



TRICHY, BHEL, TRICHY, POSTAL CODE :620014, TIRUCHIRAPALLI, TAMIL NADU, INDIA

RFQ/NIT HEADER DETAIL

ORGANIZATION NAME	TRICHY, BHEL	RFQ FLOATED UNDER THE	PURCHASE POLICY
RFQ/NIT REFERENCE	2681700008	POLICY	
CODE/ENQUIRY NO		RFQ OWNER/NIT	MR Tapas Majee(AE1/PUR)
RFQ/NIT TYPE	OPEN TENDER	OFFICER/ENQUIRY OWNER	
NUMBER OF ITEMS ALREADY	1		
ATTACHED			
CURRENCY	INR - INDIAN RUPEE		
DESCRIPTION	Supply & Installation of Refractory Bricks for Producer Gas Generator		
DETAILED DESCRIPTION	-		
NUMBER OF BID PART(S)	2	PUBLISHED DATE	3 Jun , 2017 3:17:26 PM

ATTRIBUTE(S)

ATTRIBUTE NAME	ATTRIBUTE VALUE
Delivery at	as per Tender documents
Inspection By	by BHEL Engineers
Validity of the Offer	as per Tender documents
Inspection	at BHEL, Trichy

DATE-TIME DETAIL(S)

BID START DATE	3 Jun , 2017 3:30:00 PM	BID DUE DATE	26 Jun , 2017 2:00:00 PM
BID OPEN DATE	26 Jun , 2017 2:30:00 PM		
(SCHEDULED)			

PRE-BID DISCUSSION DETAILS

PRE-BID DISCUSSION TYPE NOT REQUIRED

ALTERNATE BID DECRYPTOR(S)

USER DETAILS
MR Admin SANJEEVI B(SDGM/PUR)
MR MAYANK SHRIVASTAVA(ENGR/PUR)
MR KUMARASAMY A(DGM/PUR)
MR Tapas Majee(AE1/PUR)

SELLER DETAIL(S)

CODE	ORGANIZATION NAME
023505	TEST (Mr test ot test)

TERM AND CONDITION DETAIL(S) - SPECIAL TERM(S)

SL. NO.	CATEGORY	DESCRIPTION
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1	SPECIAL TERM(S)	SPECIAL TERM(S) 1. Please submit your detailed offer in two part bid system online i.e. Part-I. Technical Bid + Checklist (Annexure-A) + Unpriced bid indicating taxes & duties (Annexure-B). Part-II. "PRICE BID". Model price bid format (i.e. Annexure-B) is provided in the 2nd attachment. This has to be duly filled-in, signed and attached as PDF copy while submitting the online bid. 2. Online tender details are furnished in Annexures. All the relevant documents in the attachments have to be appropriately filled-in, duly signed & rubber stamped and submitted online. The online offer should be submitted on or before the due date at 14:00 hrs. 3. Point-to-point confirmation to BHEL's specification and commercial terms & conditions shall be provided. The supplier must fill and submit all the Annexures as indicated in the list of attachments. Annexure-A & Annexure-B (with taxes and duties, without indicating prices) should be filled and submitted along with the technical bid, else your offer is liable for rejection. 4. Offers with validity of less than 120 days and non-acceptance of LD & RP clause and Reverse Auction will lead to rejection of submitted offer. 5. If the due date of tender opening happens to be a holiday, the tenders will be opened on the next working day. 6. All clarifications may be sought at least ten days prior to tender due date, from us through our Fax no. +914312520719 or e-mail. 7. BHEL reserves the right to go for a Reverse Auction (RA) instead of opening the submitted sealed price bid, which will be decided after technical and commercial evaluation. Information and general terms and conditions covering RA are given in commercial terms and conditions (Annexure-A/Point No.19). 8. Order shall be placed on single vendor on cumulative L-1 basis for total package. 9. Though BHEL considers MSE vendor as per Govt. guidelines but as this tender will be evaluated on single package basis to successful L-1 vendor, tender will not be split to MSE vendor even though their price within 15% of L-1 price. 10. Corrigendum if any, with respect to this tender will be hosted only in the website http://www.bhel.com or http://tenders.gov.in. You are requested to visit the website regularly for updates. 11. List of Attachments: a. Pre-Qualifying Criteria: Part-A b. Specification & Scope of Work: Part-B c. Commercial Terms & Conditions: Annexure-A d. Price Bid Format: Annexure-B
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TRICHY, BHEL, TRICHY, POSTAL CODE :620014, TIRUCHIRAPALLI, TAMIL NADU, INDIA

		e. CA certificate for MSE vendors: Annexure-C. f. DSC Guidelines g. e-Procurement communication. The bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ serviceproviders 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.
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RFQ/NIT ITEM DETAILS

SL. NO.	CODE	DESCRIPTION	QUANTITY	RFQ/NIT U.O.M	OFFER U.O.M
10	52RC_SET	Supply and Installation Refractory Bricks for Producer Gas Generator as per the Qualifying Criteria in PART-A AND Specification and Scope of work as per PART-B of the Annexure.	01.00	SET	SET
	ATTRIBUTE DETAILS	ATTRIBUTE NAME		ATTRIBUTE VALUE	
		MATERIAL CODE:		52RC SET	
		MATERIAL GROUP:		52RC	
		KILOGRAM PER UNIT:		0.0	
		Cenvatable (Yes / No)		Yes	
		Delivery Location		TAMIL NADU	
		Vatable (Yes / No)		Yes	
		Delivery Date (i) :		31-MAR-2018	
		Delivery Qty (i) :		1	





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IMPORTANT NOTICE

PLEASE READ THE FOLLOWING ATTACHMENT(S) [SEPARATELY DOWNLOADABLE] ALONG WITH THIS RFQ/NIT/ENQUIRY .

RFQ/NIT/ENQUIRY - ATTACHMENTS

LABEL	FILE NAME
Part-A B n Drawings	Part-A B n Drawings.PDF
Annexure-A Commercial Terms	Annexure-A Commercial Terms.docx
Annexure-B Model Price Bid	Annexure-B Model Price Bid.docx



BHARAT HEAVY ELECTRICALS LIMITED TIRUCHIRAPALLI
CAPITAL PURCHASE

Annexure-A

ACCEPTANCE OF COMMERCIAL TERMS AND CONDITIONS BY THE INDIGENOUS VENDORS.

(This should be essentially filled in and sent along with the techno-commercial offer without fail. If this check list is not filled and submitted along with techno-commercial offer (Part I) or if the vendor does not confirm acceptance to the terms and conditions proposed, BHEL reserves the right to reject such offer)

CHECK-LIST FOR INDIAN VENDORS

Sl. No.	DESCRIPTION
1.	❖ The Bidders shall submit their offer through E-Procurement website only www.bheleps.buyjunction.in. ❖ Part I - Technical and Commercial Bid: This should contain all the copies of technical bid together with un-priced commercial bid. ❖ Part II - Price Bid: This part should contain the schedule of price particulars and must be co-related to the technical details provided in Part I. Offers will be accepted & received till 14.00 Hr. on the due date. Therefore Vendors shall ensure to submit the offers before this time. Late offers will not be considered. Bidders are requested to refer to attached “DSC Guidelines” & “e Proc Vendor Communication” for submission of tender through EPS. Offers should be in ENGLISH and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in ENGLISH or otherwise, the offers will not be considered. In case of necessity BHEL reserves the right to go for a reverse auction (RA) instead of opening the submitted sealed bid, which will be decided after technical evaluation. Information and general terms and conditions covering RA are given in this Annexure- A (Point No.19).
2.	<u>OPENING OF TENDERS:</u> The Part I - Technical & commercial bid alone would be opened on the Tender opening date through EPS. The Part II - Price bid of technically suitable Bidders alone would be opened through EPS. The Technically Suitable Bidders would be informed about the Price Bid opening date through e-mail / EPS. Clarifications if any required by BHEL for Technical evaluation would be sought from bidders before opening of Part II - Price bid.
3.	<u>Taxes and Duties</u> All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties. Our TIN No. 33243560005, TNGST No. 3560005, CST. No. 239383 Dt. 11-06-1991 & BHEL ECC No. AAACB4146PXM012, Service Tax Registration No (STC)- AAACB4146PST006. Assessment circle Tiruverambur.
4.	<u>Special Provisions for Micro and Small Enterprises (MSE)</u> 20% of the tendered quantity is earmarked for MSE suppliers in this tender. - Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be earmarked for procurement from MSE owned by SC/ST entrepreneurs. - In case MSE vendor participating in the tender quotes within the price band of L1+15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately. - MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II (Entrepreneur Memorandum Part 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 as per Annexure - C) applicable for the relevant financial year (latest audited), certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Offer/s received without these documents will lead to consideration of their offer at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier.

No row shall be left blank. Please indicate NA, in case the item is "Not Applicable"		Vendor's confirmation
5.	Validity: Validity of the offer should be 120 days from the date of tender opening.	
6.	Release of Purchase Order: ➤ Purchase Orders will be released on successful L-1 vendor on single package basis. ➤ Separate orders for supply & service will be released on the successful L-1 vendor. (Service order released only in the case of, Installation / erection / commissioning portion are applicable on tender scope & quoted separate charge for same by vendor).	
7.	Payment Terms for supply Portion: a) 80% of payment will be released after receipt & acceptance of supplied material. b) Balance 20% of payment will be released within 45-90 days after receipt, acceptance & commissioning of supply materials against submission of 10% PBG for a Warrantee period of 18 Months. Installation & Commissioning Portion (if applicable only): 100% of the installation / commissioning charges (in case contract involves erection / installation / commissioning) shall be paid only on completion of such erection / commissioning at BHEL, Tiruchirapalli. Any deviation in the above payment term will attract loading as mentioned below. "Base rate of SBI (as applicable on the date of bid opening. Techno commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.	
8.	Performance Bank Guarantee (PBG): The bidder in the event of an order, should furnish a Bank Guarantee from an Indian Bank approved by BHEL, at no extra cost in a format prescribed by BHEL, along with the order, for an amount equivalent to 10% (Ten percent) of the value of the contract. The PBG shall be valid for a period of 18 months from the date of despatch or 12 months from the date of receipt / acceptance / commissioning of equipment at BHEL, Tiruchirapalli whichever is more, with a claim period of two months. The Performance Bank Guarantee shall be obtained from any one of the following banks which is a member bank in our consortium of Banks: List of Consortium Banks DEUTSCHE BANK, HDFC BANK, ANZ GRINDLAYS BANK, CITI BANK, STANDARD CHARTERED BANK, BANK OF AMERICA, ABN AMRO BANK, IDBI LTD, ICICI BANK LTD, THE HONGKONG & SHANGHAI BANKING CORPORATION LTD. List of Nationalised Banks ALLAHABAD BANK, ANDHRA BANK, BANK OF INDIA, BANK OF BARODA, BANK OF MAHARASTHRA, BHARAT OVERSEAS BANK, CANARA BANK, CENTRAL BANK OF INDIA, CORORATION BANK, DENA BANK, INDIAN BANK, INDIAN OVERSEAS BANK, ORIENTAL BANK OF COMMERCE, PUNJAB NATIONAL BANK, PUNJAB & SINDH BANK, STATE BANK OF INDIA, STATE BANK OF TRAVANCORE, STATE BANK OF MYSORE, STATE BANK OF BIKANER & JAIPUR, STATE BANK OF HYDERABAD, STATE BANK OF PATIALA, STATE BANK OF MAHARASTHRA, STATE BANK OF SOURASTHRA (SBI-13.09.08), SYNDICATE BANK, UCO BANK, UNION BANK OF INDIA, UNITED BANK INDIA, VIJAYA BANK. If PBG is issued by foreign counter part of the BHEL consortium Indian Bank, in case of claim against the PBG, it will be lodge in any one of the Indian counters of the Foreign Bank which issued the PBG.	
9.	Liquidated Damages (LD): The delivery of the goods specified in the purchase order should be made within the time prescribed. LD for delay in 'Supply' and/or 'E&C' will be applicable to the delays attributed to vendor. LD will be considered separately for 'Delivery' and 'E&C'. Where the seller supplies or dispatches the goods, beyond the delivery period Liquidated damages shall be applicable 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value. Detail of LD mode are shown below Single Delivery Date (Material Dispatched after Due date) Once the delivery due date is crossed, bills have to be clubbed till final despatch and forwarded for processing of payment as a single bunch. LD percentage will be calculated from Delivery due date to final despatch date. (100% Order should be completed for processing the bill) Staggered Delivery LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value. PO Pending value (each Bill Value) up to Max 10 % of Total PO value) <i>Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value). For the purpose of Imposing LD, the FOB delivery (B/L date) shall be considered. Bidder should indicate the LD mode (single delivery or staggered delivery) on the confirmation column, otherwise single delivery date will be considered for further evaluation</i>	
10.	Risk Purchase: Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available from the best and the nearest available substitute. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
11.	Delivery Terms and evaluation process: Indian Bidders should submit their offer for FOR-BHEL, Tiruchirapalli basis. Packing & Forwarding and Freight & Insurance charges from works to BHEL, Tiruchirapalli to be indicated separately if extra from basic rate. Applicable % of ED & Sales Tax, Commissioning Charges should be clearly indicated. Evaluation of offers shall be on the basis of delivered cost (Net cash outflow to BHEL-Trichy).	

12.	Guarantee: Vendors shall provide a guarantee for a period of 12 months from the date of commissioning of the equipment or 18 months from date of supply, whichever is earlier. The date of B/L or AWB shall be taken as the date of supply. <u>Offers from vendors not accepting the requested guarantee period will be rejected.</u>	
13.	Short shipment / Warranty replacement: In case of any short shipment in the main equipment / spares, customs duty levied on such supplies, shall be borne by the supplier. Any warranty replacement during the warrantee period shall be on FOR-BHEL, Tiruchirappalli basis.	
14.	Inspection & Testing: All goods shall be subject to inspection by BHEL or its authorized representatives at supplier's works or at BHEL stores or at any other place in India indicated by BHEL as the case may be. The supplier will not charge for the facilities provided for inspection of goods. In case of machine tools, the machine would be inspected and proved at supplier's works prior to dispatch however, final inspection and acceptance of the machine will be carried after installation of the machine at BHEL, Tiruchirappalli.	
15.	Test certificates / Operating and Maintenance manuals : The Bidders shall clearly mention in their offer, that Test Certificates and Operating Maintenance Manuals, etc., as called for in the Technical Specification, in the required number of copies will be provided at no extra cost.	
16.	Payment through Bank is not preferred. In case of Payment through Bank is opted by Supplier, BHEL prefers documents submission through bank with copy of LR and door delivery of Goods to Site/Stores with Consignee copy attached. In this case Loading will be 3% on the offered value. Offers of indigenous Suppliers with payment terms as LC/Advance Payment are liable for rejection.	
17.	BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.	
18.	If offers are received from both OEM/ Manufacturer and authorized Dealer or Agent, then offer submitted by OEM/ Manufacturer will only be considered, offer of Dealer or Agent will be ignored.	
19.	Reverse Auction (RA): 1. 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. Techno-commercially acceptable Bidders shall only be eligible to participate in the Reverse Auction. 2. 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). 3. 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. 4. 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). 5. As a reminder to the bidders, system will flash following message (in RED Colour) during the course of 'online sealed bid'-"Bidders to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL". 6. BHEL shall engage the services of a Service Provider, who shall extend all necessary training and assistance before commencement of ON-LINE-BIDDING through Internet, at NO extra-cost to the Bidders. Eligible Bidders shall be informed in writing, about the details of Service Provider, to enable Vendors to contact the Service Provider and get trained. Event Date, Time, Start Price, Bid Decrement, Time-Extensions, etc. shall also be communicated through the Service Provider for compliance by Bidders. 7. BHEL shall provide the calculation sheet through the Service Provider, which shall be helpful to arrive at "TOTAL COST to BHEL", like Packing and Forwarding Charges, Taxes and Duties, Freight Charges, Insurance, Service Tax and other loading factors (for non-compliance to BHEL Standard Commercial Terms and Conditions), for each of the Bidder, to enable them to fill in the price and keep it ready for inputting data during the RA. 8. Successful bidder shall be required to submit the final prices (L1) in prescribed format for price breakup including that of line items, if required, quoted during the Online Reverse Auction, duly signed and stamped as token of acceptance without any new condition to the Service Provider, within 2 working days of RA without fail. 9. Any variation between the final bid value and that in the confirmatory signed price breakup document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings (as available on www.bhel.com). 10. If the Bidder or any of his representatives are found to be involved in Price manipulation / cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines shall be initiated by BHEL and results of the RA scrapped / aborted. 11. In case BHEL decided to go for Reverse auction, the H-1 bidder(s) (whose quote is highest in the online sealed bid) may not be allowed to participate in further Reverse Auction.	
20.	ARBITRATION: All disputes or differences whatsoever which may arise at any time during execution of the Contract shall be mutually settled by BHEL and Contractor as per provision of the Contract. However, in the event such disputes cannot be settled mutually, such disputes shall be settled as per the Arbitration and reconciliation Act, 1996 of the Govt. of India and its subsequent amendments. In case of disputes with the Central PSUs, the same shall be settled at Tiruchirappalli as per the Guidelines of the Govt. of India. However, during the period such disputes are settled either by mutual discussions between the parties or by legal means, Contractor shall continue to do the work as per terms & conditions of Contract.	

21.	➤ Point to point confirmation for the Technical Specification enclosed to be provided. If there are any deviations, the same should be clearly specified. Offers received without confirmation to our specifications will be liable for rejection. If needed additional sheets shall be used. ➤ Equipment offered shall be "New". Re-built / Re-conditioned / Used equipment's will not be accepted. Incomplete offers will not be considered for further processing. ➤ BHEL reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / units. ➤ BHEL shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHEL. ➤ The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost ➤ The Supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.			
22.	Company Details & Contact			
	Full Address of the company for future correspondence / placing order. (Copy of address proof & PAN card shall be attached along with Part-I)			
	Company Email ID:	Phone No.:		
	Fax No	Pan No with copy		
	CST /TIN No			
	Name of the contact person:	Mobile No.:		
	e-mail ID			
23.	TO BE CONFIRMED BY VENDOR			
	Country of origin:			
	Station of dispatch / Port Of Shipment			
	Delivery Terms: FOR Destination basis			
	Packing & Forwarding Charges in % or Lump sum, if extra from basic rate			
	% of Excise Duty with cess			
	% of TAX (CST / VAT) (TNGST with FORM-17 or CST with C-FORM)			
	(If applicable only) Installation & Commissioning charge is inclusive (or) exclusive on basic rate.			
	Service Tax extra or Not			
	Freight & Transit insurance charges (if any, in Lumpsum (or) percentage) from Dispatching station to BHEL Tiruchirappalli.			
24.	DELIVERY SCHEDULE:			
	Supply Portion: Delivery schedule from the date of Letter of Intent / Purchase Order. (This should be inclusive of Order acceptance, drawing approval and time period required for receiving goods at BHEL Trichy etc.)			
	Time period required for Installation / Erection & Commissioning from date of site clearance given by BHEL, Trichy.			
25.	Weight & Cubage of package:			
	Approximate Net weight of the total consignment:			
	Approximate Gross weight of the total consignment:			
	Approximate volume of the total consignment:			
For any queries / clarifications the bidders may contact us through our FAX NO. +91 431 2520719 or through e-mail <akumar@bheltry.co.in>				

NOTE:-

- a) Your specific acceptances to our Payment terms, LD, Risk Purchase Clause are essential for consideration of your offer. Otherwise your offer is liable for rejection.
- b) No row shall be left blank. Please indicate NA, in case the item is "Not Applicable"

Declaration:-

We have gone through and understood the 'General guidelines & instructions to bidders for submitting offer' enclosed as a part of the Tender and confirm that our offer has been made in line with the same.

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

Name:

Designation:

Department:

(Please Affix Your Signature with Seal on Each Page)

Certificate by Chartered Accountant

This is to Certify that M/s., hereinafter referred to as 'company') having its registered office at is registered under MSMED Act 2006, Entrepreneur Memorandum No (Part - II) dtd:....., Category :.....(Micro / Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as on date as per MSMED Act 2006 is as follows:

1. For Manufacturing Enterprises: Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.5.0.1722(E) dated October 5, 2006:

Rs.....Lacs

2. For Service Enterprises: Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:

Rs.....Lacs

The above investment of Rs..... Lacs is within permissible limit of Rs.....Lacs for Micro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Date:

(Signature)

Name -

Membership Number -

Seal of Chartered Accountant

Annexure-B**Bharat Heavy Electricals Limited TIRUCHIRAPPALLI/CAPITAL PURCHASE****MODEL PRICE BID FORMAT FOR INDIAN BIDDERS**

Enquiry No. & Date:

Bidder's Offer No. & Date:

Sl. No.	Description of item	Unit (Set / No.)	QTY	Basic Rate / Qty. in Rs. (excluding all Taxes)	ED in %	VAT / CST in % (TNGST with FORM-17 or CST with C-Form)	Service Tax in %	Total Value in Rs. (Including all taxes & duties)
10	Supply Portion							
20	Installation and Commissioning Charges for Sl. No: 10 (if available in tender scope and exclusive from basic rate for supply portion)							
	Total Value in Words:							
	Packing & Forwarding charges (if any) in percentage (or) Lump sum							
	FOR Dispatching station value in Rs.							
	Percentage of Freight & Transit insurance charges, if any (Lumpsum or %) Freight & Insurance charges from Dispatching station to HPBP-BHEL, Trichy.							
	Approximate Net weight of the total consignment							
	Approximate Gross weight of the total consignment							
	Approximate Dimensions of the Consignment							

Signature & Seal of Vendor

The price bid should be submitted only as per the above format. No row shall be left blank. Please indicate NA, in case the item is "Not Applicable".

DSC GUIDELINES

It should be DSC (Digital Signature Certificate) (**Class 3- SHA2- 2048 BIT-WITH BOTH SIGNING & ENCRYPTION COMPONENT SEPARATELY**)

For DSC GUIDELINES & steps regarding procurement & further tasks to be done to submit offer as follows:

The Requirement:

1. A PC with Internet connectivity.
2. DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT-WITH BOTH SIGNING & ENCRYPTION COMPONENT SEPARATELY**)
3. JRE 1.6 must be installed in your system.

The process of utilizing e-procurement necessitates usage of **DSC (Digital Signature Certificate)(Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)** and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

The contact details of the DSC Certifying Authority as given below

1	e-Mudhra	http://www.e-Mudhra.com	5	NIC	www.safescrypt.com
2	GNFC	www.ncodesolutions.com	6	Safescrypt	www.safescrypt.com
3	IDRBT	www.idrbtca.org.in	7	TCS	www.tcs-ca.tcs.co.in
4	MTNLTrustline	www.mtnltrustline.com			

(Other)DSC Contact details:

Ms. Solly (M/s. R3 eConsulting Pvt Ltd)

Mobile : 9444841015

Tel Nos. 044 2815 2670 / 72 / 4207 0906

Email : chennai@sgs-ds.com, soy@saspartners.com

chennai@saspartners.com

We have finalized the e-procurement service Provider as,

M/s m Junction services Limited, Kolkata

Godrej Water Side, 3rd Floor, Tower-1, Plot-V, Block - DP

Sector - V, Salt Lake, Kolkata-700091, West Bengal, INDIA

Please get in touch at below numbers for any issues related to bid submission in EPS.

SL	NAME	e-Mail ID	Land Phone No	ROLE
1	Mr. P Peter Raj -	'peter.raj@mjunction.in'	09942069052	
			Landline : 033-66106217/ 6013/ 6426/ 6176/ 6046 (From 9:30am to 5:30pm)	
2	HELP DESK	eps.customercare@mjunction.in	033-66106426/ 6217/ 6013/ 6046/ 6176 9163348283/ 9163348284/ 9163348285/ 9163348286/ 8584008116 (From 5:30pm to 8:30pm)	
3	Mr. Harish Kumar Ramu	harish.ramu@mjunction.in	(+91) 09840704941	
4	Mr. DHANARAJ.P	p.dhanaraj@mjunction.in panneer.dhanaraj@mjunction.in	(+91) 9500199108, (+91) 9282403700	Customer Relationship Manager
5	Mr. Saumendu Neogi	saumendu.neogi@mjunction.in	(+91) 9163348205	PROJECT MANAGER
6	Mr. R. Vishwanathan	r.vishwanathan@mjunction.in	(+91) 9163348242	Business Analyst

After procurement of Digital Certificate kindly follow the process below **for properly login into the BHEL EPS portal.**

1. Please install JRE 1.6 and your Digital Certificates (Class 3) for sign in and encryption.
2. Please install net meeting software like TeamViewer (www.teamviewer.com) for online support.
3. You are required to login to <https://bheleps.buyjunction.in> and click **Sign in**
4. Key in your login code and password and click **Enter**
5. System will ask you to change password,
6. Again login with new password
7. System will show sign in certificate, Select your sign in certificate and click **OK**
8. You will be logged out automatically
9. Contact Buyer for certificate approval
10. After your certificate is approved by Buyer, login again with login code and new password
11. Select Digital certificate
12. On the top right hand margin you will find "**Digital Certificate**" Click on "**Digital Certificate**"
13. Select "**For Encryption**" Radio button if you have **2048** bit certificate. Else you select "**Both**" Radio button if you have **1024** bit certificate.
14. System will display your encryption certificate, Select the same
15. New window will appear showing thumbprint of certificate, Click "**CLOSE**"
16. Then Click "Exit"

Now follow the steps for submission of the tender.

Go to "**TENDERS**" and then click on then "**VIEW**" button. Than select status as "**OPEN FOR QUOTATION SUBMISSION**" and click on the "**ENTER**" button. This will display all the eligible RFQs and then you can click on the relevant RFQ to view all the RFQ details.

- After clicking on the RFQ you would be able to see the RFQ details.
- To view all the items attached to the RFQ, you can click on "**VIEW ITEMS**" button. By clicking on "**BACK**" you can go back to the RFQ header. Now you need to click on "**Response to RFQ/NIT**."
- You will be landed to the RFQ/NIT details page where you will be able to see the Item details.
- To go back to the RFQ you have to click on the "**BACK TO RFQ**" button.
- To respond to the RFQ you have to click on "**RESPOND TO RFQ/NIT**" button and you will be taken to the Terms And Condition page.
- To participate in the RFQ you have to choose the first option (i.e. "**I have understood the RFQ/NIT in full and agree to submit quotation for the same on behalf of my organization**") and click on "**ENTER**" button.
- You will be then taken to the **ADD QUOTATION** page where you have to click on "**ADD QUOTATION**" and fill in the relevant bid details.
- You will be taken to the techno-commercial page where you have to fill the relevant fields.
- To add any techno-commercial documents you have to click on "**ADD ATTACHMENT**" button than you have to click on the "ADD ROW" button.
- Then insert **LABEL** name, **FILE** Name and then attach the required file by clicking on the BROWSE option. Now click on the "**SIGN FILE**" button, now the system will ask for the encryption DSC and after successful verification you have to click on "**ATTACH/DETACH**" button for successful file attachment.
- Then click on "**GO TO HEADER**" button to go back to RFQ Header.
- The system will again ask for the Certificate and after successful verification you will be landed to the techno - commercial page.
- After successful verification of the certificate you have to click on "**SAVE AND GOTO ITEMS**" button to put the basic price for the items.
- Again the system will ask for DSC and you have to select you DSC.
- You have to put the basic price in the basic price column and then Click on the "**SAVE AND GOTO HEADER**" button
- Again the system will ask for DSC and you have to select you DSC.
- To submit the quotation click on "**SUBMIT QUOTATION**" button
- After successful verification of DSC, you can submit your quotation by clicking on the "**CONFIRM**" button.

After successful submission of your quotation the system will show that your quotation has been submitted successfully. You are requested to submit the bid well before the due date to avoid the last minute issues.

Please download the Supplier Manual from the below link

https://bheleps.buyjunction.in/BOEPS/html/Standard%20Documents/BHEL_Supplier%20Manual.pdf?OWASP_CSRFTOKEN=NXKI-NQ4W-2YMN-OJIA-0X2D-O3AW-CLN0-R2NX

e- Procurement – BHEL TRICHY

Dear Sir/Madam,

BHEL Trichy has implemented e-Procurement and it is going to be the way of working in future.

The Requirement :

1. A PC with Internet connectivity &
2. DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**)

The following are the benefits of e-Procurement Process.

1. Ensuring no offer is missed due to last minute submission, postal delays etc.
2. Reduced Tendering & ordering cycle time
3. Economical, smoother & speedy communication
4. Greater Transparency
5. Big step towards paperless procurement process, Minimal human error
6. No geographical barriers
7. Vendor gets alerts regarding issue of new tender enquiry, amendments, clarifications etc
8. Submission of offer from the comforts of their office from any location
9. On line clarifications
10. Direct Cost Savings such as reduced Paper costs, reduced printing costs, reduced mailing costs, reduced telephone costs and reduced fax costs.

BHEL has finalized the e-procurement service Provider

M/s m Junction services Limited, Kolkata

Godrej Water Side, 3rd Floor, Tower-1, Plot-V, Block - DP
Sector - V, Salt Lake, Kolkata-700091, West Bengal, INDIA

Please get in touch with them immediately. The contact details of the service provider is given below:

SL	NAME	e-Mail ID	Mobile No	ROLE
1	DHANARAJ.P	panneer.dhanaraj@mjunction.in	(+91) 9500199108	Customer Relationship Mgr.
2	HELP DESK	eps.customercare@mjunction.in	033 – 66106426 / 54 9163348104,9231027017	

The process of utilizing e-procurement necessitates usage of DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**) and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

The contact details of the DSC Certifying Authority as given below

1	e-Mudhra	http://www.e-Mudhra.com	5	NIC	www.safescrypt.com
2	GNFC	www.ncodesolutions.com	6	Safescrypt	www.safescrypt.com
3	IDRBT	www.idrbtca.org.in	7	TCS	www.tcs-ca.tcs.co.in
4	MTNLTrustline	www.mtnltrustline.com			

Your early action in this regard is highly solicited.

Regards

M&S/Gas Services		
Annexure - PART-A		
Supply and Installation of Refractory Bricks for Producer Gas Generator		
QUALIFICATION CRITERIA		
S.No	Description	Vendor to confirm
1	Only those vendors, who have experience and carried out the following activities specified in Sl.No.1.1 and submitting the requested documents are eligible to participate in the tender and further evaluation. If not meeting the qualifying criteria,the tender is liable for rejection:	
1.1	Vendors who have supplied and installed refractory bricks for atleast to one company in the past five years from the date of tender opening for which required order copy is to be submitted along with the offer.	
2	The vendor should submit the following details of the customer specified in the order submitted for the above Sl.No.1.1. a)Postal address of the customer,Name & Designation of the contact person of the customer. b)Phone number and email address of the contact person of the customer.	
3	BHEL reserves the right to visit the vendor's works if required for verifying the manufacturing facilities and any other credential furnished by the vendor. In case the information furnished alongwith the offers is found to be false/incorrect, the offer shall be rejected.	

A. Vijayarajan - 17/5/17

S. VIJAYARAJAN
Sr. Engineer
Maintenance & Services
BHEL, TRICHY - 620 014.

TECHNICAL SPECIFICATION PRODUCER GAS BOOSTER ASSEMBLY-1 x 15,000 Nm³/Hr CAPACITY

Annexure - PART-B

Supply and Installation of Refractory Bricks for Producer Gas Generator

Sl.No.	BHEL DESCRIPTION	SPECIFIED/ TO BE CONFIRMED BY VENDOR	VENDOR'S OFFER	DEVIATIONS IF ANY
1.0	Breif Description of Producer Gas(PG) Generator;			
1.1	The PG generator is used for producing 4,000 Nm ³ per Hr of producer gas from crushed coal along with steam and air mixture. The generator inside temperature will vary from 600 °C. to 1400 °C. The pressure inside the PG Generator will be of minimum 100 mm of water column. The PG Generator is a continuous running equipment operated for all 24 Hrs x 365 Days.	Vendor to Note		
1.2	The PG Generator is a cylindrical vessel of diameter around 3 metres and height approx. 5.2 metres . <u>The PG Generator consists of three segments;</u> <u>(a)PG Generator Shell with water jacketed portion;</u> The bottom of the Generator Shell consists of water jacketed portion for a height of approx.2.3 metres. <u>(b)PG Generator Shell with Brick lined portion;</u> The Generator shell above the water jacket is of approx.2.8 metres and it consists of brick lining as per BHEL Drawing No.1M-20B-07-0222.Between the 6 mm thick Generator shell and brick lining,it consists of fossil flour/fossil material for min.40 mm thick(refer BHEL Drawing No.1M-20B-07-0222). <u>(c)Top Cover of the Shell with Brick lining;</u> The top of the cylindrical vessel/PG Generator shell consists of circular cover of around 3.25 metre diameter,10 mm thick Mild Steel plate which is interconnected to the vertical cylindrical shell by bolts & nuts. This portion consists of brick lining as per BHEL Drawing No.1M-20B-07-0222. The 120mm height above the top bricks (refer BHEL Drawing No.1M-20B-07-0222) consists of insulation castable and then ceramic fibre blankets.The top circular cover is placed over the ceramic fibre blankets and interconnected to the Generator shell.	Vendor to Note		
1.3	The Generator is subjected with a coal load of approx. 30 MT inside during its operation. The Generator shell portion will be subjected to an atmosphere of carbon monoxide,Hydrogen,methane and abrasive movement of coal, erosion, thermal shock with refractory lining bricks.The brick lined portion of the PG Generator will be subjected an inside temperature around 600 °C.	Vendor to Note		

TECHNICAL SPECIFICATION PRODUCER GAS BOOSTER ASSEMBLY-1 x 15,000 Nm³/Hr CAPACITY

2.0	Breif Description of supply/work;			
2.1	The existing brick lining arrangement of the PG Generator available at BHEL,Trichy,Tamil Nadu as per BHEL Drawing No.1M-20B-07-0222 are in damaged condition. Hence the vendor shall supply complete set of new refractory bricks. On completion of total bricks supply by the vendor,the existing brick lining is to be removed and the new bricks are to be installed in the PG Generator by the vendor.	Vendor to Confirm		
3.0	Scope of Supply by vendor;			
3.1	The refractory bricks for the PG Generator are to be supplied based on the Brick Lining Arrangement specified in the BHEL Drawing No.1M-20B-07-0222. The supply of One Set of refractory bricks shall consists of the following;			
3.1.1	Shaped Bricks as per BHEL Drawing No. 4M-20B-07- 2915 of quantity 24 Nos.	Vendor to Confirm		
3.1.2	Shaped Bricks as per BHEL Drawing No. 4M-20B-07- 2914 of quantity 16 Nos.	Vendor to Confirm		
3.1.3	Shaped Bricks as per BHEL Drawing No. 4M-20B-07- 2913 of quantity 40 Nos.	Vendor to Confirm		
3.1.4	Shaped Bricks as per BHEL Drawing No. 4-M-20B-07- 2912 of quantity 16 Nos.	Vendor to Confirm		
3.1.5	Shaped Bricks as per BHEL Drawing No. 4-M-20B-07- 2911 of quantity 40 Nos.	Vendor to Confirm		
3.1.6	Shaped Bricks as per BHEL Drawing No. 4-M-20B-07- 2910 of quantity 340 Nos.	Vendor to Confirm		
3.1.7	Poke Hole Block as per BHEL Drawing No. 4M-20B-07-2909 of quantity 8 Nos.	Vendor to Confirm		
3.1.8	Shaped Bricks as per BHEL Drawing No. 4-M-20B-07- 2908 of quantity 16 Nos.	Vendor to Confirm		
3.1.9	Shaped Bricks as per BHEL Drawing No. 4-M-20B-07- 2907 of quantity 36 Nos.	Vendor to Confirm		
3.1.10	Shaped Bricks as per BHEL Drawing No. 4-M-20B-07-06251 of quantity 50 Nos.	Vendor to Confirm		
3.2	The supply of One Set of refractory brick lining and insulation lining materials shall consists of the following;			
3.2.1	Mortar of quantity of 2000Kgs along with required liquid binder. The mortor shall consists of min. 50% Alumina and shall be suitable for service temperature of max. 1500 deg C.	Vendor to Confirm		
3.2.2	Fossil flour/Fossil material of quantity 5500 Kgs.	Vendor to Confirm		
3.2.3	Insulation castables of quantity 2500 Kgs as per below specifications; Al ₂ O ₃ - 45% min. , SiO ₂ -41.6% , Fe ₂ O ₃ -1.2% Max , TiO ₂ -0.9% , CaO 10% ; Max. Service Temperature - 1300 deg C.; Max grain size - 6mm.	Vendor to Confirm		
3.2.4	Ceramic fibre blankets of 1260 grade, 128Kg/m ³ density of quantity 6 rolls (Size of one Roll :7300 - 7620mm(L) x 610mm(W) x 25mm(T))	Vendor to Confirm		

S. Vijayarajan 17/5/17
S. VIJAYARAJAN
 Sr. Engineer
 Maintenance & Services
 BHEL, TRICHY - 620 014.

TECHNICAL SPECIFICATION FOR PRODUCER GAS BOOSTER ASSEMBLY-1 x 15,000 Nm³/Hr CAPACITY

4	Scope of Work by vendor;			
4.1	The existing refractory lining and the insulating lining present in the Top cover of the PG Generator Shell and around the circumference of the PG Generator Shell as per the BHEL Drawing No.1M-20B-07-0222 and as described in above SI.No.1.2 are to be removed by the vendor.The jacketed portion of the PG Generator shall remain untouched. Proper care is to be taken while removal of the refractory materials such that the PG Generator shell is not affected/damaged. The removed materials are to be moved to the disposal point located within the BHEL premises by the vendor.The hand cart/vehicle required for the movement of the removed materials will be provided by BHEL.	Vendor to Confirm		
4.2	The installation of newly supplied refractory materials are to be done in the Top cover of the PG Generator Shell and around the circumference of the PG Generator Shell as per the BHEL Drawing No.1M-20B-07-0222 and as described in above SI.No.1.2 by the vendor.	Vendor to Confirm		
4.2.1	For enabling installation of new refractory materials, the top cover will be removed and kept separately by BHEL.The same will be assembled by BHEL after completion of the refractory work by the vendor.	Vendor to Confirm		
4.2.2	The refractory work is to be carried out separately for the PG Generator Shell portion and for Top Cover portion and both are to be merged during assembly at the top with the cylindrical portion. Fixing of ceramic board or ceramic fibre blankets in place of fossil flour/fossil material around the PG Generator shell wall between shell and bricks shall not be done. <u>No anchoring shall be done in the PG Generator shell.</u>	Vendor to Confirm		
4.2.3	The assembled brick on the top cover after curing has to be tilted and lifted and positioned on the shell with sufficient mortar on the shell brick to enable proper bonding after the assembly of top cover with the shell.	Vendor to Confirm		
4.2.4	The fossil flour/fossil material around the circumference of the shell wall is to be minimum of 40mm as per BHEL Drawing No.1M-20B-07-0222. The 120mm height above the top bricks are to be insulated by providing insulation castable and then further with ceramic fibre blankets.This arrangement in the top should take care from falling of bricks due to self weight or thermal shock. The hot face of the refractory bricks shall be lined with minimum 25mm thickness refractory materials. After completion of the above said activities,the removed top circular cover will be placed over the ceramic fibre blankets and interconnected to the PG Generator shell by BHEL.	Vendor to Confirm		

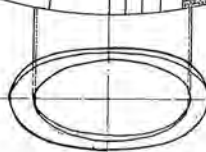

S. VIJAYARAJAN
 Sr. Engineer
 Maintenance & Services

TECHNICAL SPECIFICATION FOR PRODUCER GAS BOOSTER ASSEMBLY-1 x 15,000 Nm³/Hr CAPACITY

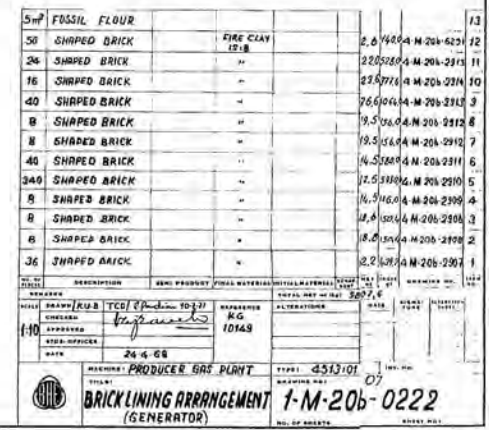
4.3	It is in the scope of vendor to arrange the required tools and tackles and the required manpower to complete the work.	Vendor to Confirm		
4.4	The work is to be completed within 3 weeks from the date of handing over of the PG Generator by BHEL to the vendor.	Vendor to Confirm		
5	Scope of BHEL;			
5.1	Welding sets with cables and welding consumables, gas cutting set with hoses and cutting gases will be provided by BHEL.	Vendor to Note		
5.2	For enabling installation of new refractory materials, the top cover will be removed and kept separately by BHEL. The same will be assembled by BHEL after completion of the refractory work by the vendor.	Vendor to Note		
5.3	The required scaffolding materials for the refractory work will be provided by BHEL. However the scaffolding shall be done by the vendor.	Vendor to Note & Confirm		
6	General points;			
6.1	Pre-despatch inspection - Complete refractory materials shall be offered for inspection at vendor's works to BHEL official before despatch.	Vendor to Confirm		
6.2	Test certificates - Material test certificates for the refractory materials are to be produced by the vendor during Pre-despatch inspection and along with final supply of materials	Vendor to Confirm		
6.3	Delivery Period - Preferable Delivery Period of the materials is to be within 12 Weeks from the date of purchase order.	Vendor to Confirm		
6.4	Guarantee - The PG Generator is of continuous operation in nature. Once new refractory bricks are lined, the PG Generator will run with gas flow for 365 days in a year without any interruption. Hence the quality of brick lining work is to be carried out with utmost care by the vendor. This execution quality is to be guaranteed for a period of one year by the vendor for the workmanship.	Vendor to Confirm		
6.5	Specific Note - Supplier should quote rate separately for supply of materials and separately for removal of existing refractory materials, installation of new refractory materials and order will be given to a SINGLE Vendor on CUMULATIVE L1 basis.	Vendor to Confirm		

S. Vijayarajan - 17/5/12

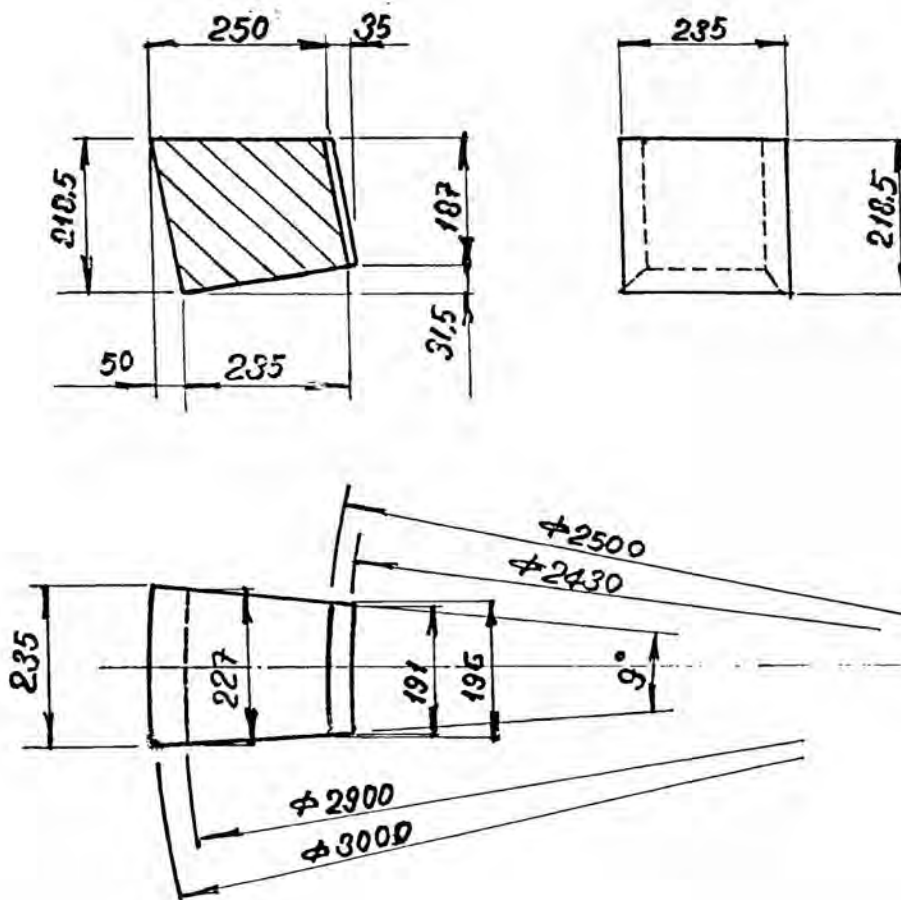
S. VIJAYARAJAN
Sr. Engineer
Maintenance & Services
BHEL, TRICHY - 620 014.



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1993 DEC.

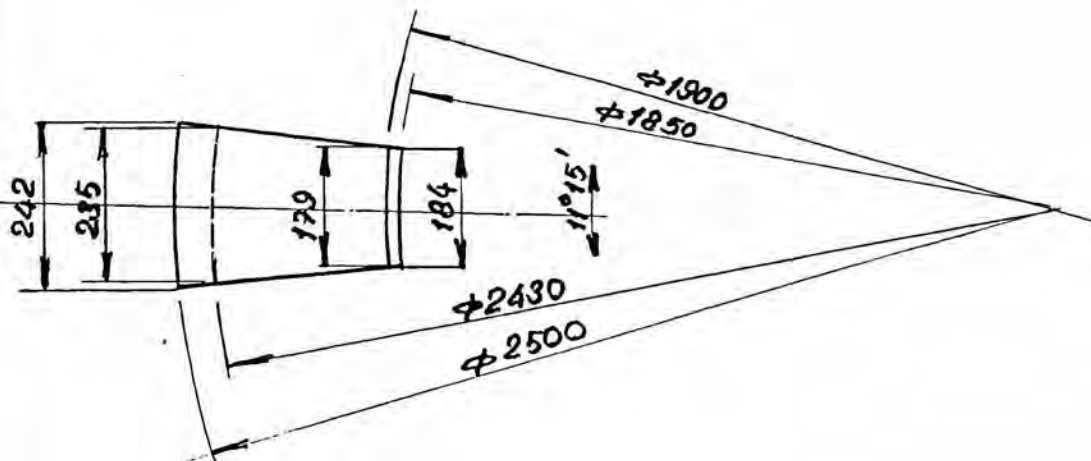
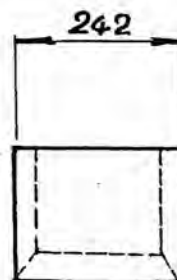
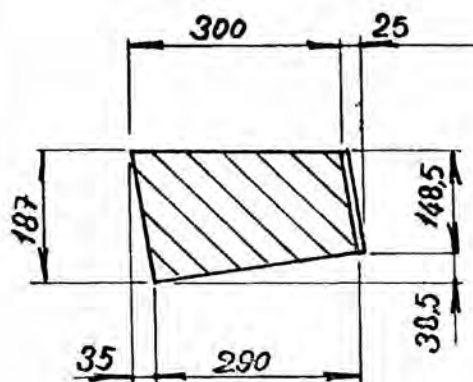


Drawing

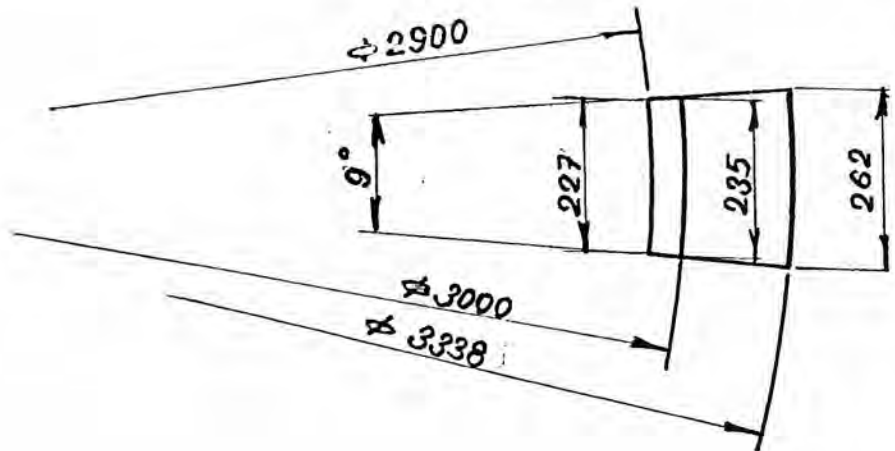
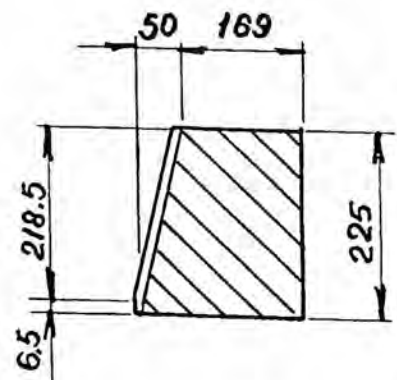
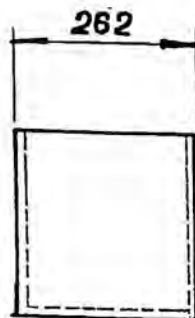


24			FIRE CLAY 15:8			22 kg	1-M-20B-0222	11
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET wt	GROSS wt	ITEM NO.
REMARKS : Material according to MR 7			TOTAL NET wt (kg)		CC:00	EC:07		
SCALE	DRAWN/KU.B	TCD/J. Pandian 9.7.71	REFERENCE	ALTERATIONS	DATE	SIGNA- TURE	ALTERATION INDEX	
1:10	CHECKED		10149					
	APPROVED							
	STDS. OFFICER							
	DATE	23-4-68						
MACHINE : PRODUCER GAS PLANT		TYPE : 4513-01		INV. NO.				
TITLE :		DRAWING NO :		07				
SHAPED BRICK		4-M-20B-2915						
NO. OF SHEETS		SHEET NO :						



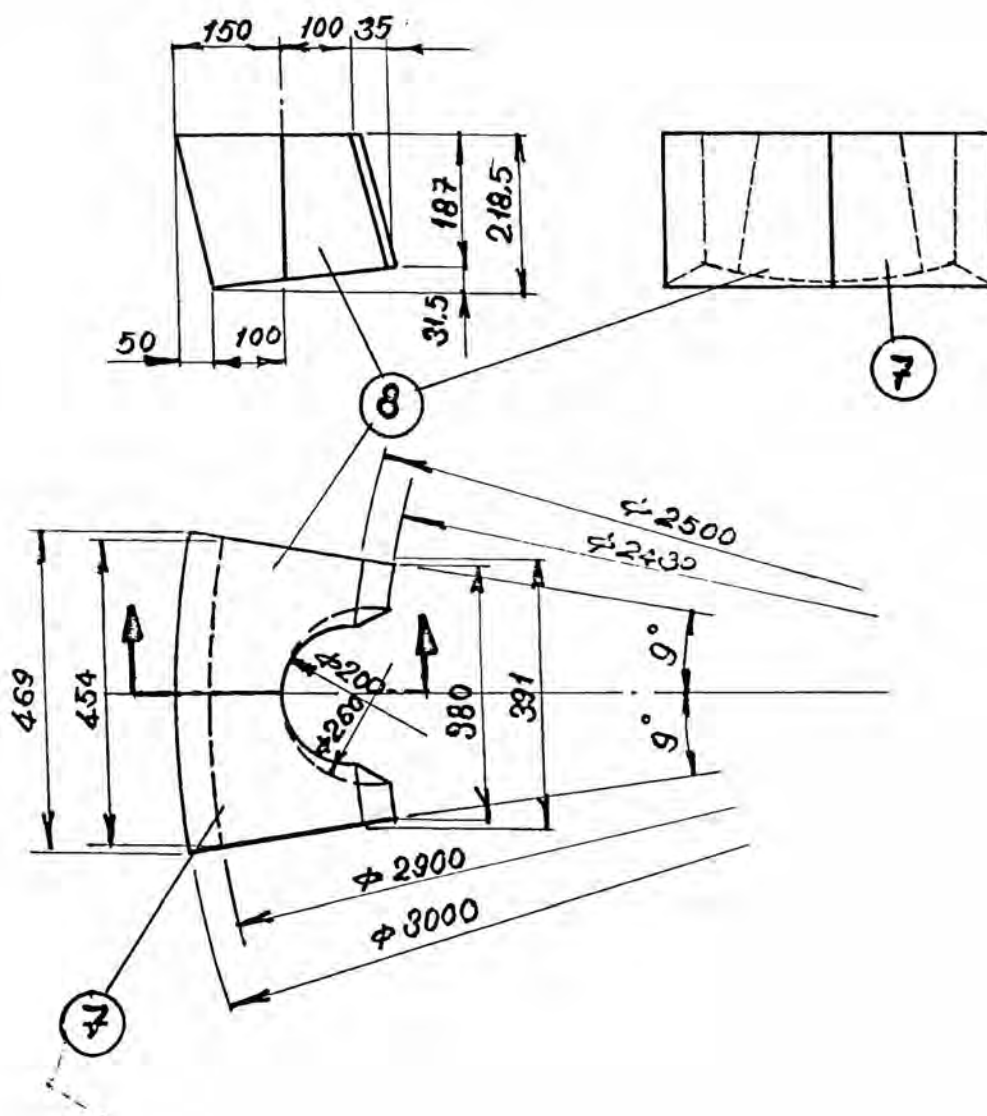


16			FIRE CLAY 15:8		23.6 kg	1-M-20b-0222 10	
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT
REMARKS: Material according to MR 7				TOTAL NET WT (kg) CC: 00 EC: 07			
SCALE	DRAWN/KUB	TCD/J. Pordian 9.7.71	REFERENCE	ALTERATIONS			
1:10	CHECKED		10149	DATE			
	APPROVED			SIGNATURE			
	STDS. OFFICER			ALTERATION INDEX			
	DATE	23.4.68					
MACHINE: PRODUCER GAS FLANT			TYPE: 4513 : 01		INV. NO.		
TITLE: SHAPED BRICK			DRAWING NO: 4-M-20B-2914⁰⁷				
NO. OF SHEETS			SHEET NO:				

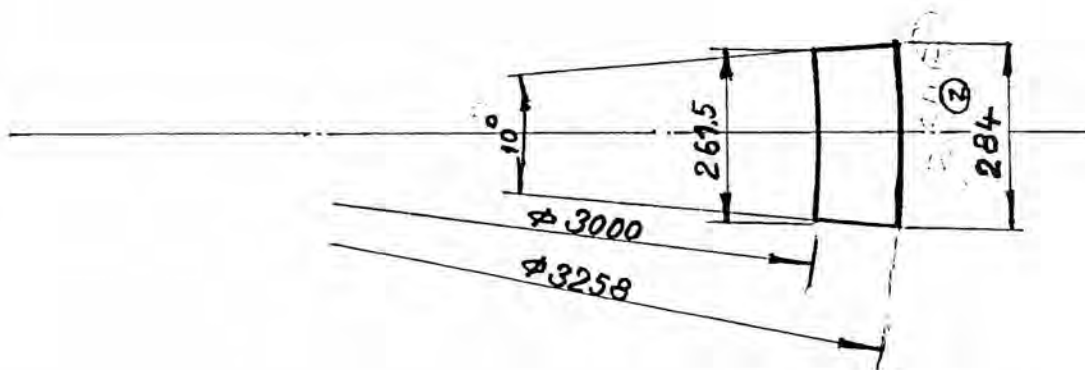
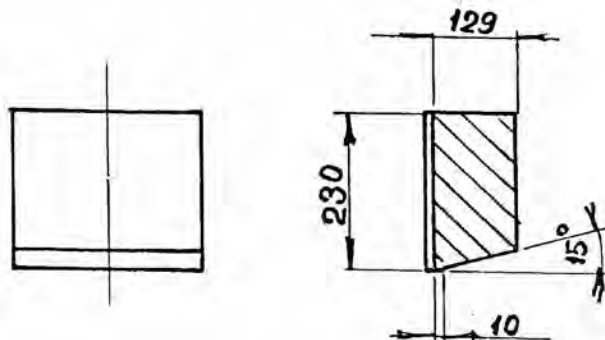


40			FIRECLAY 15:8			26.6 kg		1-M-20b-0222 9
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT	DRAWING NO.
REMARKS : Material according to MR 7				TOTAL NET wt (kg) CC:00 EC:07				
SCALE	DRAWN /KU.B	T CD/ S. Pandian 9.7.71	REFERENCE	ALTERATIONS				
1:10	CHECKED		10149	DATE				
	APPROVED			SIGNATURE				
	STDS. OFFICER			ALTERATION INDEX				
	DATE	23.4.88						
MACHINE : PRODUCER GAS PLANT			TYPE : 4513-01		INV. NO.			
TITLE : SHAPED BRICK			DRAWING NO : 4-M-20B-2913		NO. OF SHEETS			
					SHEET NO :			

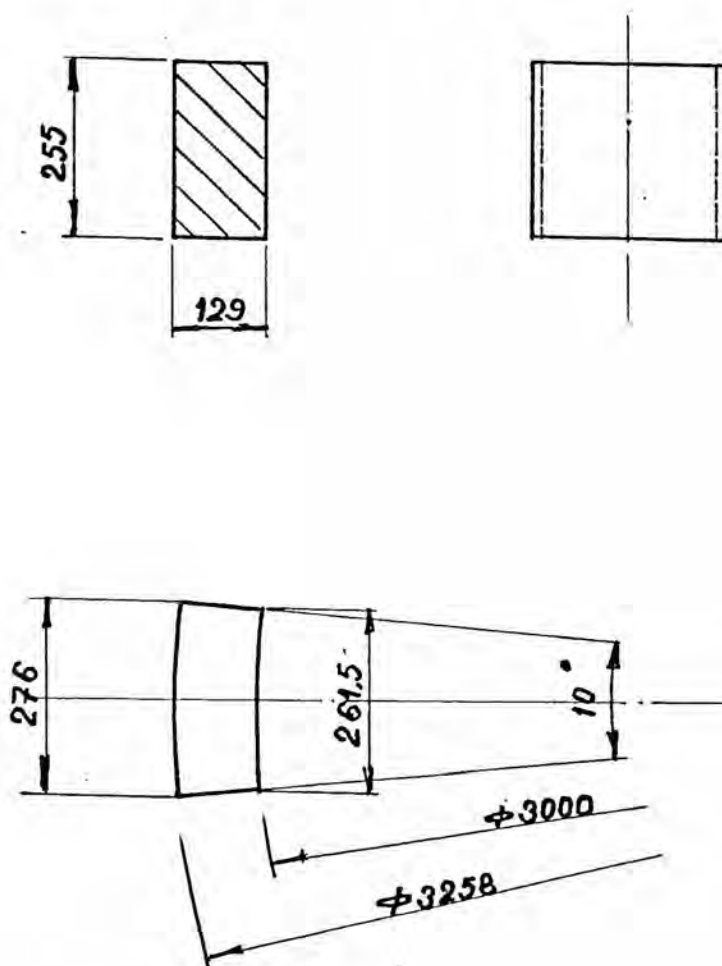




8+8			FIRE CLAY 1S: 8		19.5 19.5		1-M-20B-0222	8 7
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT	ITEM NO.
REMARKS: Material according to NR 7				TOTAL NET WT (kg) CC:00 EC:07				
SCALE	DRAWN/KU.B	TCD/S. Andrian 9.7.71	REFERENCE	ALTERATIONS		DATE	SIGNA- TURE	ALTERATION INDEX
1:10	CHECKED		10149					
	APPROVED							
	STDS. OFFICER							
	DATE	23.4.68						
MACHINE: PRODUCER GAS PLANT		TYPE: 4513:01		INV. NO.				
TITLE: SHAPED BRICK		DRAWING NO: 4-M-20B-2912						
NO. OF SHEETS		SHEET NO:						

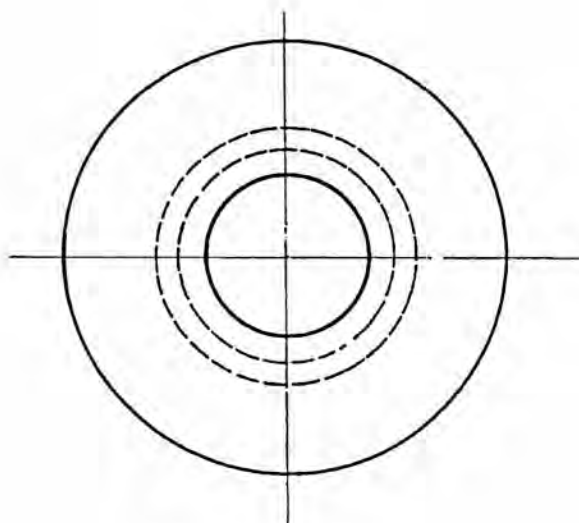
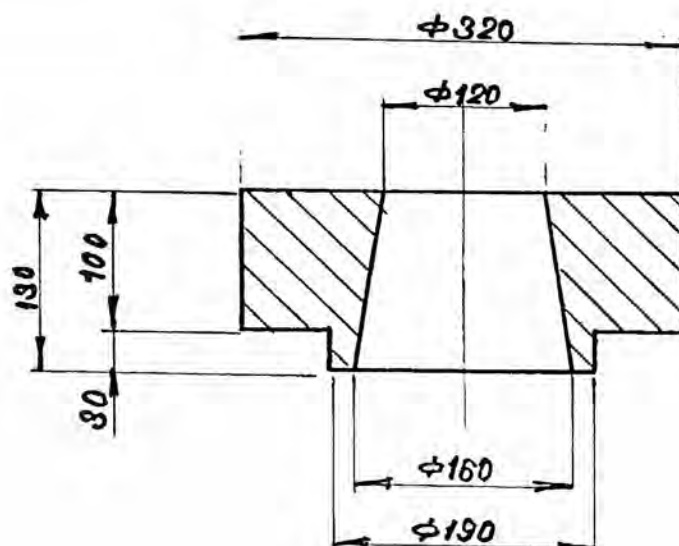


36			FIRE CLAY 15:8			14.5 kg		1-M-206-0222	6
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT	DRAWING NO.	ITEM NO.
REMARKS : Material according to MR 7				TOTAL NET wt (kg) CC:00 EC:07					
SCALE	DRAWN /KU.B TCD/ S. Pandian 9.7.71	REFERENCE		ALTERATIONS	DATE	SIGNA- TURE	ALTERATION INDEX		
1:10	CHECKED	10149		WAS 276	31-12-73		② Y		
	APPROVED			WAS 40	31-12-73				
	STDS. OFFICER								
	DATE	23.4.68							
		MACHINE : PRODUCER GAS PLANT			TYPE : 4513:01		INV. NO.		
		TITLE :			DRAWING NO :		07		
		SHAPED BRICK			4-M-20B-2911				
				NO. OF SHEETS		SHEET NO :			

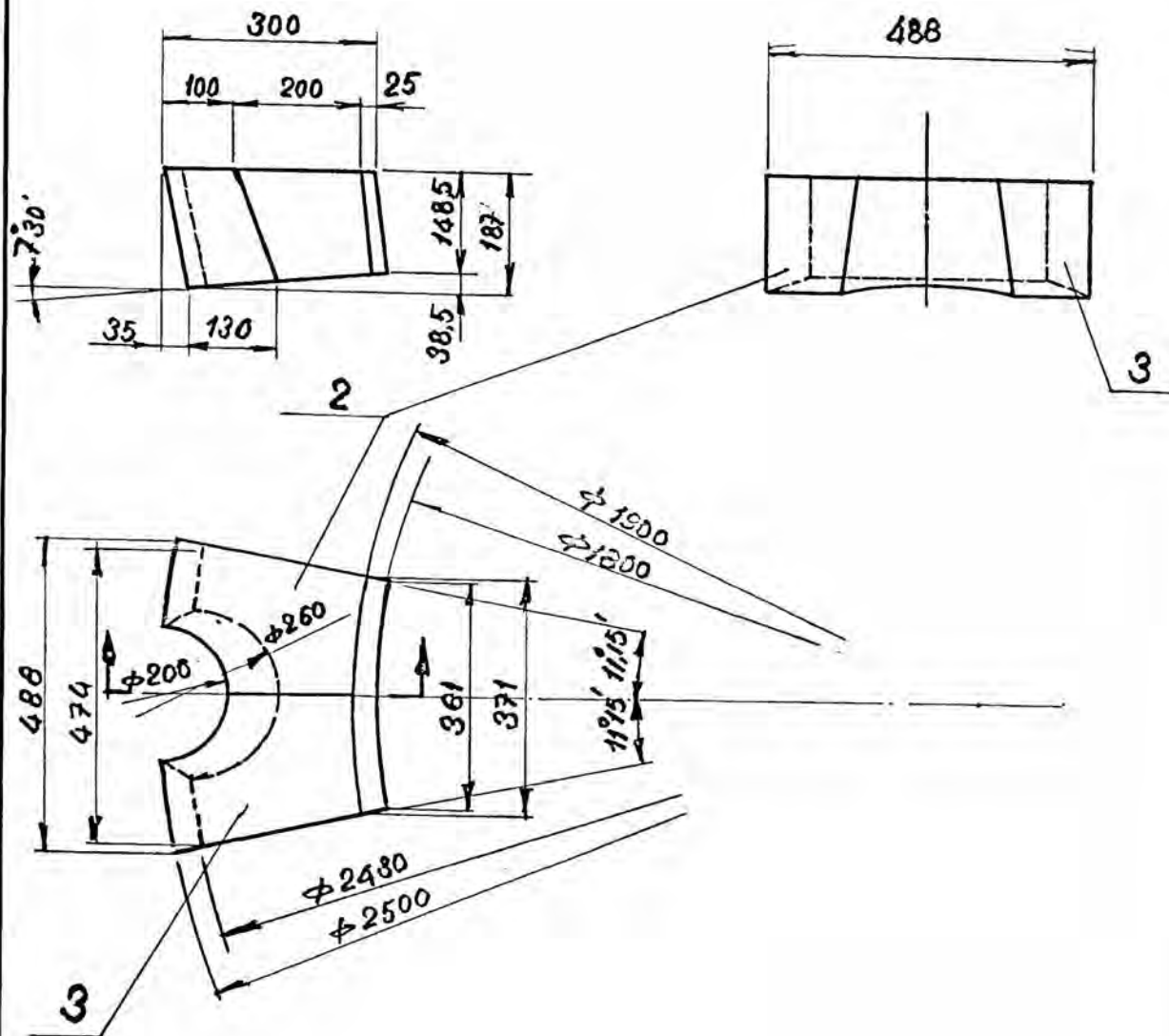


340			FIRE CLAY 15:8			17.5 kg		1-M-20B-0222	5
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT	DRAWING NO.	ITEM NO.
REMARKS : Material according to MR 7			TOTAL NET wt (kg) CC-00 EC:07						
SCALE	DRAWN / KU.B TCD / S. Pandion 9.7.71	REFERENCE		ALTERATIONS	DATE	SIGNA- TURE	ALTERATION INDEX		
1:10	CHECKED	10149							
	APPROVED								
	STDS. OFFICER								
	DATE	23.4.68							
MACHINE : PRODUCER GAS PLANT		TYPE : 4513-D1		INV. NO.					
TITLE : SHAPED BRICK		DRAWING NO : 4-M-20B-2910⁰⁷							
NO. OF SHEETS		SHEET NO :							

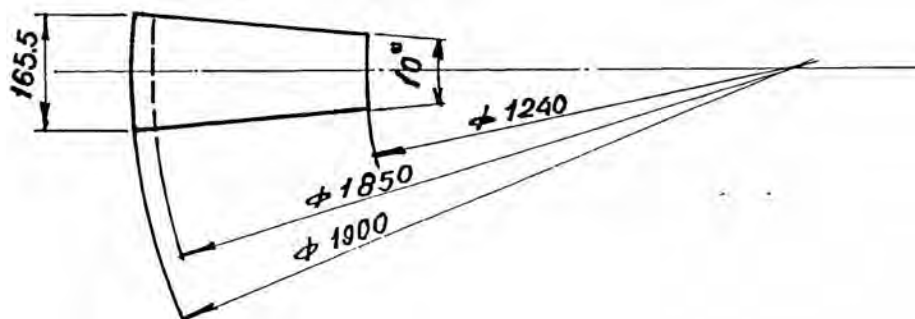
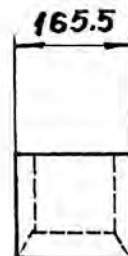
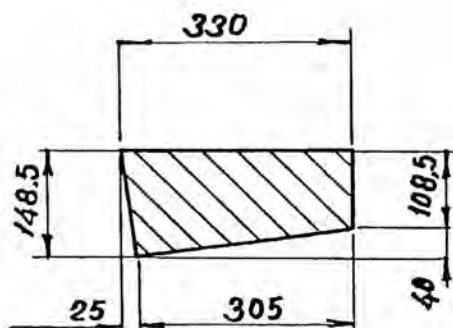




8			FIRE CLAY IS : 8			14.5 kg		1M-206-0222	4
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT	DRAWING NO.	ITEM NO.
REMARKS : Material according to MR 7			TOTAL NET wt (kg)		CC : 00 EC 07				
SCALE	DRAWN / KU.B	TCD / J. Pandian 9.7.71	REFERENCE	ALTERATIONS	DATE	SIGNA- TURE	ALTERATION INDEX		
1:5	CHECKED		10149						
	APPROVED								
	STDS. OFFICER								
	DATE	23-4-68							
MACHINE : PRODUCER GAS PLANT			TYPE : 4513-01		INV. NO.				
TITLE :			DRAWING NO :		07				
POKE HOLE BLOCK			4-M-206-2909						
NO. OF SHEETS			SHEET NO :						



8+8			FIRE CLAY			18.8		1-H-206-0222	3
NO. OF PIECES	DESCRIPTION	SEMI PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT	GROSS WT	DRAWING NO.	ITEM NO.
REMARKS: Material according to MR 7				TOTAL NET wt (kg)		CC:00	EC:07		
SCALE	DRAWN /KUB	TCD/S. Pandey 9-7-71	REFERENCE	ALTERATIONS		DATE	SIGNA- TURE	ALTERATION INDEX	
1:10	CHECKED		101A93						
	APPROVED								
	STDS. OFFICER								
	DATE	23-4-68							
MACHINE: PRODUCER GAS PLANT		TYPE: 4513:01		INV. NO.					
TITLE: SHAPED BRICK		DRAWING NO: 07		4-M-20B-2908					
NO. OF SHEETS		SHEET NO:							

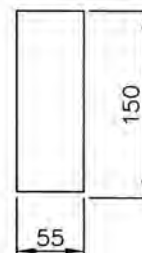
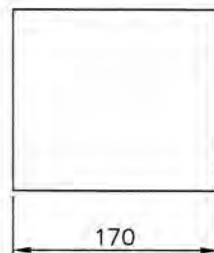


36			FIRE CLAY IS-8			12.2 kg		1-M-20B-0222 1	
NO. OF PIECES	DESCRIPTION	SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET wt (kg)	GROSS wt (kg)	DRAWING NO.	ITEM NO.
REMARKS MATERIAL ACCORDING TO MR 7.				TOTAL NET wt (kg) CC.00 EC:07					
SCALE	DRAWN BY/KUB TCD/8-Pmction 3.7.71	REFERENCE		ALTERATIONS		DATE	SIGNA- TURE	ALTERATION INDEX	
1-10	CHECKED BY	10149							
	APPROVED BY								
	STDS. OFFICER								
	DATE	23-4-68							
 TIRUCHY		MACHINE PRODUCER GAS PLANT		TYPE: 4513-01		INV. NO.			
		TITLE :		DRAWING NO.		09			
		SHAPED BRICK		4-M-20B-2907					
				NO. OF SHEETS		SHEET NO 1			

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CAUTION:

ALL DIMENSIONS ARE IN MM



		FIRECLAY	IS: 8	2.8	1.M.20B07.00222	12
X						
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT. IN KGS.	DRAWING No.	ITEM No.
	REFERENCE:	ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN/TCD	<i>R. Narayanan</i>	DRG. MODIFIED TO DATE		15.03.12	CSJ
1:5	CHECKED	R. RAMAMOORTHY				
	APPROVED	C.S. JAYASHEELAN				
	DATE	10.09.70/13.04.10				
	MACHINE: PRODUCER GAS PLANT			TYPE: 4513:01		
	TITLE:			DRAWING No:		REV.
	SHAPED BRICK			4M20B0706251		01
			Sheet No:		No. of Sheets:	