



PUR 002/01

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)

PIPING CENTRE, MATERIALS MANAGEMENT

80, Gopathy Narayanasamy Road, T.Nagar, Chennai-600 017.

Phone : 28158820, 28158820  
28158370  
Fax : 044-28157368  
28158699

INDIGENOUS ENQUIRY	ENQUIRY REFERENCE	DATE
	4010700009	18.04.2007
DUE DATE FOR QUOTATION : 09.05.2007		
THIS IS ONLY A REQUEST FOR QUOTATION AND NOT AN ORDER		

Supplies are requested to go through Terms &amp; Conditions before submission of offers

Sl. No.	Material Code	Description & Specification	Unit	Qty.	DELIVERY SCHEDULE		
					Qty.	Date	Remarks
		AS PER ANNEXURE					

Encl. to Enquiry :

1. IMPORTANT INFORMATION TO BIDDERS
2. TDC : TDG : 07 : 04
3. PAINTING SCHEME AS PER GP NO. 6882; APL: 12 REV 00 DT. 20.11.06
4. EDGE PREPARATION DRAWING NO. 4-80-468-64621
5. SPIDER DRAWING
- 6.

Dear Sirs,

Please submit your lowest quotation in triplicate, subject to our terms and conditions overleaf, for the above materials, so as to reach us on or before the due date by 2 P.M.

1. Quotations will be opened at 2.30 P.M. on the due date in camera/In the presence of the tenderers who may like to be present.
2. Price should be nett FOR destination Inclusive of risk in transit and remain valid for 120 days from the due date.
3. If any Sales Tax and Excise Duty are payable as extra to the quoted price the percentage of the same should be specifically stated in the quotation falling which the purchaser will not be liable for payment of Sales Tax / Excise Duty. Our T.N.G.S.T. No.3560005 / dt. 1.4.95, C.S.T.No.239383 dt.11.6.91.
4. If the enquired items are coming under D.G.S & D rate contract, please indicate the rate contract prices duly sending a copy of the rate-contract along with your offer.
5. No revision of prices will be entertained after tenders are opened.
6. Manufacturer's name, brand name, trade mark or patent No. if any should be specified. Illustrative leaflets giving particulars are required along with quotation wherever necessary.
7. Products with I.S.I. certification marks will be preferred.
8. The purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject in part or full without assigning any reason whatsoever.
9. Late tenders are liable to be rejected.
10. Any deviations to the enquired Technical and Commercial conditions shall be clearly indicated in the covering letter of the quotation.

Yours faithfully

for **BHARAT HEAVY ELECTRICALS LIMITED**

Sr. Manager / Purchase

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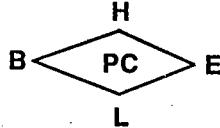
Note : clause no. 3 of Terms & conditions given overleaf is superseded by clause no. 8 of commercial (Part I) of Important Information to Bidders

## TERMS AND CONDITIONS

**1. QUOTATION :** Each tender should be sent in double cover, inner cover should be sealed with tenderer's distinctive seal and super scribed with correct tender No. item of supply and due date of opening. The outer cover should only bear the address of this office and should not have any indication that a tender is within. Two or more quotations should not be sent in one cover but the quotation against each tender should be sent separately to avoid confusion.

Tenders should be free from CORRECTIONS AND ERASURES : Corrections if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.

**2. PAINTING, PACKING AND MARKING :** The supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit, as per enquiry specification wherever applicable. The following marking should be made in each packages.



The above mark should be stenciled on the package itself. Should the packages be too small suitable cards giving these details may be tagged under seal of the seller. Special precaution shall be taken to prevent rusting and corrosion of metal parts during transit.

**3. TERMS OF PAYMENT :** Payment will be made within 30 days of satisfactory receipt of materials at BHEL stores / site as required by the purchaser. The successful tenderer must send the operation and maintenance manuals, test certificate, drawing, etc., for the materials ordered. These should be sent immediately after despatch of the materials and statement to that effect should be made in the invoice. Failure to comply with this provision will result in delay in payment of the bills. Goods despatched either by V.P.P. or by the document presented through bank will not be accepted unless agreed to by the purchaser.

**4. SECURITY DEPOSIT :** In the case of orders above Rs.5,000/- with deliveries of 3 months or above, the seller shall, within 14 days after written notice of acceptance of his tender quotation has been posted to him deposit with the purchaser (in cash or equivalent in Govt. Securities or Bankers Guarantee bond) a sum equal to 5% of total value of the stores detailed in the order as security for the due fulfillment of the contract. No claim shall lie with the purchaser in respect of interest on cash deposits on Govt. Securities or depreciation there of, Purchaser shall be entitled to deduct from the said deposit any loss or damages which they may be put to by reason of any act or default to the seller and recoverable by them from the seller and to call upon the seller to maintain the deposit as its original limit by making further deposits in the event of the Seller failing to make and to maintain the Security of deposit in the manner aforesaid the Purchaser shall be entitled to cancel the order.

**5. LIQUIDATED DAMAGES :** It is clearly understood among the parties to the contract that time is the essence of the contract. Therefore the delivery of the goods specified, in the purchase order should be made within the time limit prescribed. Where the seller supplies or despatches the goods beyond the delivery period specified, the Purchaser will have no obligation to accept the goods if accepted liquidated damages, at the rate of 1/2% of the value of goods delayed for each week of delay or part thereof subject to a maximum of 15% of the order value will be levied without prejudice to any other relief or compensation due to the purchaser under any other condition of this contract.

**6. RISK PURCHASE :** Alternatively the purchaser at this 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 within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore. The supplier shall be liable for any loss which the purchaser may sustain by reason of such risk purchases in addition to penalty at the rate mentioned in clause 6 above.

**7. PREFERENTIAL DELIVERY :** It should be noted if a contract is placed on a higher tenderer as a result of this Invitation to tender in preference to the lowest acceptable offer in consideration of the earlier delivery, the seller will be liable to pay to the purchaser the difference between the contract rate and that of the lowest acceptable tender on the basis of final price F.O.R. Destination, including all elements of freights, sales tax, duties and other incidentals in case of failure to complete supplies in terms of such contract within the date of delivery specified in the tender and incorporated in the contract.

**8. GENERAL :** The purchaser reserves the right to split up the tender and place order for individual terms with different tenderers and also increase the quantity.

Any other conditions which might have been quoted by the Seller and are in contravention to the terms prescribed in the order and which have not been specifically accepted in by the Purchaser will not be applicable to this contract.

**ENQUIRY NO: 4010700009**  
**IMPORTANT INFORMATION TO BIDDERS.**

**DATE: 19.04.07**

1. This Tender is a **TWO PART BID.**  
**Part I - Technical cum Commercial.**  
**Part II - Price.**  
Type and quantum of work is detailed in "SCOPE OF WORK"
2. The quoted price shall be " FIRM " till the complete execution of the scope.
3. Last date for submission of offer **09.05.07 - Time - 13.30 Hours.**
4. Technical cum Commercial Bid Opening Date **09.05.07 - Time - 14.30 Hours.**
5. Price Bid of only the Technically acceptable offers shall be opened at a later date.
6. The above bid shall be sent in a sealed cover duly indicating

**Enquiry No. & date, Tender Opening date and " CW PIPING - IS 3589 – NLC BARSINGSAR PROJECT"**

**To**  
**SDGM / PROCUREMENT**  
**BHEL - Piping Centre**  
**Old No 93, (New No:80 ) G N Chetty Road**  
**T Nagar / Chennai 600 017 . PHONE : 28158804 / 28158820**

(Technical cum Commercial offer and Priced offer shall be put in separate envelopes with the above mentioned details on it.)

**SCOPE OF WORK :**

BHEL requires the below mentioned quantities of various sizes of Welded Pipes – Pipes either **Spiral or Longitudinal Seam Weld** conforming to IS 3589 FE 410 Pipes with Internal and External Painting and as per TDC-TDG:07:04 and to be delivered to Site as per Technical specification detailed out in Technical and Commercial Part of this Bid. The raw material plate is to be arranged by suppliers themselves.

**LIST OF ITEMS.**

Enq. Sl.no	Pipe Size	Sp. Length mm	Specification	Hydro Test ( Bars )	Qty. Mtr	Destination	Delivery
01	Dia 2235 x18 UG	10000	IS 3589	26	610.0	NLC-BARSINGSAR SITE	31.08.07
02	Dia 1422x 14 OG	10000	IS 3589	28	120.0	NLC-BARSINGSAR SITE	31.08.07
03	Dia 1422 x 14 UG	10000	IS 3589	28	30.0	NLC-BARSINGSAR SITE	31.08.07

**Total Weight = 673 MT**

**PART - I : TECHNICAL CUM COMMERCIAL.**  
**Technical :**

1. The bidder shall supply the Welded Pipes, as per IS 3589 Specification and shall also comply with the following BHEL documents.
  - a. Acceptance to BHEL TDC ref : TDG : 07 : 04 .
  - b. Painting requirements for CW Piping – NLC – Barsingsar 2 x 125 MW , as per QP No. 6882 : QPC : 12. Rev 00 Dt. 20.11.06
  - c. Edge Preparation shall be done on each Pipe as per BHEL Drawing No. 4-80-468-64620.
  - d. Spiders shall be provided as per the enclosed drawing.

2. Bidders shall clearly indicate their point to point acceptance to the TDC and other requirements and in case, any deviations taken shall be clearly indicated. Also, Please ensure "Not to repeat deviations taken in earlier tenders which have not been accepted by BHEL". This will enable quicker processing of tender. Any deviations taken after placement of Purchase Order "shall not be considered". The bidder shall clearly mention the manufacturing process that will be adopted. Also the proposed WPS ( Welding Procedure Specification ) shall be enclosed.
3. The Bidder shall submit their Quality plan to BHEL for approval along with the offer indicating the verification, witness and hold points of PDIL and Customer Inspection with percentage of checks involved in the manufacturing process. The Continuity of inside coating of Coal Tar Epoxy shall be ensured by the bidder with the help of High Voltage Holiday Detector. The Procedure for this Holiday Detector Testing shall be submitted along with the offer. The procedure for Adhesion testing shall be submitted along with the offer.
4. The Bidder shall indicate the raw material specification of Plate/Coil to be used for Pipe Fabrication.
5. Vendors to depute suitable representative to discuss and finalise Technical and Commercial points and Quality Plan etc., to speed up the process before opening the price bid.

**Commercial :**

1. The prices quoted by the Bidder shall be on F.O.R. Ex-works basis with Freight extra for transportation of finished pipes to Barsingsar site. Price quoted shall be " FIRM " till the execution of the complete scope with raw material plate in their scope.
2. Payment for freight will be based on per mtr and limited to total freight amount. The Bidder shall clearly indicate whether Service Tax for Transportation is included or not in the Freight Rate quoted.
3. The bidder shall confirm in this Part of bid that he has given all the breakups as requested in the price bid ( Part II - Price ) .  
**(The bidder shall also enclose in Part I a copy of un priced - Price part format to know whether the bidder have taken care of all the points).**
4. The bidder shall clearly indicate the applicable Taxes / Duties / CESS. ( See Format ).
5. Delivery - 31<sup>st</sup> August 2007.
6. LD @ 0.5 % per week subject to a maximum of 15% for the undelivered portion shall be levied.
7. Bidder shall give a minimum validity of 120 days for the offer.
8. Payment terms - 100 % against Acknowledged Lorry way Bill from Site and within 60 days from the date of despatch and submission of clear documents, as listed below,
  - a. Invoice ( Original ).
  - b. Excise Gate Pass if applicable.
  - c. Acknowledged Lorry Way Bill / Delivery Challan.
  - d. Original Test certificate and Inspection reports.

**Note : As a policy any request for LC will not be considered and is not acceptable to BHEL. In exceptional circumstances LC may be given with suitable loading at prevailing bank rates. All LC opening, extension, negotiation and other charges are to be borne by the vendor.**

9. In case of incomplete / inadequate information provided against the requirements of this tender the offer shall be liable for rejection.

10. L1 bidder shall not automatically qualify for getting the order and BHEL has the right to negotiate price and delivery and if warranted BHEL shall also split the order on two or more parties. If split between 2 parties the ratio shall be 60:40. 60% on original L1 bidder and 40% to L2 bidder who has matched with L1 price.

**PART - II - PRICE :**

In this part of bid, the bidder shall provide the price strictly in the below mentioned format In this addition to the hard copy, the bidder has to submit in soft copy also in excel format. This format for which shall be sent and the same is to be submitted along with the offer (Refer Annexure - Price Format).

- a. Base Price shall include Cost of Raw Material plus conversion cost per Mtr of bare pipe including Edge Preparation and providing Spider Arrangement and Testing as per TDC : TDG : 07 : 04.
- b. Ordering shall be on FOR - Site basis .
- c. Percentage of applicable Taxes, Duties and CESS shall be clearly indicated .
- d. Service Tax on transportation if included shall be clearly indicated.
- e. A soft copy of the price format with price details are also to be sent along with price bid.  
( Preferably in CD ).

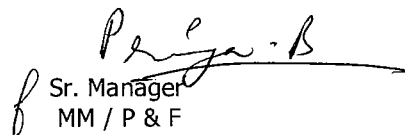
The Price quoted shall be " FIRM " till complete execution of the scope and bidder shall give **validity** of this price offer for a period of **minimum 120 days** from the date of opening Technical cum Commercial Bid and clarification if any resolved.

**LIST OF DOCUMENTS ENCLOSED :**

1. TDC : TDG: 07:04.
2. QP No. 6882 : QPC : 12. Rev 00 Dt. 20.11.06
3. Edge Preparation Drawing No. 4-80-468-64620
4. Spider Arrangement.

The above documents from part of this tender document and bidder shall ensure that they have received all these along with tender and confirm.

- **Pre Qualified** is the criteria for consideration for other than the BHEL Approved Vendors. After qualifying for registration, the new Vendors, may be considered for future inline with their system and policy. Such Vendors will not be considered in this Enquiry.
- The new Vendors may download Vendor registration forms from BHEL Web Site [www.bhel.com](http://www.bhel.com) and submit all relevant data for formal registration.

  
Sr. Manager  
MM / P & F

: 4 :

**PRICE :**

In this part of bid, the bidder shall provide the price strictly in the below mentioned format.

a. Under Ground - As per Sl.no. 1. b of Painting Scheme

Sl. No	Pipe Size	Total Qty in Mtrs	Bare Pipe Rate/Mtr (Ex-Works) as per TDC: TDG:07:04	Extra inside Coating Rate/Mtr (Coal Tar Primer - 1 x 50 Microns) - Primer Coat	Extra inside Coating Rate/Mtr (Coal Tar Epoxy - 1 x 80 Microns) - Finish Coat	Extra Outside Coating Rate/Mtr (Red Oxide Zinc Phosphate - IS 12744 - 1 x 30 Microns)	Extra Transportation Cost/Mtr of Finished Pipe to NLC Barsingsar Site
USE EXCEL FILE -PRICE FORMAT- GIVEN BY US (REFER ENCLOSED PRICE FORMAT) FOR GIVING YOUR OFFER							

b. Over Ground - As per Sl.no. 2 of Painting Scheme

Sl. No	Pipe Size	Total Qty in Mtrs	Bare Pipe Rate/Mtr (Ex-Works) as per TDC: TDG:07:04	Extra Outside Coating Rate/Mtr (Epoxy Polyamide Resin based Red Oxide Zinc Phosphate - 2 x 30 Microns) - Primer Coat	Extra Outside Coating Rate/Mtr (High Build Resin based Micaceous Iron Oxide Paint - 1 x 100 Microns) - Intermediate Coat	Extra Transportation Cost/Mtr of Finished Pipe to NLC Barsingsar Site
USE EXCEL FILE -PRICE FORMAT- GIVEN BY US (REFER ENCLOSED PRICE FORMAT) FOR GIVING YOUR OFFER						

*Page. 13*

**1.0 SCOPE**

- 1.1 This Technical Delivery Conditions specify the requirements in addition to IS:3589 for electrically welded ( EFW / SAW ) steel pipes.
- 1.2 The pipes are intended for water services (under Non-IBR piping system only).
- 1.3 The pipes shall conform to the size, grade and quantity as specified in the purchase order.

**2.0 MATERIAL**

- 2.1 The plates / coils used for pipe shall meet the requirements as per IS: 3589 Grade Fe 410 MPa including mechanical test requirements.

**3.0 DIMENSIONAL TOLERANCES**

- 3.1 The tolerances limits are:

OD:- Upto NB 1600 mm:  $\pm 4$  mm; Above NB 1600 mm:  $\pm 6$  mm

Thickness:- Upto 14mm :  $+1.3$ mm /  $-0.8$ mm; Above 14 mm :  $+1.4$ mm /  $- 0.8$ mm.

Length:- for OD upto 1300 mm :  $+10$  mm/  $- 0$  mm;

for OD above 1300 mm :  $\pm 50$  mm

Ovality ( Difference between major and minor inside diameter) : 0.5% maximum

Squareness of ends: The ends of pipe section shall not vary by more than 3 mm at any point from a true plane perpendicular to the axis of the pipe and passing through the center of the pipe at the end.

- 3.2 Other tolerances shall be as per IS: 3589

**4.0 MANUFACTURING**

- 4.1 The pipe shall be of longitudinally welded or spirally welded as indicated in the P.O.
- 4.2 The ends shall be edge prepared as indicated in the purchase order.
- 4.3 Circumferential seams shall be 1500 mm apart from each other and from ends.
- 4.4 All pipes shall be clearly finished and free from surface, sub surface defects such as pits, cracks, weld spatters & laminations etc..

**5.0 NDE**

- 5.1 The spiral welds/butt welds of length 100 mm from both the ends of the pipe shall be radiographically tested.

**6.0 HYDROSTATIC PRESSURE TEST**

- 6.1 Each pipe shall be subjected to a hydraulic test pressure as per IS: 3589 .  
(i.e., using the formula  $P = 2ST / D$  )

**7.0 INSPECTION**

- 7.1 All pipes shall be inspected by the vendor prior to BHEL / Customers' Inspection. BHEL or BHEL authorized inspector / Customer will select the pipes at random and carryout the inspection. The necessary Material Despatch Clearance Certificate is to be obtained by the vendor prior to the despatch of material.

P.Elangovan, QA  
K.Ganeshan, MM

Approved by

C. Karunakaran, Engg  
B. Natarajan, QC

## 8.0 PAINTING AND PACKING

- 8.1 Unless otherwise specified in the Purchase Order, all the pipes shall be coated with resin type translucent dry type rust preventive on the outside; pipes of diameter above NB 450 mm, shall be coated inside also.
- 8.2 Spiders are to be provided on both ends of the pipes as per the drawing - if indicated in the enquiry / Purchase Order.

## 9.0 MARKING

- 9.1 All pipes shall be paint stencilled, hard punched with the following details.

### Paint Stencil

- Specification
- Heat number
- Pipe number
- Manufacturer's identification
- Material Code
- Size

### Hard punch

- Specification
- Heat number
- Pipe number
- Manufacturer's identification

- 9.2 In addition to the above, for the pipes directly despatched to project site, the following details (furnished in the P.O. or separately) shall be **paint stencilled & hard punched** on both ends of the pipes

- |                 |          |                |
|-----------------|----------|----------------|
| ➤ Work order No | ➤ DU No  | ➤ Project name |
| ➤ Quantity      | ➤ Weight |                |

## 10.0 CERTIFICATES

- 10.1 Three original test certificates typed in English shall be submitted along with the Inspection report.

- 10.2 The test certificate shall furnish the following details.

- a. Purchase Order references.
- b. Test Certificate number.
- c. Specification, grade, size, quantity
- d. Heat number of plate (or pipe number with traceability to heat number)
- e. Chemical composition and mechanical properties
- f. Hydrostatic pressure test report
- g. RT Report.

P.Elangovan, QA  
K.Ganeshan, MM

Approved by

C. Karunakaran, Engg  
B. Natarajan, QC



<b>Bharat Heavy Electricals Ltd.,</b> Piping Centre, Chennai - 600 017	<b>NLC BARSINGSAR TPP 2 X 125 MW - MPP</b> Customer Nos: 6882 , 6883 <b>Painting Scheme For Circulating Water,Cooling Water Piping.</b>	<b>QP No: 6882 : QPC: 12. Rev 00</b> Date : 20.11.2006 Page 01 of 01
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Sl. No	PGMA Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat		Total DFT microns minimum	Reference
			Paint	No of coat	Paint	No of coat	Paint	No of coat		
1	CW BURIED PIPING DIAMETER > 1000 mm a ) External Surface	SSPC - SP3 Power Tool Cleaning	ROZP IS12744 DFT30μ	1			** refer Note below		**	Vol IIB-Part III / D1.5 Sheet 20/26 sino 13.1
1	b ) Internal Surface	Blast clean to Sa 2 1/2	Coal tar primer DFT50μ	1			Coal tar Epoxy DFT80μ	1	130	Vol IIB-Part III / D1.5 Sheet 20/26 sino 13.1.1
2	CW OVER GROUND PIPING DIAMETER > 1000 mm	Blast clean to Sa 2 1/2	Epoxy Polyamide resin - based ROZP DFT30μ	2	High build Resin - based MIO paint DFT100μ	1	# Epoxy Polyamide Enamel DFT40μ	2	160 + 80#	Vol IIA-Part III / C11 Sheet 12/19 Sino 5
3	OVER GROUND PIPING DIAMETER < 1000 mm External Surface (Boiler Aux Cooling water )	Blast clean to Sa21/2	Epoxy Polyamide resin - based ROZP DFT30μ	2	High build Resin - based MIO paint DFT100μ	1	# Epoxy Polyamide Enamel DFT40μ	2	160 + 80#	Vol IIA-Part III / C11 Sheet 12/19 Sino 5

**Note :**

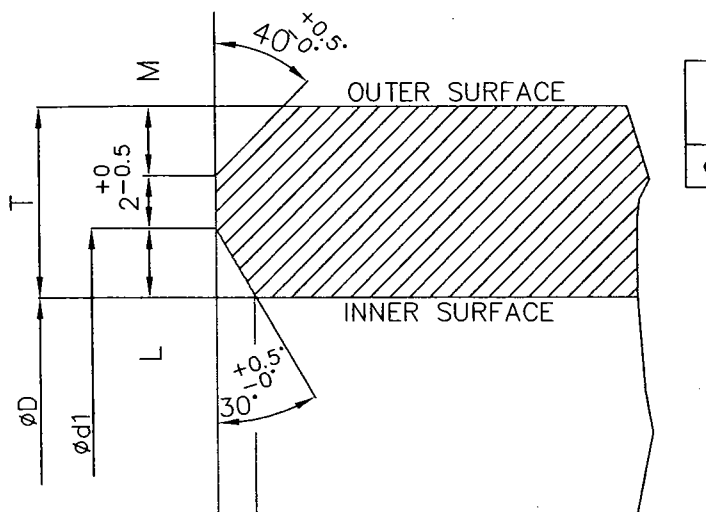
- 1) ROZP : Red Oxide Zinc Phosphate Paint. 2) MIO: Micaceous Iron Oxide. 3) # : Painting at site by BHEL - PSNR . 4) μ = microns  
5) \*\*\* Coal tar primer, coal tar enamel, inner warp of enamel impregnated fiber glass . Total thickness of coating shall not be less than 4.0 mm (OR) with anticorrosive tape of 4.0mm thick conforming to IS 10221 and AWWA C 203 -93. This will be done at site by BHEL - PSNR .

Prepared By R . JANARTHANAN	Reviewed By G. PANNER SELVAM	Approved By P . ELANGO VAN
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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.

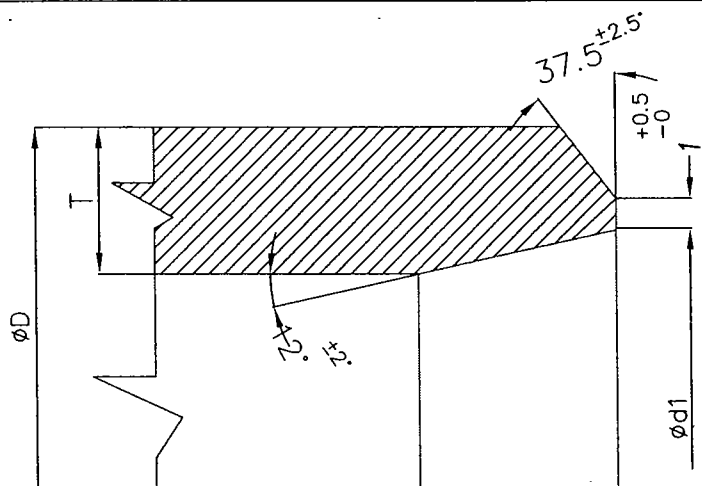
REV	DATE	ALTERED
		APPROVED

ALL DIMENSIONS ARE IN MILLIMETRES



PIPE SIZE OD X T	ød1	øD	T	L	M
ø 2235 X 18	2221.0	2199	18	11	5

**FIG-A**



PIPE SIZE øD X T	ød1
ø 1422 X 14	1394.0

**STYLE-D**

## BARSINGSAR LP PIPING 2x125 MW



**BHARAT HEAVY ELECTRICALS LIMITED**  
PIPING CENTRE  
CHENNAI 600 017

	NAME	SIGN	DATE	NO. OF VAR
DRN.	A.MADHU		24.04.07	
CHD.	G.AARTHI		24.04.07	
APPD.	A.P.M.KUTTY		24.04.07	

DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG.	ITEM NO.	NO. OF ITEMS
CODE	C / M / F	N.T.S				
TITLE				CARD CODE	DRAWING NO.	REV
<b>EDGE PREPARATION DETAIL</b>				U 01	<b>4-80-468-64620</b>	<b>00</b>

Size A4

SPIDER LOCATION

SPIDER LOCATION

100

A

OD x T

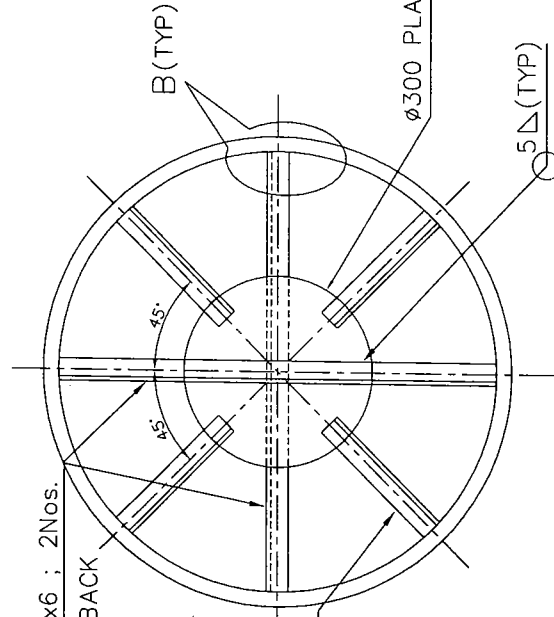
10000

# SPIRAL/LONGITUDINAL WELDED PIPE

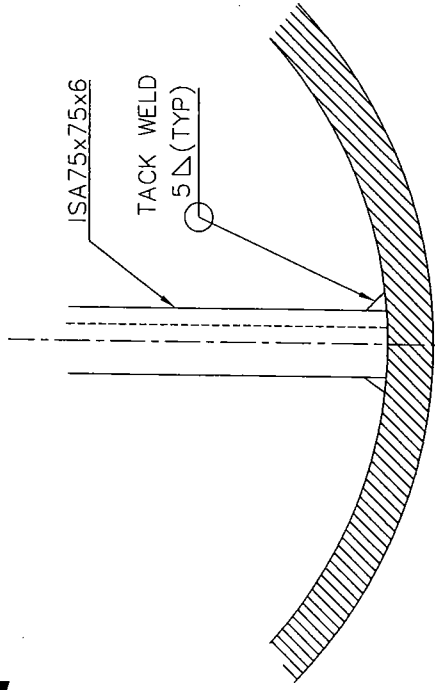
( 2 LOCATIONS IN 10 MTR. PIPE )

ISA 75x75x6 ; 2Nos.  
BACK TO BACK

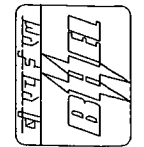
ISA 75x75x6 ;  
4Nos.



VIEW - A



DETAIL - B



**BHARAT HEAVY ELECTRICALS LIMITED**  
PIPING CENTRE  
CHENNAI 600 017

SPIDER ARRANGEMENT FOR  
LARGER DIA PIPES

DRAWN	APPROVED	DATE
C KUMAR	C KARUNAKARAN	05.04.06