supplier's code are to be given in the purchase order for embossing.



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419027

Rev. No. 02

PAGE 01 OF 03

HANDWHEEL WITH CIRCULAR HOLE AND KEYWAY (Dia 250 mm AND ABOVE)

0.0 SCOPE

0.1 This standard covers the requirements of handwheels with circular hole for dia 250 mm and above.

1.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Fig 1 and Table 1 of this standard
Unspecified tolerance	As per relevant QWI
Material	Malleable Iron castings conforming to IS:14329 or S.G.Iron conforming to GR. 450/10 of IS:1865
Surface finish	The surface should be smooth. Should be free from sharp edges and unevenness.
Marking (by embossing)	As shown in figure 1.
Manuufacture, workmanship, Packing, Preservation and other requirements	As per relevant quality procedures.

2.0 REFERRED STANDARDS (Only current versions are applicable)

IS : 14329 - Malleable iron castings.

IS : 1865 - Iron castings with spheroidal or nodular graphite - specification.

3.0 DESIGNATION

3.1 A hand wheel of rim diameter 250 mm shall be designated as :

- i) Material spec column : -----
- ii) Description column : **HAND WHEEL 250**
- iii) Drawing No. column : **BPS 419027**
- iv) Material code column : -----

4.0 ORDERING DESCRIPTION

4.1 For placing indents, issuing enquiries and on purchase order, ordering description given below shall be followed.

HAND WHEEL 250 TO BPS 419027

Revisions 02 Brought upto date			Approved STANDARDS SECTION PRODUCT ENGINEERING/ FOSSILE BOILER HPBP. TIRUCHIRAPPALLI		
Rev. No. 02	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issue
Dt. 30-06-2000	Dt.	Year	STANDARDS	STANDARDS	1978



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419027

Rev. No. 02

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5.0 ADDITIONAL INFORMATION

5.1 Copies of this standard shall be sent along with purchase order.

Table - 1

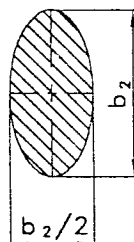
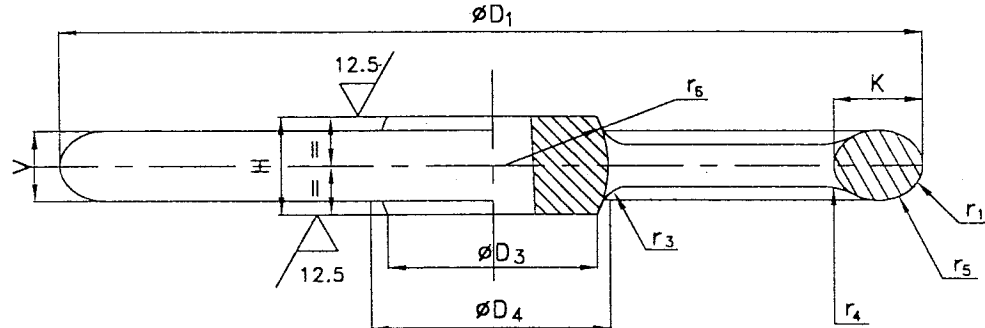
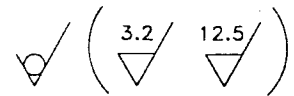
(All dimensions are in millimetres)

Rim of hand wheel	ϕD_1	250	315	400	450	500	560	710
Dia of corresponding stem		20 & 24	26 & 28	32	36 & 40	40	44	52
Hub	H	28	32	37	42	47	52	62
		40	45	52	60	65	70	80
	ϕD_2	+0.16 0.0		+ 0.190 0.0				
	ϕD_3	60	68	75	90	100	110	130
	ϕD_4	66	75	88	105	115	125	150
	r_6	28	30					40
Key Way	L_1	12	14	16	18	20	20	22
		- 0.018 - 0.061				- 0.022 - 0.074		
	L_2	43.3	48.8	56.3	64.4	69.9	74.9	85.9
		+ 0.1		+ 0.2				
Rim	V	20	22	23	24	24	26	40
	K	26	30	34	36	36	38	60
	r_1	7	7	8	9	9	9	15
	r_5	18	20	24	27	30	30	36
	L_3	60	60	68	72	72	72	80
Arm	b_1	20	22	26	30	30	30	38
	b_2	26	28	34	36	36	36	46
	r_2	8	10	11	12	12	12	15
	r_3	12		15				
	r_4	16	18	20	22	24	24	26
	θ	120°	120°	72°	72°	72°	72°	≈51.43°
Number of arms		3	3'	5	5	5	5	7
Letter size (height)	L_4	8	10	10	12	12	12	15
Weight in Kg/piece (approx)		3.8	5.7	9.18	11.57	16.3	18.00	65.00

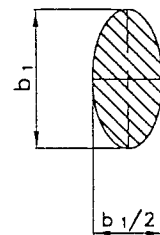
Figure-1

(ALL DIMENSIONS ARE IN MILLIMETRES)

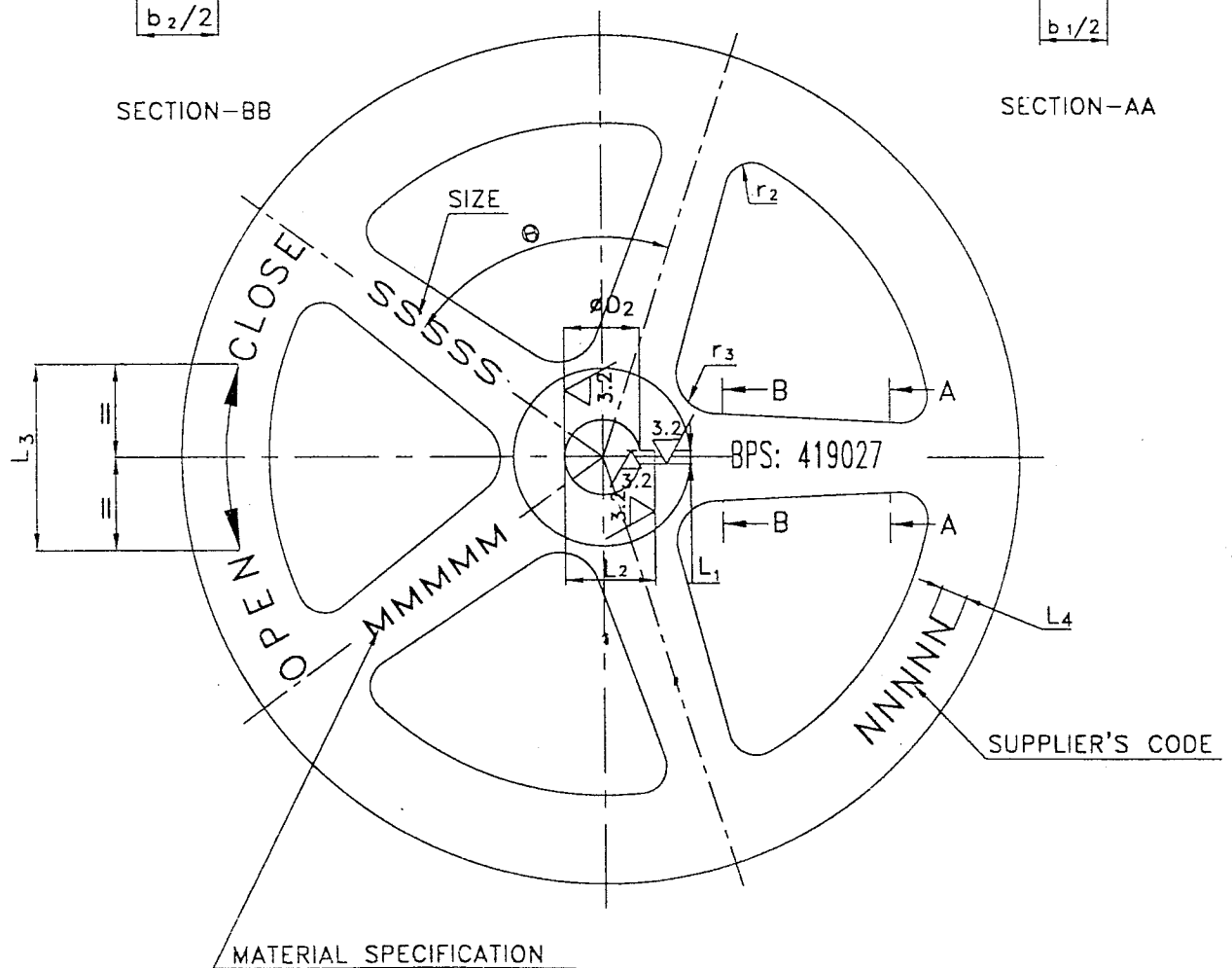
(First Angle Projection)



SECTION-BB



SECTION-AA



Note : Size, Material spec. and supplier's code are to be given in the purchase order for embossing.