

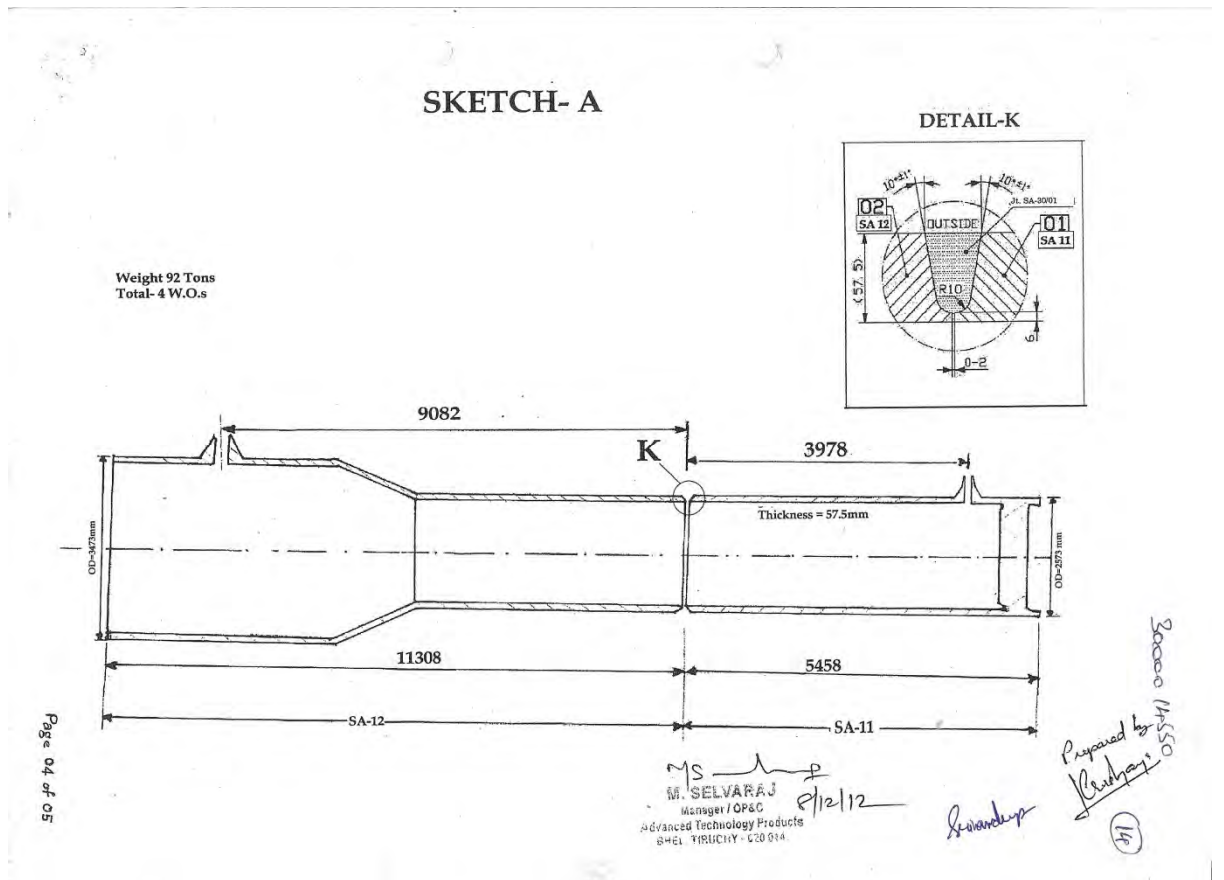
1) Scope of Work for Local Heat Treatment for SA 30 at ATP Shop.

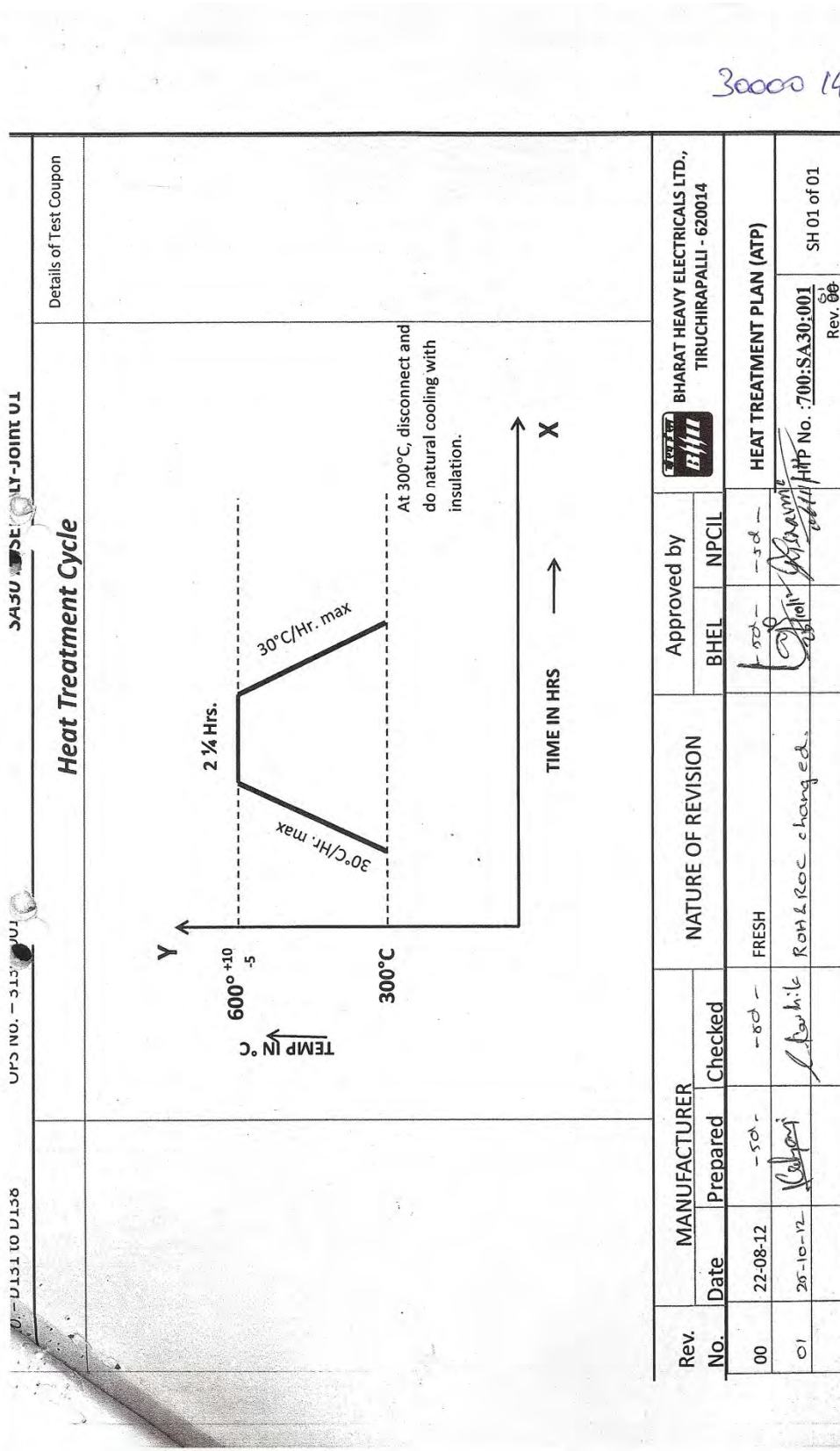
Scope of work: For the cir-seam joint between SA-11 and SA-12 as per detail-K of Sketch A attached, Local heat treatment to be carried out as per approved Heat Treatment Plan no. 700:SA30:001/Rev.02, procedure No. 700:SA:30:002 & procedure No. 700:SA30:30:003

Job Description: Local Heat Treatment of SA30 Circular-Seam Joint No: SA30/01(Induction Heat Treatment)

Job Size: 57.5 mm thick circular seam joint of OD 2573 mm

Ref. Sketch: SKETCH-A





SASU SECT. ONLY-JOINT UI

UFS NO. - 5137 UI

UJ-D151 TO D156

Details of Test Coupon

Rev. No.	MANUFACTURER		NATURE OF REVISION	Approved by		Bharat Heavy Electricals Ltd., TIRUCHIRAPALLI - 620014
	Date	Prepared		Checked	BHEL	
00	22-08-12	-50-	FRESH	-50-	-50-	HEAT TREATMENT PLAN (ATP)
01	28-10-12	Chakraborty	Rev. & Roc changed.	Chakraborty	Chakraborty	

HTP No. : 700:SA30:001
Rev. 00

SH 01 of 01

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Sunder

ADVANCED TECHNOLOGY PRODUCTS
OPERATIONS PLANNING AND CONTROL

LOCAL HEAT TREATMENT PLAN:

HT PLAN NO: HTP:700:SA30:002

SCOPE:

This procedure is to be followed for Local Post Weld Heat Treatment by Induction Heating/Resistance Heating for Circ.seam joint between SA-11 Sub-assembly and SA12 Sub-assembly (Jt.No.SA-30/01).

PREPARATION FOR HEAT TREATMENT:

The shells shall be positioned on rollers at a distance such that sagging at the weld does not take place during the Heat Treatment operations.

TEMPERATURE MEASUREMENT:

The soaking time shall be counted from the moment that all the thermocouples, arranged on the weld and at a distance of 84 mm from the weld centre shall measure the temperature equal to at least 595°C. Ensure that no thermocouple crosses 610°C.

At 400°C, at weld seam, the temperature gradient specified for other thermocouples should be reviewed and if required, the temperature should be maintained at 400°C, till the desired gradients are achieved. Such reviews should be done at 450°C, 500°C, 550°C and 600°C. The soaking shall be accounted only after the gradients are achieved. The Table 2¹ can be used as a guideline for achieving the final gradients at soaking temperature.

TABLE 2¹

Weld joint Temperature	Temperature(Min) at TC Location in °C			
	08	09	10	11
400 °C	320	320	200	200
450 °C	360	360	225	225
500 °C	400	400	250	250
550 °C	440	440	275	275
600 °C	480	480	300	300

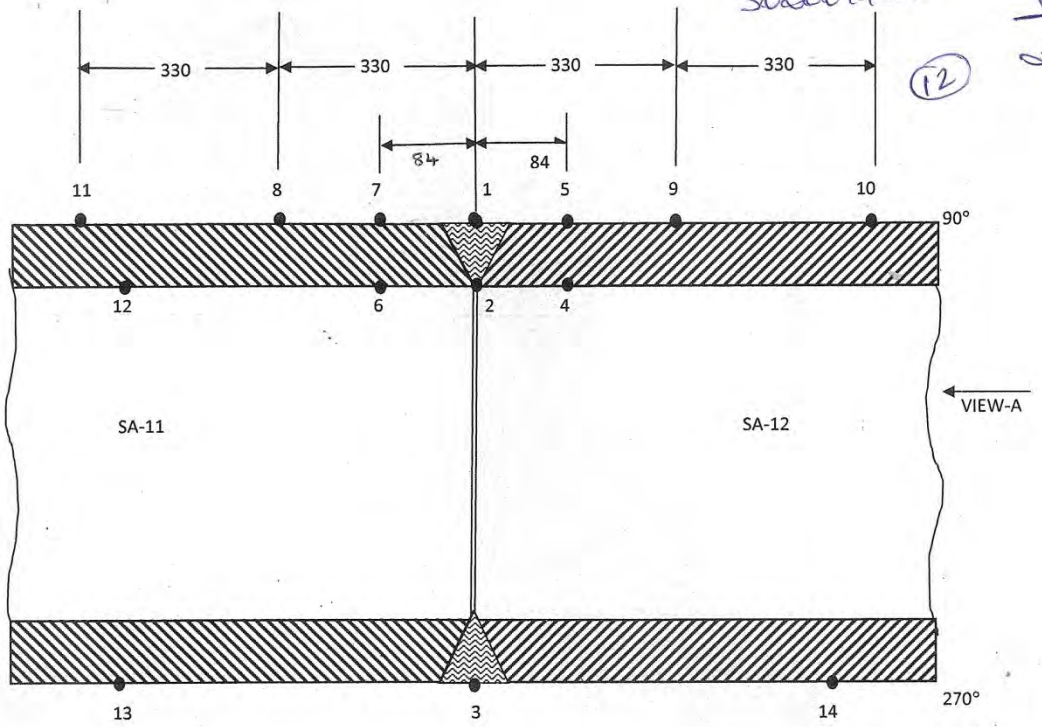
APPROVED BY	
BHEL	NPCIL
<i>L. Pathak</i> 20/10/12	<i>S. Inam</i> 06/11/12

Vendors' sign

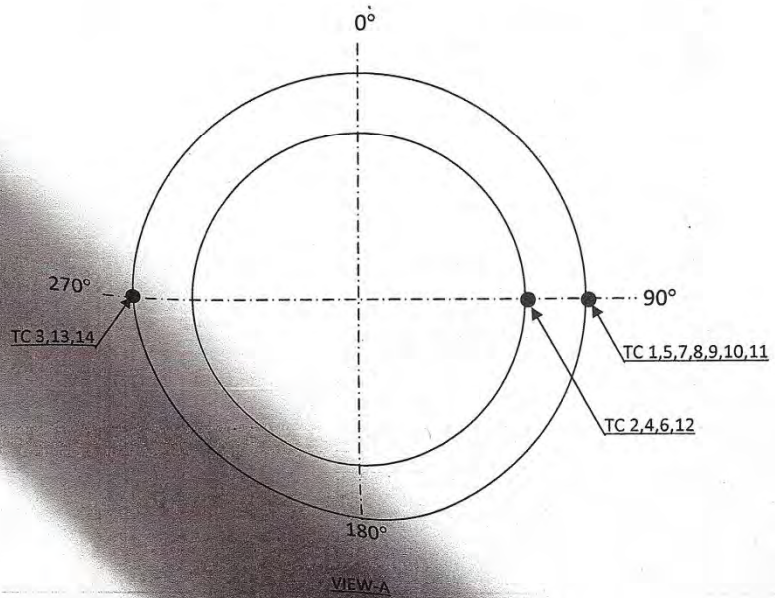
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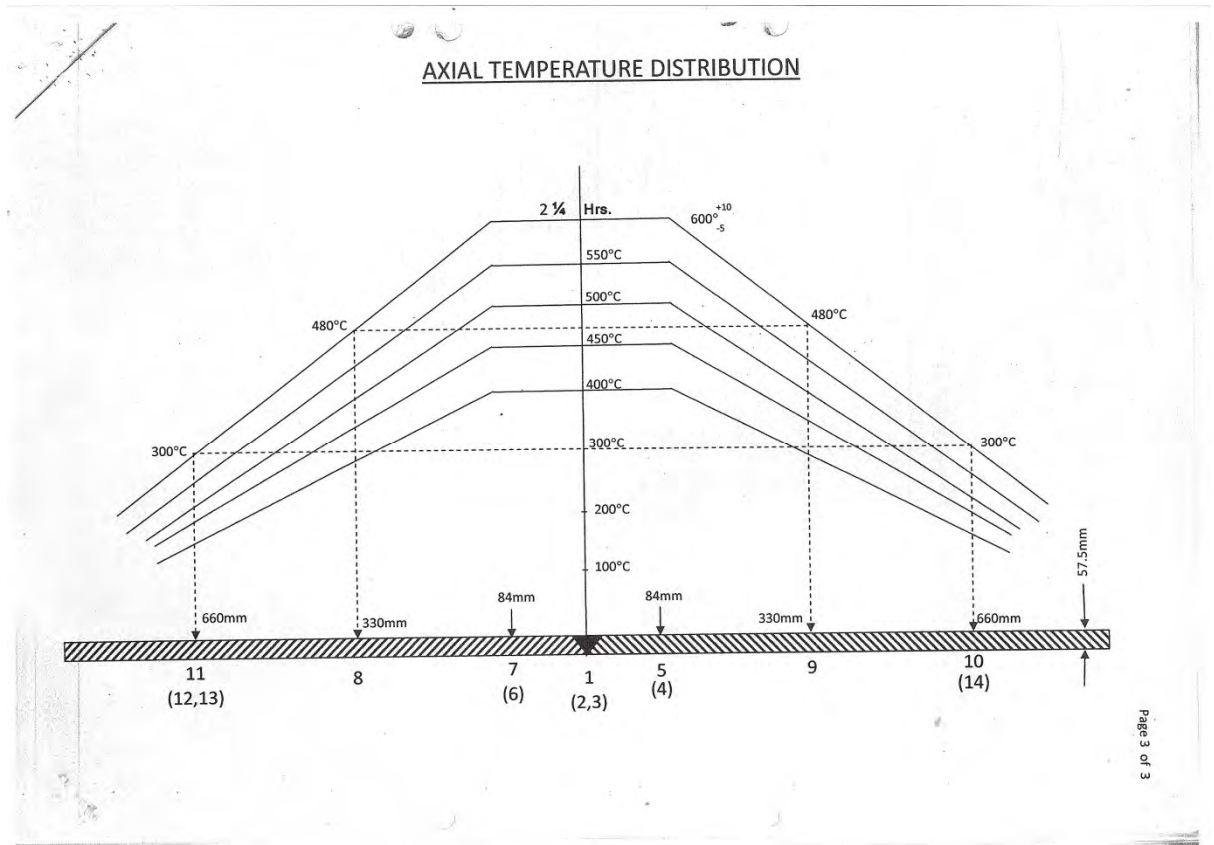
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THERMO-COUPLE LOCATION



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*Advanced Technology Products
Operation Planning & Control*

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Signature

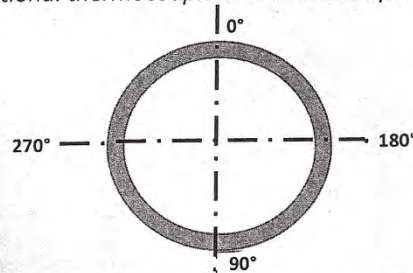
HT PLAN NO : HTP:700:SA30:003

These Special Instructions for SA30 local HTP are in addition to existing

- **PLAN No. : HTP:700:SA30:001 &**
- **PLAN No. : HTP:700:SA30:002**

1.0 Addition of thermocouples.

1.1 Additional thermocouples introduced as per fig below.



ID of weld surface		OD of weld surface	
TC15	270 deg	TC18	0 deg
TC16	180 deg	TC19	180 deg
TC17	0 deg		

1.2 All thermocouples (TC1 – TC19) shall be welded to shell surface with capacitor discharge spot welder machine.

2.0 ADDITION OF INSULATION:

2.1 One blanket of 25mm thickness glass wool shall be wrapped upto on OD side of Shell upto 660mm on either side of weld centre. Additionally one more blanket of 25 mm thickness glass wool shall be wrapped on OD of shell joint area (~250mm on either side of joint area).

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Vendors' sign

2.2 One blanket of 25 mm thickness glass wool on ID of shell point 660 mm on either side of weld centre shall be wrapped.

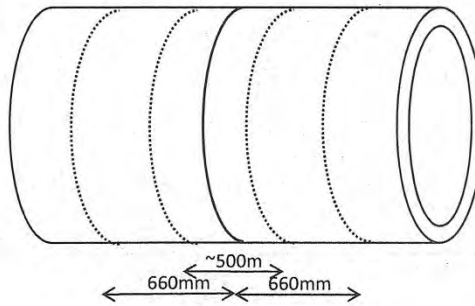
2.3 To hold the insulation material on ID side, a buttering is to be done at 16 locations as per WPP No:MISC:NPC:009, 22.5 deg apart. On that buttering any of the following items to be welded

> Any flat 20 mm width x 1320 mm length

>Angle 25x25x6 for 1320mm length

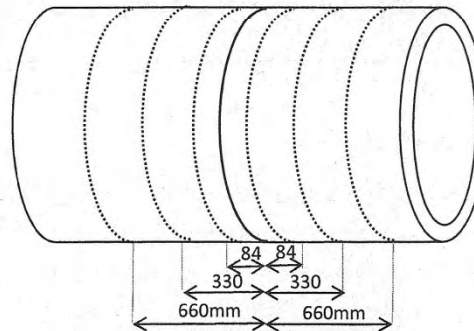
>Angle 40x40x6 for 1320mm length

On the strip/angle electrode cut bits shall be tack welded to hold the insulation.



- Double layer of glass wool blanket will be used on joint area.
- Single layer of glass wool blanket will be used on OD & ID surface upto 660mm.

3.0 Wounding Annealing Cable



- 8 cables to be wound in the centre band width of 84+84mm.
- 4 cables each to be wound up to 330mm on either side of joint.

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Sumant

4.0 Operation of Elotherm 207 KW Equipment:

- 4.1 All TCs will be connected to 24 point multiple point digital recorders.
- 4.2 8 Nos annealing coils shall be wrapped and wound around weld point for 168 mm (84 + 84) bandwidth. 4 Nos of annealing coils upto 330 mm band on either side shall be wound.
- 4.3 All annealing coils shall be connected to power cables in presence of electrical / M& S.
- 4.4 Ensure thermocouple and annealing cable does not cross.

5.0 Other Notes

- 5.1 After completion of Heat Treatment cycle, Insulation material will be dismantled by the vendor.
- 5.2 Operation of local HT unit throughout the cycle shall be done by Shop / Production HT personnel.
- 5.3 For each shift helper from vendor will be available for assistance of HT cycle.

beccell
OP&C / BHEL
22/4/14

MS
Prodn / ATP
22/4/14

QS / NPCIL

⊕ If possible, two digital recorders shall be used each TC point so that # would be ~~easy~~ easily distinguishable.

MS
23/4/14

Enquiry No. 9241500001

2) Scope of Work for Local Heat Treatment for SA 36/01 at ATP Shop.

Scope of Work: For the cir-seam joint between SA-33 and SA-10 as per detail-M1 of 0-93-170-05131/03, Local heat treatment to be carried out as per approved Heat Treatment Plan no. 36-02-02/ 02.

Job Description: Local Heat Treatment of SA36 Circular-Seam Joint No: **SA36/01**(Induction Heat Treatment)

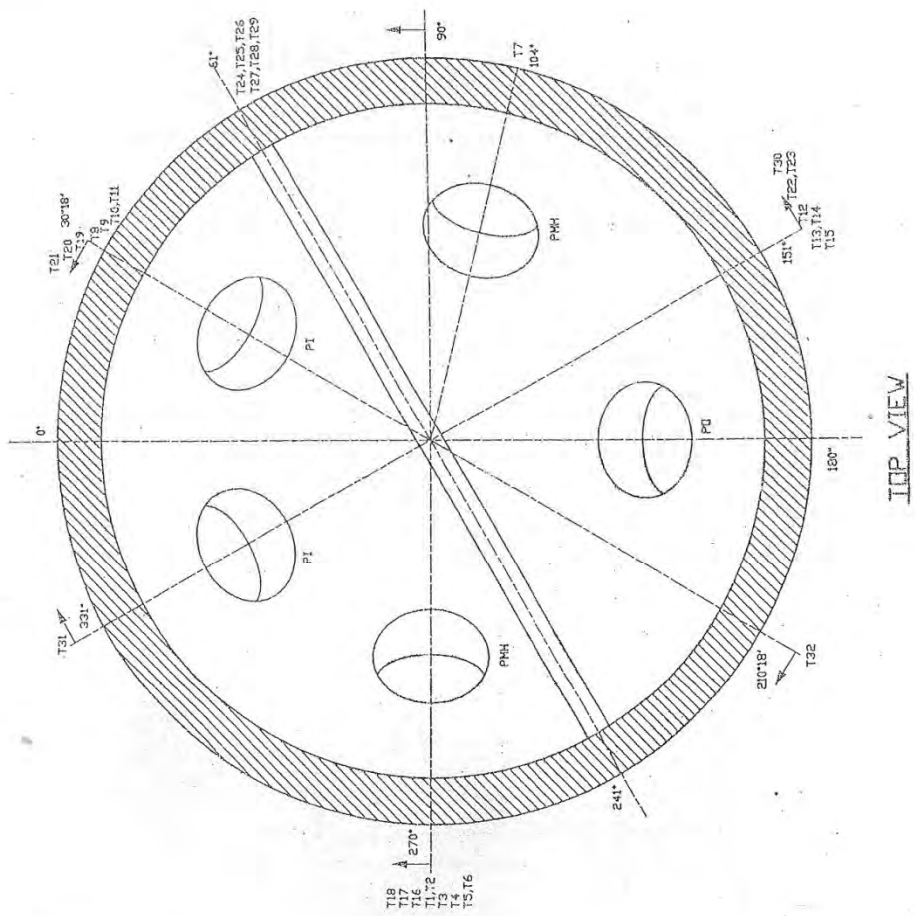
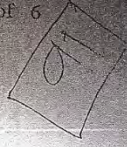
Job Size: 87.5 mm thick circular seam joint of OD 2573 mm

Ref. Drg. No: 093-170-05130 & 093-170-05131

Ref: Heat Treatment Cycle: HTP No: 36-02-02/02(Page No. 10 to15)

W.O: DIBL / 700 MW

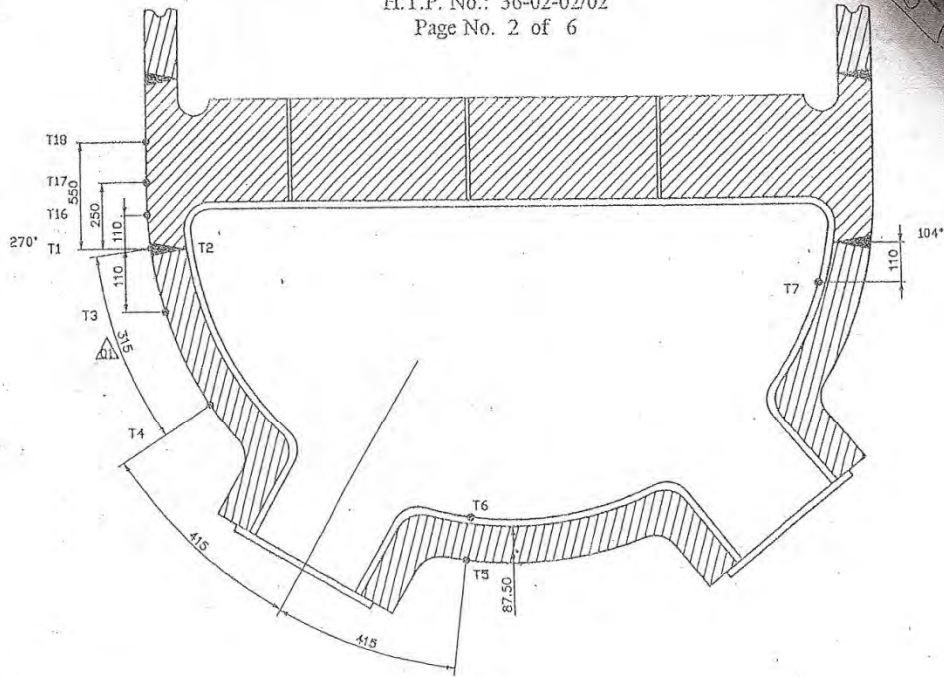
H.T.P. No.: 36-02-02/02
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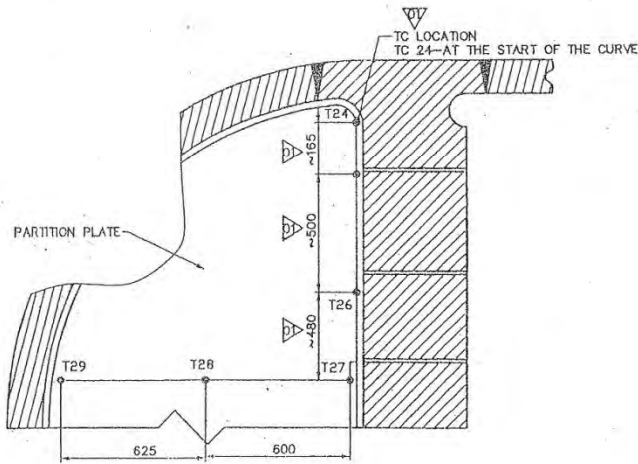
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H.T.P. No.: 36-02-02/02
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SECTION AT 270°-104°



41°-241°
SECTION PERPENDICULAR
TO PARTITION PLATE

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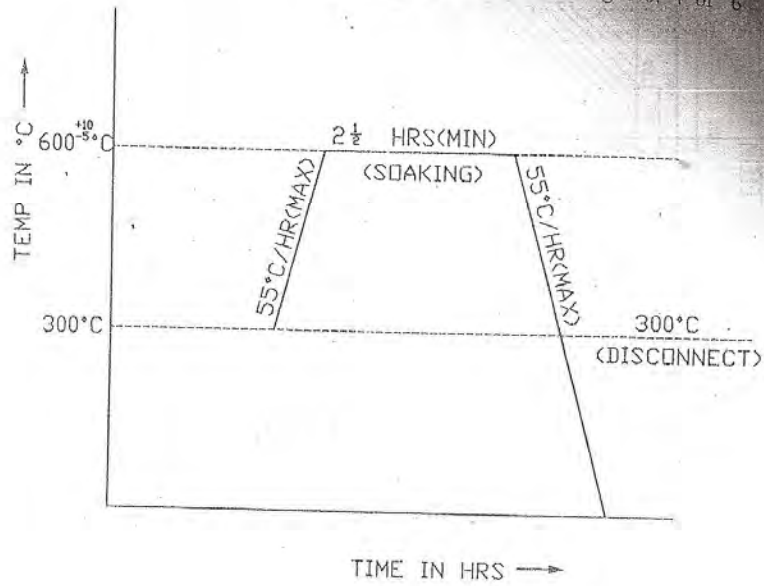
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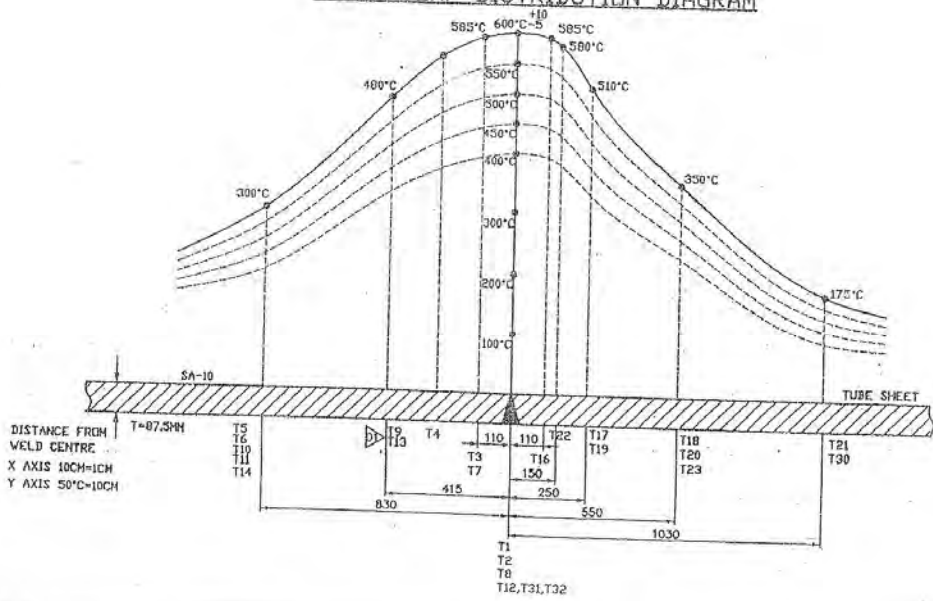
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HT CYCLE

H.T.P. No.: 36-02-02/02
Page No. 4 of 6



AXIAL TEMP DISTRIBUTION DIAGRAM



Vendors' sign

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H.I.P. No.: 36-02-02/02
Page No. 5 of 6

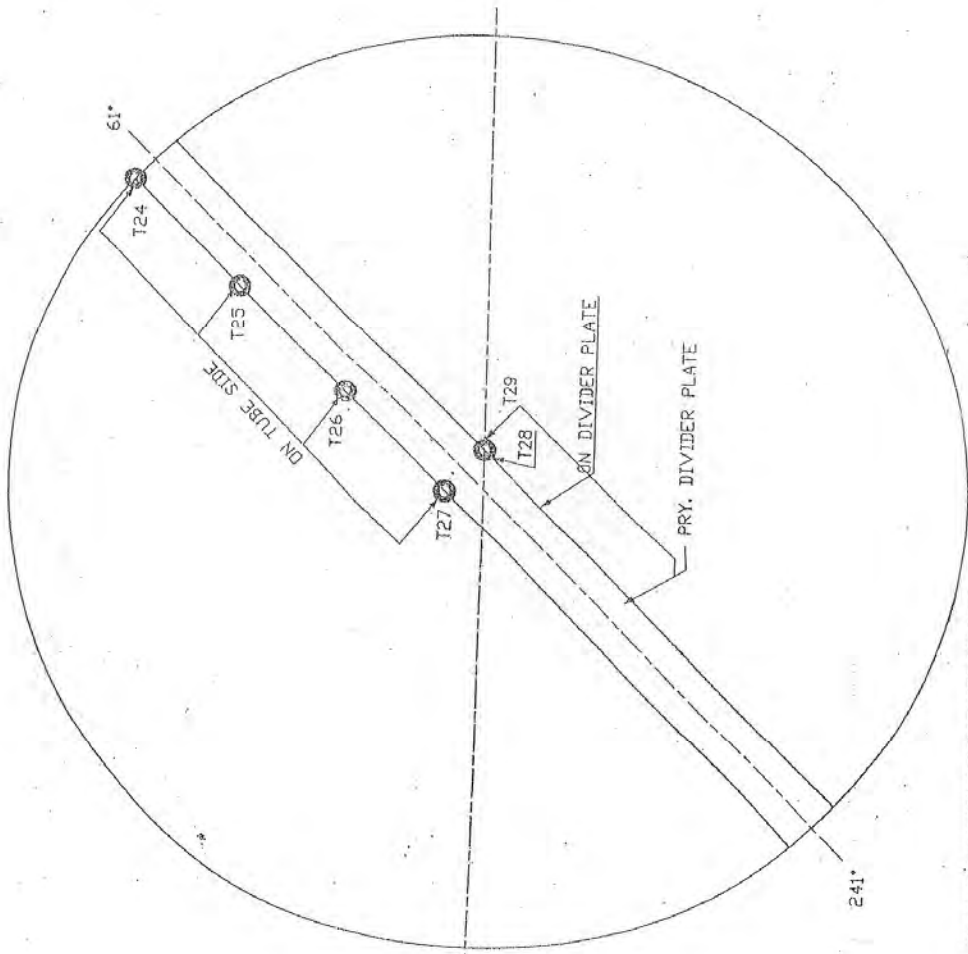


TABLE-2

JOINT TEMP	CORRESPONDING TEMPERATURE(MIN) AT TC							
	TC5	TC4	TC3	TC16	TC22	TC17	TC18	TC21
400°C	225	360	390	390	380	340	220	100
450°C	250	410	440	440	430	390	260	120
500°C	280	460	490	490	475	425	290	140
550°C	290	520	540	540	530	470	320	160
600°C	300	550	593	595	580	510	390	175

H.T.P.No.: 36-02-02/02
Page No. 6 of 6

TABLE-1
ALTERNATE HT SOAKING TIME FOR REDUCED SOAKING TEMPERATURE FOR P3 MATERIAL 07.50MM THICK.

595°C	-	180 MINUTES(MIN)
590°C	-	180 MINUTES
585°C	-	220 MINUTES
580°C	-	261 MINUTES
575°C	-	302 MINUTES
570°C	-	343 MINUTES
565°C	-	384 MINUTES
560°C	-	436 MINUTES
555°C	-	488 MINUTES
549°C	-	540 MINUTES

SOAKING TEMPERATURE BELOW 540°C IS NOT PERMITTED.

TABLE-3

SL.NO.	SEAM TEMPERATURE	TC24/TC25 SHALL BE
01	400°C	140°C(MAX)
02	500°C	175°C(MAX)
03	600°C	250°C(MAX)

IF THESE TEMPERATURE EXCEEDS THE ABOVE, HOLD HEATING AND DWELL TILL TC24/TC25 IS BROUGHT WITH IN THE ABOVE SPECIFIED VALUED BY SUITABLE PURGING ON THE PRIMARY SIDE AND BY SUITABLE CIRCULATION ON SECONDARY SIDE

IN CASE OF POWER FAILURE ALSO, THE ABOVE REQUIREMENTS SHALL BE MET. INSULATION THICKNESS OF TUBE SHEET ESTABLISHED SHALL NOT BE CHANGED, PURGING METHOD ESTABLISHED SHALL ALSO BE MAINTAINED FROM THE BEGINNING OF THE CYCLE.

NOTES:

PRIMARY SIDE LOCAL HEAT TREATMENT

1.0 SCOPE

1.1 THIS PROCEDURE IS TO BE FOLLOWED FOR THE LOCAL POST WELD HEAT TREATMENT BY INDUCTION HEATING FOR THE CIRC. SEAM JOINT BETWEEN SA-33 SUB-ASSY. AND SA-10 SUB-ASSY.(JT.NO)SA36/01

2.0 PREPARATION FOR HEAT TREATMENT

2.1 THE SUB-ASSY. SHALL BE POSITIONED ON ROLLERS AND PLACED AT A DISTANCE SUCH THAT SAGGING AT THE WELD DOES NOT TAKE PLACE DURING THE HEAT TREATMENT OPERATION.

3.0 TEMPERATURE MEASUREMENT

3.1 THE SOAKING TIME SHALL BE COUNTED FROM THE MOMENT IN WHICH ALL THE THERMOCOUPLES ARRANGED IN THE WELD SECTION ON THE INTERNAL AND EXTERNAL SURFACES AND IN THE SECTION AT 100MM FROM THE WELD SECTION, MEASURE A TEMPERATURE EQUAL TO ATLEAST 595°C

3.2 AT 400°C AT WELD SEAM, THE TEMPERATURE GRADIENT SPECIFIED FOR OTHER THERMOCOUPLES SHOULD BE REVIEWED AND IF REQUIRED, THE TEMPERATURE SHOULD BE MAINTAINED AT 400°C, TILL THE DESIRED GRADIENTS ARE ACHIEVED. SUCH REVIEW SHOULD BE DONE AT 450°C, 500°C, 550°C AND 600°C. THE SOAKING TIME SHALL BE ACCOUNTED ONLY AFTER THE GRADIENTS ARE ACHIEVED. THE TABLE-2 CAN BE USED AS A GUIDE LINE FOR ACHIEVING THE FINAL GRADIENTS AT SOAKING TEMPERATURE.

3.3 THE TEMPERATURE VALUES OF THE THERMOCOUPLES SHALL BE MAINTAINED TO MEET THE GRADIENT AS PER AXIAL TEMPERATURE DISTRIBUTION DIAGRAM WITH PROPER INSULATION.

3.4 THE TEMPERATURE VALUES OF THERMOCOUPLES(28,29) ARE FOR INFORMATION ONLY AND SHALL BE RECORDED.

3.5 FOR MAINTAINING TUBESHEET TEMPERATURE AT TC-26,27 WITH IN 350°C, THE TC24/TC25 SHALL BE MONITORED AS PER TABLE-3

4.0 THE FOLLOWING PRECAUTIONARY MEASURES SHALL BE ADOPTED AS RECOMMENDED IN WAIVER NDA1753
4.1 THE INSULATION SHALL BE DONE TO THE MAXIMUM EXTENT POSSIBLE TO MEET THE REQUIREMENT AS PER PARA 3.2. ALSO ADDITIONAL HEAT SOURCE SHALL BE SUITABLY APPLIED FOR MAINTAINING THE TEMPERATURE GRADIENT.

Approved by 6 pages
Chandrasekar

RECORDED IN NOTES

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		TAPP-4 /500 MW	
Bharat Heavy Electricals Ltd UNIT HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		NAME VISU	SIGNATURE DATE
DEPT NC		APPD S.R.S	9.5.05
GRADE OF UNIT/DN C/M/F	SCALE	HEIGHT (Kg)	
150		RET TO ASSY / OLD DPN	

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Enquiry No. 9241500001

03) Scope of Work for Local Heat Treatment for SA 36/02 at ATP Shop.

Scope of Work: For the cir-seam joint between SA-33 and SA-34 as per detail-M2 of 0-93-170-05131/03. Local heat treatment to be carried out as per approved Heat Treatment Plan no. HTP-36-02-03/03.

Job Description: Local Heat Treatment of SA36 Circular-Seam Joint No: **SA36/02** (Induction Heat Treatment)

Job Size: 71.5 mm thick circular seam joint of OD 3493 mm

Ref. Drg. No: 093-170-05130 & 093-170-05131

Ref: Heat Treatment Cycle: HTP No: HTP: 36-02-03/03(Page No. 10 to15)

Terms & Condition related with Work:

- 1) BHEL will provide induction heating equipment, recorder, air cooled annealing cables, thermocouple, foils, lug and power supply for local heat treatment.
- 2) Operation of Induction heating unit equipment will be done by BHEL persons. Vendor should be present for any supporting activity during the HT cycle time.
- 3) Sub-contractor will bring control glass wool, cloth wool, compensator cable, thermocouple leads, quick change connections and thermocouple connector and safety equipment.
- 4) During the heat treatment of job 2 persons from subcontractor should be present throughout 72 hours in alternate shifts of cycle time.
- 5) Local Heat treatment by Induction process will involve the following elemental operations by the vendor:
 - a. Fixing of 19 thermo couples on the job as per procedure 700:SA30:001/ Rev 02. Also fixing of 6 spare thermo couples on the weld region for HT of joint No. **SA30/01**.
 - b. Fixing of 32 thermo couples on the job as per procedure 36-02-02/02. Also fixing of 8 spare thermo couples on the weld region for HT of joint No. **SA36/01**.
 - c. Fixing of 19 thermo couples on the job as per procedure HTP-36-02-03/03. Also fixing of 6 spare thermo couples on the weld region for HT of joint No. **SA36/02**.
 - d. Spot welding with foils on the thermo couple line to avoid sagging.
 - e. Wrapping of cloth wool - one layer on the OD surface on joint area along glass wool and
 - f. Wrapping two layer of glass wool for the entire circumference on the OD surface & ID surface up to 880mm on both sides of weld joint as per sketch.
 - g. Winding the annealing cables - 8-10 no. around circumferential weld.
 - h. Connections of thermo couples to recorder vide compensating cables.
 - i. Connection to the appropriate power source in BHEL.
 - j. Clearance from QC&QS before start of H.T
 - k. During the HT cycle, engagement of 2 persons along with BHEL persons, to monitor rate of heating, soaking time and rate of cooling during Heat Treatment cycle & repeating of cycle when power interruption occurs.
 - l. Preparation of heat treatment chart and getting it cleared from BHEL/QC & NPCIL/QS.
 - m. Dismantling of the cables and glass wool after completion of cycle and safe storage of the items.
- 6) Vendor should wear protective clothes, shoes, goggles & Gloves during HT cycle.

Vendors' sign

Technical / Scope Bid:
Company Profile

1.	Name of the Contractor	
2.	Address	
3.	Phone No.	
4.	E-mail Address	
5.	BHEL Vendor Code	

Qualification Criteria

Sl. No.	Tenderers shall fill up the columns [Yes/No] for confirmation	YES	NO
1	Documentary Evidence for execution of similar kind of erection work executed earlier (BHEL / any other Organisation) and also works completed successfully during last 7 years ending last day of month previous to the one in which applications are invited should be any of the following:- (a) Three completed / executed works costing not less than Rs. 1.80 lakhs each contract and each year. OR (b) Two completed / executed works costing not less than Rs. 2.25 lakhs each contract. OR (c) One completed / executed work costing not less than Rs. 3.60 lakhs single contract.		
2	EMD for Rs. 10,000/- (to be submitted). Offer without EMD will be rejected. (EMD will be waived off for MSME/NSIC/SSI vendors upon verification. Copy of Certificate to be enclosed.)		
3	I.T return acknowledged by I.T department for the last 2 years.		
4	PF No. & Date (Document to be attached)-if such contracts executed already		
5	ESI No. & Date (Document to be attached) - if such contracts executed already		
6	Service Tax certificate (Document to be attached) - if such contracts executed already		
7	Labour licence (Central / State Government) should be submitted before commencement of work		
8	PAN CARD copy		

In case the tenderers not fulfilling the above conditions, the offers liable for rejection. The semi-filled incomplete tender documents will be rejected.

Vendors' sign

PRICE BID FORMAT

Sl. No.	Description	Total Cycles (in No.)	Rate per Cycle (in Rs.)
1.	Local Heat Treatment of SA30 Circular-Seam Joint No: SA30/01	5	
2.	Local Heat Treatment of SA36 Circular-Seam Joint No: SA36/01	5	
3.	Local Heat Treatment of SA36 Circular-Seam Joint No: SA36/02	5	

Terms & Conditions of BHEL

Tender Submission:

1. The tender/bidders are advised to submit their bid well in advance of the tender opening date.
2. The covers should be addressed to Senior Manager/M&S/Planning, Maintenance & Service, 2&4 Building, BHEL, Tiruchirappalli 620 014, to reach on or before by 14.00 Hrs. on 29-01-2015 and the same are to be dropped in the Tender Box which is kept in the M&S, Ground Floor, 2&4 Bldg., BHEL, Tiruchirapalli-620014. Tenders will be opened by 14.30 (IST) on 29-01-2015 at M&S, Ground Floor, 2&4 Bldg., BHEL, Tiruchirapalli-620014. BHEL is not responsible for any postal delay. The top of the envelope should contain the respective Enquiry Number.
3. Bidder has to submit both Techno-commercial bid (Part -I), Price bid (Part -II) & (3) EMD draft in separate covers.
4. The first envelope shall be contained EMD DD, Subscribing EMD with No. & date. The tender offer will be considered only after receipt of EMD.
5. The second envelope shall be sealed and super scribed as Techno-Commercial Bid for Local Heat Treatment for ATP shop in BHEL-Trichy.
6. The third envelope shall contain only Price for the above work as per scope and to be quoted as given in **price bid format (pg. 20/29) only**. Any other information in price bid will not be considered. The envelope shall be sealed and super scribed as Price Bid for Local Heat Treatment for ATP shop in BHEL-Trichy.
7. All the above envelopes shall be kept into another cover and sealed. BHEL is not responsible for any postal delay.
8. Vendor shall sign each and every page of the tender documents and affix seal for having accepted the conditions.
9. In case same rates are quoted by more than one contractor ranking will be done on the basis of higher amount of tax paid based on IT return submitted for the financial year 2013-14.

Payment Terms:

100% payment: After satisfactory completion of work for per Cycle.

Advance Payment: No advance payment shall be arranged for this contract

Period of Contract:

TWO YEAR from the date of receipt of work order.

Security Deposit:

Security Deposit should be paid by the contractor. The Security Deposit rate will be as follows:-

a)	Up to Rs. 10 Lakhs	10% of PO Value
b)	Above Rs.10 Lakh & Up to Rs. 50 Lakhs	Rs. 1 Lakh + 7.5% of amount exceeding Rs. 10 Lakhs

Vendors' sign

c)	Above Rs.50 Lakh	Rs.4 Lakh + 5% of amount exceeding Rs. 50 Lakhs
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The Earnest Money paid at the time of tender will be adjusted as part of the Security Deposit to a level of 50% of contract value before start of the work and the balance amount recovered by deduction from the running bills of the contractor at the rates mentioned above.

Security Deposit shall not be refunded except in accordance with the terms of Security Bond or Agreement. Security Deposit may be furnished in anyone of the following terms:

- a) Cash.
- b) Cash Deposit receipt, Pay Order, Demand Draft duly pledged in favour of BHEL.
- c) Post Office cash certificate, National Savings. Certificates, Treasury Savings Deposit Certificates, National Plan Savings Certificates, 12 Years National Defence Certificates and 10 Years Defence Deposit certificates.
- d) Fixed Deposit Receipt issued by State Bank of India / Nationalised Banks.
- e) Bank Guarantee shall be accepted to a value of 50% of the calculated Security Deposit amount only and 50% of Security Deposit shall be in anyone of the form as mentioned above from Sl. No. (a to e).
- f) The Bank Guarantee shall be kept valid until the due date for refund of Security Deposit.
- g) No interest shall be allowed on Security Deposit. BHEL shall not be responsible for any loss of securities due to liquidation for any other reasons, whatsoever or any depreciation in the value of the securities while in their charge or for any loss of interest thereon.

All compensation or other sums of money payable by the Contractor to BHEL under the terms of this contract or under any other contract with BHEL may be deducted from the Security Deposit or realised by the sale of the securities or from the interest arising there from or from any sums which may be due or may become due to the contractor by BHEL and in the event of this Security Deposit being deducted by reason of such deductions or sale, as aforesaid, the Contractor shall, within 7 days thereafter, make good in cash or in securities endorsed as aforesaid, any sum by which the Security Deposit has been reduced.

Notes:

Vendors' sign

1. The contractors may satisfy themselves by thorough study of scope of proposed job work by visiting the work site. There shall not be at any time dispute / complaint of any nature regarding scope of work and interpretation after awarding the job.
2. The agencies are advised to visit the BHEL work site to understand the nature of work / quantum of work in its true perspective to avoid any complications in future. The Contractor shall carefully study all the terms and conditions as given below.
3. The rates shall be firm for the entire period of the contract.
4. If the Contractor is not able to provide the sufficient service as indicated in the bid, the contractor is liable for forfeiture of the security deposit paid.
5. Detailed scope of work covering the contract, contractual & legal Obligations of the Contractor and general conditions of Job contracts are enclosed. (Refer Techno Commercial Bid & Price Bid)
6. The committee members will consider PRICE BID only after evaluation of TECHNICAL BID.
7. Tender committee's decision is final and canvassing in any form/influencing the committee will be considered as a disqualification and such contractors will not be considered for future enquiry.
8. **L1 rate will be considered as final for the award of contract. All the 15 cycles will be awarded to a single contractor.**
9. BHEL/Trichy is no way responsible for any loss of life or any injury caused to any of the contractors and their crew while executing the above work at our premises.
10. The contractor or his crew should handle the machinery and other equipments entrusted to them by BHEL /Tiruchirappalli with utmost care and return them safely after execution of stipulated work. The cost of damage repair due to improper handling of machinery and equipment will be recovered from the contractor.
11. BHEL/ Tiruchirappalli reserve the right to alter any of the terms & conditions of the contract and any such changes will be intimated to the contractor from time to time.
12. BHEL/Tiruchirappalli reserve the right, to cancel or to terminate the contract at any time without assigning any reason.
13. The contractor should maintain a 'Work Diary' containing the details of work executed by them from time to time on daily basis and obtain the signature from official concerned nominated for this purpose for having executed the work correctly to our satisfaction.
14. The proof of execution of work should be submitted along with each bill (printed form with covering letter and proof for execution of work).

Vendors' sign

Completion Time: Timely completion of work is very important. Hence the contractor has to engage sufficient no. of workers. As per the instructions of site Engineer, if sufficient workers are not brought to the work spot, penalty will be imposed for the delay caused at 10% of contract value and it may even be extended to termination of the contract.

Delayed execution: In case work schedule unreasonably delayed because of non-availability of sufficient man power and non-availability of tools, contract will be terminated and balance work will be got done through some other contractor at their risk& cost.

Defective work: The contractor shall rectify the defective work at free of cost any time during one year from the completion of work.

Laws Governing the Contract: The contract shall be governed by the Indian Laws for the time being in force.

Cancellation of Contract for Corrupt Acts:

BHEL, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued, shall accrue thereafter to BHEL cancel the contract in any of the following cases and the Contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation to the same extent as provided in the case of cancellation for default.

If the Contractor shall:

Offer or give or agree to give to any person in BHEL service any gift or consideration of any kind, as an inducement or reward for doing or for bearing to do or for having done or for having borne to do any act, in relation to the obtaining or execution of this or any other contract for BHEL service,

OR

enter into a contract with BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to BHEL,

OR

To obtain' a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering, without first disclosing the fact in writing to BHEL.

16) Cancellation of Contract for Insolvency Assignment of Transfer or Subletting Of Contract:

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BHEL, without prejudice to any other right or remedy, which shall have accrued or shall accrue thereafter to BHEL, shall cancel the contract in any of the following cases:

If the Contractor,

Being an individual or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order for administration of his estate, made against him or shall take any proceedings for liquidation or composition under any bankruptcy Act or assignment of his effects of composition or arrangement for the benefit of his creditors or purport to do so, or if any application made under any Bankruptcy Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him on behalf of his creditors.

OR

Being a Company, shall pass a resolution or the Court shall make an order for the liquidation of its affairs, or a receiver or Manager on behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or Manager.

OR

Assigns, Transfers, Sublets or attempts to assign, transfer or sublet any portion of the work without the prior written approval of the BHEL.

Whenever BHEL exercises the authority to cancel the contract under these conditions, BHEL may have the work done by any means at the Contractor's risks and expenses provided always that in the event of the cost of the work so done (as certified by AGM/ATP) being less than the contract cost, the advantage shall accrue to BHEL and if the cost exceeds the money due to Contractor under the contract, the Contractor shall either pay the excess amount ordered by AGM/ATP or the same shall be recovered from the Contractor by other means.

In case BHEL carries out the work under the provisions of this condition, the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plants and / or labour provided by BHEL with an addition of such percentage to cover superintendence and establishment charges as may be decided by AGM/ATP whose decision shall be final and conclusive.

Labourer engaged by the contractor should be disciplined & exhibit good behaviour in dealing with employees of BHEL. Any misbehaviour or conduct of any person engaged by

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the contractor is not good, contractor shall change that person immediately or else it may even lead to termination of the contract & security deposit will be forfeited as penalty.

Cancellation of Contract In Part or Full for Contractor's Default:

If the contractor:

- a) makes default in carrying out the work as directed and continues in that state after a reasonable notice from AGM/ ATP or his authorized representative:
- b) fails to comply with any of the terms & conditions of the contract or after reasonable notice in writing with orders properly issued thereunder:

BHEL, May without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL CANCEL the contract as whole or in part thereof or c only such work order or items of work in default from the contract. Whenever BHEL exercises the authority to cancel the contract as a whole or part under this condition, BHEL may complete the work at the contractor's risk and cost (as certified by AGM/ATP which is final and conclusive) being less than the contract cost, the advantage shall accrue to BHEL. If the cost exceeds the money due to the Contractor under this contract, the Contractor shall either pay the excess amount ordered by AGM / ATP or the same shall be recovered from the Contractor by other means. In case BHEL carries out the work or any part thereof under the provisions of the conditions the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plant and/or labour provided by BHEL with an addition of such percentage to cover the superintendence and establishment charges as may be decided by the AGM / ATP whose decision shall be final and conclusive.

Termination of Contract on Death of Contractor:

Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, or if the firm IS dissolved or the company is liquidated, BHEL shall have the option of terminating the contract without compensation to the Contractor.

Special Power to Termination:

If at any time after the award of contract, BHEL shall for any reason whatsoever not require whole or any part of the work to be carried out AGM/ ATP shall give notice in writing of the fact to the Contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the

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execution of the work in full but which he did not derive in consequence of the foreclosing of the work.

Recovery from Contractor:

Whenever under the contract, any sum of money, shall be recoverable from or payable by the Contractor, the same may be deducted from or any sum then due or which at any time thereafter may become due to Contractor under the contract or under any other contract with BHEL or from his Security Deposit or he shall pay the claim on demand.

Refund of Security Deposit:

The Security Deposit mentioned in condition 10 above may be refunded to the Contractor after a period of 6 months on termination or expiry of the contract provided always that the Contractor shall first have been paid the last and final bill and have rendered a "NO DEMAND CERTIFICATE".

Force Majeure Clause:

If, at any time during the continuance of this Contract the performance in whole or in part by either party of any obligations under this Contract shall be prevented or delayed by reason of any War, Hostile acts of the public enemy Civil Commotion, Epidemics, or Acts of God (Floods, Storm/Cyclone, Hurricane, Earthquake etc.) then provided notice of happening of any such event is given by either party to other within 7 days from the date of occurrence there for neither party shall by reason of such event be entitled to terminate this Contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance 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 this Contract is prevented or delayed by reason of any such event, claims for extension of time shall be granted for periods considered reasonable by the AGM/ATP subject to prompt notification by the contractor.

Arbitration:

All disputes between the parties to the contract, arising out of or relating to the contract, other than those for which the decision of the AGM/ATP or Accepting Officer or any other person is by the contract expressed to be final and conclusive shall after written notice by either party to the contract to the other party be referred to the sole Arbitration of GENERAL MANAGER or other Officer of BHEL appointed as Arbitrator, by the GENERAL MANAGER of BHEL in his sole discretion. Unless the parties otherwise agree, such reference shall not take place until after the completion, alleged completion or abandonment of the work of the determination of

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the contract. The venue of Arbitration shall be such a place or places, as may be fixed by the Arbitrator in his sole discretion. The award of the Arbitrator shall be final, conclusive and binding on both parties to the contract.

Signing Of Contract:

Each contract document shall be signed by the Contractor with his usual signature. Contract by partnership of Hindu Joint Family firm, may be signed in the FIRM'S name by one of the Partners or the Karta or Manager as the case may be or by any other duly authorised representative followed by the name and designation of the person so signing. Contract by a Company shall be signed with the name of the Company from a person authorised in this behalf and a power of attorney or other satisfactory proof, showing that the person signing the Contract documents on behalf of the Company is duly authorised to do so, shall accompany the contract.

Safety

1. Safety items: The contract employees shall follow safe working procedures by using appropriate safety equipments like safety belts, safety shoes, gloves, safety goggles, helmets, welding shields, earplugs, nose filters, aprons, etc. All safety equipments mentioned above shall be supplied by the contractor.
2. All workers shall compulsorily wear safety shoes and helmets at work site. Contract worker not using safety shoes, safety helmets, safety belts at height and not using other appropriate safety items (PPE) for the respective work will be viewed seriously and they will be sent out.
3. The contractor shall ensure that no damage is caused to any equipment at the site. If any such damage is caused, it is the responsibility of the contractor to make good the losses or compensate for the same.
4. Scaffolding shall be done by the contractor with their own scaffolding materials.
5. They have to strictly follow BHEL Engineers safety instructions whenever pointed out.
6. Height permit shall be obtained from the Engineer In- charge to carry out the work at high elevations.

General Terms and Conditions

1. **Minimum Wages:** The contractor shall pay minimum wages to his labourers as per Tamil Nadu govt. norms and additional wages Rs.3200/month for unskilled /Rs.3700 per month for

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semiskilled & Rs.4100/month for skilled shall be paid and produce copies of attendance records / wage registers. Bonus @ 8.33% of total wage to be paid to the workmen.

2. **Labour Licence** : The contractor shall submit valid Labour Licence before starting the work
3. **PF & ESI** :The contract to be covered under PF and ESI for the labourers engaged
4. The contractor shall comply with all state and central laws, statutory rules and regulations, inclusive of labour and industrial laws, which are applicable from time to time.
5. **Gate Pass**: Pass arrangement for labours shall be arranged by the contractor before commencement of the work. The authorized person / supervisor of the contractor is responsible for making the pass arrangement.
6. **Insurance & workmen compensation**: The contractor shall insure his workmen under Workman compensation Act. It is the sole responsibility of the contractor to ensure his workman against accident and injury while at work. They have to follow relevant pay compensation rules in case of accident/injury.
7. **Liquidated damages**: If the Contractor fails to complete the service/work as per terms & conditions of the order within the delivery schedule, 0.5%of the order value will be deducted for each week of delay or part thereof subject to a maximum of 15% of the total contract value.

IMPORTANT NOTE FOR SERVICE TAX:

1. A copy of Service tax registration Certificate shall be submitted along with the offer.
2. At the time of bill passing, the Contractor Shall submit the copy of the remitted Service tax challan of previous month/Quarter as proof of service tax remitted to tax authorities and also a Certificate Stating that "Service Tax Collected from BHEL has been remitted to tax authorities".
3. If the Contractor is not registered then a declaration shall be submitted along with offer that they are within the threshold limit.