

**TENDER SPECIFICATION**  
**No. - BHE/PW/PUR/RGIT-STR/727**

FOR

SUPPLY (EXCEPTING BHEL SUPPLIED MATERIALS), COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD; TRANSPORTATION TO FABRICATION YARD/ SITE; FABRICATION, ERECTION, ALIGNMENT, BOLTING/ WELDING/ FASTENIG, GROUTING, TESTING AND HANDING OVER OF BUNKER STRUCTURES AND RAW COAL BUNKERS IN BLOCK-I (UNIT 1 & 3 ) AND BLOCK-II (UNIT-2 & 4 )

AT

JINDAL POWER LIMITED PHASE-III

(4X600 MW JPL STPP) SALIBHATA

TAMNAR VILLAGE

DISTT: RAIGARH, CHATTISGARH

**PART-I - TECHNICAL BID**

**(VOLUME- I)**

**SPECIAL & GENERAL CONDITIONS OF CONTRACT,  
QR, NIT**

BOOK NO.:



**BHARAT HEAVY ELECTRICALS LIMITED**

*(A GOVERNMENT OF INDIA UNDERTAKING)*

POWER SECTOR: WESTERN REGION

345, KINGSWAY: NAGPUR 440 001

## CONTENTS

SN	DESCRIPTION	SECTION/ APPENDIX No.	No. OF PAGES
1.	TENDER SPECIFICATION	--	1
2.	PROCEDURE FOR SUBMISSION OF SEALED TENDER	--	2
3.	PROJECT INFORMATION	--	1
4.	CHECK LIST	--	1
5.	DECLARATION	--	1
6.	CERTIFICATE OF NO DEVIATION	--	1
7.	GENERAL CONDITIONS OF CONTRACT	SECTION-1 & 2	#
8.	OFFER OF CONTRACTOR	SECTION-3	1
<b>SPECIAL CONDITIONS OF CONTRACT</b>			
9.	SCOPE OF WORK	SECTION-4	13
10.	OBLIGATIONS OF THE CONTRACTOR (TOOLS, TACKLES & CONSUMABLES)	SECTION-5	05
11.	CONTRACTOR'S OBLIGATION IN REGARD TO EMPLOYMENT OF SUPERVISORY STAFF AND WORKMEN	SECTION-6	01
12.	OBLIGATIONS OF BHEL	SECTION-7	03
13.	INSPECTION/ QUALITY ASSURANCE/ QUALITY CONTROL/ STATUTORY INSPECTION	SECTION-8	03
14.	SAFETY MEASURES	SECTION-9	13
15.	DRAWINGS AND DOCUMENTS	SECTION-10	01
16.	TIME SCHEDULE/MOBILIZATION/ PROGRESS MONITORING/ OVER RUN.	SECTION-11	03
17.	TERMS OF PAYMENT	SECTION-12	04
18.	EXTRA CHARGES FOR MODIFICATION & RECTIFICATION	SECTION-13	02
19.	INSURANCE	SECTION-14	01
20.	EARNESH MONEY DEPOSIT & SECURITY DEPOSIT	SECTION-15	02
21.	BUSINESS BANNING	SECTION-16	01
22.	INTEGRITY PACK	SECTION-17	07
23.	Procedure for Reverse Auction	SECTION-18	13
<b>APPENDICES</b>			
24.	LIST OF T&P TO BE MADE AVAILABLE BY BHEL FREE OF CHARGES	APPENDIX-I	01
25.	MAJOR T&P & MMD TO BE DEPLOYED BY THE CONTRACTOR	APPENDIX-II	02
26.	ANALYSIS OF UNIT RATES QUOTED	APPENDIX-V	01

<b>SN</b>	<b>DESCRIPTION</b>	<b>SECTION/ APPENDIX No.</b>	<b>No. OF PAGES</b>
27.	MONTHWISE MANPOWER DEPLOYMENT PLAN BY THE CONTRACTOR	APPENDIX-IV	01
28.	CONTRACTOR'S MAJOR T&P DEPLOYMENT PLAN	APPENDIX-V	01
29.	DETAILS OF CONCURRENT COMMITMENT	APPENDIX-VI	01
30.	LIST OF SIMILAR JOBS DONE IN LAST SEVEN YEARS.	APPENDIX-VII	01
31.	RATE SCHEDULE (PRICE BID:PART-II)		@

#: ATTACHED AT THE END OF HARD COPY OF TENDER SPECIFICATION. ALSO HOSTED IN WEB PAGE AS PART OF NOTICE INVITING TENDER.

@: ISSUED AS A SEPARATE BOOKLET AS HARD COPY. ISSUED AS A SEPARATE DOWNLOADABLE SOFT COPY IN WEB PAGE.

**NOTE: Bidders must Visit BHEL web site [www.bhel.com](http://www.bhel.com) for NIT, Qualifying Requirement of this work( QR ), GCC etc. Further all corrigenda, addenda, amendments and clarifications to Tender Specifications will be hosted in this web page. Bidders shall keep themselves updated with all such amendments.**

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)  
POWER SECTOR - WESTERN REGION  
SHREEMOHINI COMPLEX  
345, KINGS WAY - NAGPUR 440 001  
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**TENDER SPECIFICATION No. - BHE/PW/PUR/RGIT-STR/727**

**NAME OF THE WORK** : SUPPLY (EXCEPTING BHEL SUPPLIED MATERIALS), COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD; TRANSPORTATION TO FABRICATION YARD/ SITE; FABRICATION, ERECTION, ALIGNMENT, BOLTING/ WELDING/ FASTENING, GROUTING, TESTING AND HANDING OVER OF BUNKER STRUCTURE AND RAW COAL BUNKER IN BLOCK-I (UNIT-1 & 3 ) AND BLOCK-II (UNIT-2 & 4 ) AT 4X600 MW RAIGARH THERMAL POWER PROJECT AT JINDAL POWER LIMITED PHASE-III,(4X600 MW JPL STPP) SALIBHATA,TAMNAR VILLAGE ,DISTT: RAIGARH, CHATTISGARH

EARNEST MONEY DEPOSIT: Rs.2, 00, 000/ (RUPEES TWO LAKHS ONLY) .  
For more details refer Section-15 & GCC of this tender.

THIS TENDER CONTAINS THE FOLLOQWING DOCUMENTS.

PART –1

- A) VOLUME - I (TECHNICAL BID /GENERAL & SPECIAL CONDITIONS OF CONTRACT)
- B) VOLUME -II ( TECHNICAL BID /TECHNICAL SPECIFICATION )PART- 2
- C) VOLUME – III (PRICE BID-PART-2)

THESE TENDER DOCUMENTS CONTAINS: TECHNICAL BID VOLUME-I, VOLUME-II & VOLUME-III (PRICE BID) ARE ISSUED TO:

M/S.

(THESE TENDER DOCUMENTS ARE NOT TRANSFERABLE)

SENIOR MANAGER ( PUR)

PLACE: NAGPUR  
DATE:

**BHARAT HEAVY ELECTRICALS LIMITED**  
(A GOVERNMENT OF INDIA UNDERTAKING)  
POWER SECTOR - WESTERN REGION  
SHREEMOHINI COMPLEX  
345, KINGS WAY - NAGPUR 440 001

**PROCEDURE FOR SUBMISSION OF SEALED TENDERS**

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THE TENDERERS MUST SUBMIT THEIR TENDERS AS REQUIRED IN TWO PARTS IN SEPARATE SEALED COVERS PROMINENTLY SUPERSCRIBED AS PART-I TECHNICAL BID AND PART-II PRICE BID AND ALSO INDICATING ON EACH OF THE COVERS THE TENDER SPECIFICATION NUMBER AND DUE DATE AND TIME AS MENTIONED ELSEWHERE.

**A) PART-I: TECHNICAL BID**

PART-I: TECHNICAL BID IS ISSUED IN TWO VOLUMES AS UNDER:

- a) VOLUME-I : SPECIAL AND GENERAL CONDITIONS OF CONTRACT
- VOLUME-II : STANDARD TECHNICAL SPECIFICATIONS OF BHEL
  
- b) VOLUME-III : PRICE BID (PART-2)

THESE TWO SEPARATE COVERS-I AND II SHALL TOGETHER BE ENCLOSED IN A THIRD ENVELOPE (COVER-III) ALONG WITH REQUISITE EMD AS INDICATED EARLIER AND THIS SEALED COVER SHALL BE SUPER SCRIBED AND SUBMITTED TO ADDL. GEN MANAGER (PURCHASE) AT THE ABOVE-MENTIONED ADDRESS BEFORE THE DUE DATE AS INDICATED.

THE QUALIFIED TENDERER WILL BE INTIMATED SEPARATELY ABOUT THE STATUS OF THEIR OFFER.

TENDERER ARE REQUESTED TO MAKE SPECIFIC NOTE OF THE FOLLOWING CONDITIONS:

CONTRACTOR SHOULD HAVE ADEQUATE RESOURCES INCLUDING MAJOR T&PS AT HIS DISPOSAL FOR THIS JOB.

CONTRACTOR SHOULD HAVE SOUND FINANCIAL STABILITY.

TENDERER SHOULD MEET QUALITY REQUIREMENT REGARDING WORKMANSHIP, DEPLOYMENT OF PERSONNEL, FABRICATION & ERECTION TOOLS AND NECESSARY INSPECTION, MEASUREMENT & TESTING INSTRUMENTS.

ALL INFORMATION AS CALLED FOR IN VARIOUS APPENDICES AND CLAUSES OF TENDER SPECIFICATION SHOULD BE FURNISHED IN COMPLETENESS. PLEASE REFER THE CHECKLIST.

THE TENDERER IF ANY, SHALL OBTAIN CLARIFICATION ON TENDER BEFORE SUBMITTING THEIR OFFER.

**Offers must be submitted without any deviation.**

Offers received with any deviation or without relevant information as described above are liable to be rejected. **Price bids received in the form other than specified in Part-II (Price Bid) are liable to be rejected.**

**Bidder must sign & stamp all pages of this tender specification as an acceptance of tender conditions and must enclose this tender specification with their offer.**

**Bidder shall note that their offer will be considered subject to the approval of BHEL's customer.**

**Offer of bidder received after due date shall NOT be considered under any circumstances.**

## **IMPORTANT INFORMATION**

**There are 4 Units which is divided into 2 Blocks. Block – I comprises of (U # 1 & 3) and Block – II comprises of (U # 2 & 4).**

- 1.** This is a combined tender for E & C of Bunker of 4 Units of 600 MW (Unit 1 to 4 at JPL RAIGARH) .
- 2.** Part – I of Tender Specifications consists of “Technical Bid Specifications” for each Block which is common to both the blocks ( ie fro Block-I & Block-II ).
- 3.** Part – II of Tender Specifications consists of “Price Bid Specifications” issued for only one Block . Hence bidders are requested to quote prices for only one block of two units
- 4. The work of Block-I & Block- II shall be awarded as below.**
  - a.** Techno-commercially qualified bidders shall be considered for opening of price bid.
  - b.** One bidder shall get only one job of fabrication & erection of Bunker of 2 units of 600 MW of one Block), i.e if a bidder is awarded the job for one of the Blocks, then the bidder is not eligible for fabrication & erection of Bunker of other Block.
  - c.** L1 Bidder will be considered for award of Block - 1.
  - d.** For finalizing Block -II, L2 Bidder will be given an offer to execute Block -II job at the final awarded value of Block - 1. In case L2 Bidder does not agree to execute Block - II at the awarded value of Block - 1, then the same offer will be extended to L3 bidder & so forth to the next higher bidders until Block - 2 is finalized.

## PROJECT INFORMATION

### 1. 4x600 MW JPL RAIGARH

Jindal Power Limited (JPL) a O.P. Jindal group company is setting up a Thermal Power Plant at Raigarh in the state of Chhattisgarh. 4X250 MW is already operational. . The capacity of plant is being augmented by installation of additional 4x600 mw set adjacent to the existing units.

Approach to site:

Site is located near village Tamnar in Raigarh District of Chhattisgarh State. The site is approachable from Raigarh by the state highway which branches off at Punjipathra about 12 Km from the site and 34 Km from Raigarh town. The nearest broad gauge rail link is at Raigarh which is about 35 Km (Raigarh is on Railway line of Howrah Section of South eastern railways)

#### Metrological Data

- a) Mean of daily max temp : 33.5 deg.C
- b) Mean of daily min temp : 21.5 deg.C
- c) Highest temp. Recorded : 47.2 deg.C (19 June 1960)
- d) Lowest temp. Recorded : 6.4 deg.C ( 24 Dec 1959)
- e) Relative Humidity : Varies from 19% to 88%
- f) Annual average rainfall : Between 1000-2000mm
- g) Wind load : 7.3Km/Hr (in the month of June)
- h) Seismic zone : zone III in accordance with IS: 1893, Para 3.

The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the CONTRACT. All costs for and associated with site visits shall be borne by the bidder.

### Check List

(Vide Para 1.3 Of Section-I of General Conditions Of Contract)

1	Name of the Bidder with Postal Address for Correspondence			
2	Name of Contact Person with Telephone & Fax No.	Mr./Ms Tel No. Fax No.		
3	Nature of the firm	PROPRIETARY / PARTNERSHIP / LIMITED CO.		
4	Details of EMD Please Indicate whether 1) One Time EMD or, 2) Only for this Tender	DD No. .... DD Date..... Name of Bank..... Amount: Rs.....		
5	Validity of Offer (BHEL's Requirement: 180 days from Due Date)	Validity _____ days		
6	Mobilization Time (Please refer Section-11 of SCC)	Mobilization Time _____		
7	Whether any conditions stipulated?	<b>Yes</b> (vide Document reference:	<b>No</b>	
		<b>Bidder to note that tender with conditions unacceptable to BHEL shall be rejected.</b>		
8	Bidder has visited the project site and acquainted with the site conditions	Yes	No	
9	Details of concurrent jobs are furnished ( <b>Appendix- VI</b> )	Yes	No	
10	Headquarters organization is furnished	Yes	No	
11	Proposed site organization is furnished	Yes	No	
12	Names and particulars of directors/partners are furnished	Yes	No	
13	Financial status of the firm ( <b>Annexure 'A' of GCC</b> ) is furnished	Yes	No	
14	<b>Copy of Audited Profit &amp; Loss Account</b> for preceding three years duly authenticated on each copy by bidders Chartered Accountants	Yes	No	

### Check List

(Vide Para 1.3 Of Section-I of General Conditions Of Contract)

15	<b>Latest Certificate by Bidder's Banker for Overdraft &amp; BG Limits</b> is Furnished (Certificate shall not be older than six months from the Last Date for offer submission)	Yes	No
16	Latest copy of <b>IT Return</b> along with copy of <b>PAN Card</b> are Furnished	Yes	No
17	Month-wise <b>Manpower Deployment Plan (Appendix – IV)</b> is furnished	Yes	No
18	<b>Analysis of Unit Rates</b> quoted ( <b>Appendix-III</b> ) is furnished	Yes	No
19	<b>Month-wise deployment plan for major T&amp;P (Appendix-V)</b> is furnished	Yes	No
20	Whether all the pages of the Tender Specification documents are read, understood and signed	Yes	No
21	<b>Power of Attorney</b> enclosed in favor of person making offer	Yes	No
22	Bidder has familiarized himself with all Relevant Local Laws & Local Conditions	Yes	No
23	Safety Requirement of this work in a Running plant Premises has been understood.	Yes	No
24	Erection and Commissioning programme furnished	Yes	No
25	<b>List of Jobs completed</b> in last seven years is furnished ( <b>Appendix-VII</b> )	Yes	No
26	Whether <b>copies of detailed Work Orders (with BOQ)</b> and <b>Completion Certificates</b> in support of above furnished	Yes	No
27	Whether contractor has left any job unfinished? If so, give reasons.	Yes	No
28	Whether any client has terminated the contractor's work before completion? If so, furnish reasons for the same	Yes	No
29	<b>BIDDER MUST FURNISH HERE THE FOLLOWING DETAIL FOR RELEASING EMD AND OTHER PAYMENTS DULY ENDORSED BY BANK ( IE SIGN &amp; STAMP BY BANK ).</b> 1 Name of the Company----- 2 Name of Bank----- 3 Name of Bank Branch----- 4 City/Place----- 5 Account Number----- 6 Account type----- 7 IFSC code of the Bank Branch----- 8 MICR Code of the Bank Branch-----	Yes	No

Note: strike off or tick '**yes**' or '**no**', as applicable

**BIDDERS MUST SUBMIT ALL NECESSARY DOCUMENTS AS BEING ASKED IN ABOVE CHECK LIST.**

## **DECLARATION BY BIDDER'S AUTHORIZED SIGNATORY**

I, \_\_\_\_\_ HEREBY CERTIFY THAT ALL THE INFORMATION AND DATA FURNISHED BY ME WITH REGARD TO THE TENDER SPECIFICATION No. BHE/PW/PUR/RGIT-STR/727 IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I HAVE GONE THROUGH THE SPECIFICATIONS, CONDITIONS AND STIPULATIONS IN DETAIL AND AGREE TO COMPLY WITH THE REQUIREMENTS AND INTENT OF THE SPECIFICATION. I FURTHER CERTIFY THAT I AM DULY AUTHORIZED REPRESENTATIVE OF THE UNDER-MENTIONED TENDERER AND A VALID POWER OF ATTORNEY TO THIS EFFECT IS ALSO ENCLOSED.

AUTHORISED REPRESENTATIVE'S SIGNATURE WITH  
NAME AND ADDRESS

DATE:

TENDERER'S NAME AND ADDRESS

# **CERTIFICATE OF NO DEVIATION**

**TENDER SPECIFICATION No.**

**BHE/PW/PUR/RGIT STR/727**

**I/WE, M/s .....**

**HEREBY CERTIFY THAT IN OUR OFFER I/WE HAVE NEITHER SET ANY TERMS AND CONDITIONS NOR THERE ANY DEVIATION TAKEN FROM THE TENDER CONDITIONS EITHER TECHNICAL OR COMMERCIAL AND I/WE AGREE TO ALL THE TERMS AND CONDITIONS MENTIONED IN THE TENDER SPECIFICATION.**

DATE:

SIGNATURE OF THE TENDERER

**SECTION-3**  
**OFFER OF THE CONTRACTOR**

SENIOR MANAGER (Purchase)  
BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR - WESTERN REGION  
SHREEMOHINI COMPLEX  
345, KINGSWAY  
NAGPUR- 440 001

DEAR SIR,

I/WE HEREBY OFFER TO CARRY OUT THE WORK DETAILED IN TENDER SPECIFICATION NO. BHE/PW/PUR/RGIT-STR/727 ISSUED BY BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR-WESTERN REGION, NAGPUR, IN ACCORDANCE WITH THE TERMS AND CONDITIONS THEREOF.

I/WE HAVE CAREFULLY PERUSED THE FOLLOWING LISTED DOCUMENTS CONNECTED WITH THE ABOVE WORK AND AGREE TO ABIDE BY THE SAME.

1. INSTRUCTIONS TO TENDERERS
2. GENERAL CONDITIONS OF CONTRACT
3. SPECIAL CONDITIONS OF CONTRACT
4. OTHER SECTIONS, APPENDICES, SCHEDULES AND DRAWINGS.

I/WE HAVE DEPOSITED / FORWARDED HERewith THE EARNEST MONEY DEPOSIT FOR A SUM OF RS. 2,00,000/- (RUPEES TWO LAKH ONLY) DETAILS OF EMD PAYMENT ARE FURNISHED IN THE CHECK LIST.

EMD SHALL BE REFUNDED SHOULD OUR OFFER NOT BE ACCEPTED / EMD **NEED NOT BE REFUNDED AND THE AMOUNT MAY BE TREATED AS "ONE TIME EMD" FOR ERECTION AND COMMISSIONING TENDERS OF BHEL-PSWR, NAGPUR.** SHOULD OUR OFFER BE ACCEPTED, I/WE FURTHER AGREE TO DEPOSIT SECURITY DEPOSIT FOR THE WORK AS PROVIDED FOR IN THE TENDER SPECIFICATION WITHIN THE STIPULATED TIME AS MAY BE INDICATED BY BHEL, POWER SECTOR-WESTERN REGION, NAGPUR.

I/WE FURTHER AGREE TO EXECUTE ALL THE WORKS REFERRED TO IN THE SAID DOCUMENTS UPON THE TERMS AND CONDITIONS CONTAINED OR REFERRED TO THEREIN AND AS DETAILED IN THE APPENDICES ANNEXED THERETO.

PLACE:  
DATE:

SIGNATURE OF TENDERER:  
ADDRESS:

WITNESSES WITH THEIR ADDRESS

SIGNATURE	NAME	ADDRESS
1.		
2.		

**SECTION-4**  
**SPECIAL CONDITIONS OF CONTRACT**

**SCOPE OF WORK**

4.0 GENERAL

THE WORK TO BE CARRIED OUT UNDER THE SCOPE OF THESE SPECIFICATIONS IS BROADLY AS UNDER:

- 1) SUPPLY (EXCEPTING BHEL SUPPLIED MATERIALS), FABRICATION, ERECTION, ALIGNMENT AND WELDING, BOLTING, FASTENING, GROUTING AS APPLICABLE
- 2) DESTRUCTIVE, NON-DESTRUCTIVE AND ANY OTHER TESTS AS PER REQUIREMNT
- 3) COMPLETION OF FACILITY AND HANDING OVER

THE FOLLOWING DOCUMENTS ARE ATTACHED ALONGWITH AS VOLUME -II AND FORM INTEGRAL PART OF THESE SPECIFICATIONS:

VOLUME	SECTION	TITLE	SEPCIFICATION NO.	REV. NO.
VOLUME IIB	SECTION - A	SCOPE OF WORK	PE-TS-329-616-C001	00
VOLUME IIB	SECTION - B	PROJECT INFORMATION	PE-TS-329-616-C001	00
VOLUME IIB	SECTION - C	SPECIFIC TECHNICAL REQUIREMENTS FOR STRUCTURAL WORKS	PE-TS-329-616-C001	00
VOLUME IIB	SECTION – D	TECHNICAL SPECIFICATIONS FOR STRUCTURAL STEEL WORKS	PE-TS-329-616-C001	00
VOLUME IIB	SECTION – D SUB-SECTION – D17	FABRICATION OF STRUCTURAL STEEL WORK	PE-TS-329-616-C001	00
VOLUME IIB	SECTION – D SUB-SECTION - D18	ERECTION OF STRUCTURAL STEELWORK	PE-TS-329-616-C001	00

BIDDERS SHALL TAKE NOTE OF AND ACCOUNT FOR THE CONTENTS OF ABOVE DOUCMENTS WHILE SUBMITTING THEIR OFFER. SPECIFIC ATTENTION IS DRAWN TO THE CLAUSES AND SUB-CLAUSES VIDE SERIAL NUMBERS 6.00.00 ENTITLED RATES AND MEASUREMENTS OF SUB-SECTION-D17.

FOLLOWING ARE CLARIFIED IN RESPECT OF THE ABOVE SPECIFICATIONS:

4.0.1

THESE SPECIFICATIONS INCLUDE SUPPLY OF MATERIALS FOR VARIOUS ITEMS OF WORK. **HOWEVER, BHEL WILL BE SUPPLYING ONLY FOLLOWING MATERIALS ON FREE-ISSUE-ACCOUNTABLE BASIS AND AS SUCH SUPPLY OF ONLY THESE SPECIFIC ITEMS IS EXCLUDED FROM THE SCOPE OF CONTRACTOR. THE ITEMS ARE:**

- (1) ALL ROLLED SECTIONS AS PER SPECIFICATION**
- (2) ALL PLATE SECTIONS AS PER SPECIFICATION FOR FABRICATION OF BUILT-UP STRUCTURES ETC**
- (3) CHEQUERED PLATES AS PER SPECIFICATION**

#### **(4) 3.15MM THICK STAINLESS STEEL PLATES AS PER SPECIFICATION FOR BUNKER LINER**

REST ALL OTHER MATERIALS INCLUDING PERMANENT AND TEMPORARY FASTENER WITH ASSOCIATED NUTS, WASHERS, ELECTRO FORGED GRATINGS, PRIMER AND PAINTS ETC ALL AS PER SPECIFICATIONS IS IN THE CONTRACTOR'S SCOPE. THE ITEM RATE OFFERED BY THE CONTRACTOR SHALL BE IN CONSIDERATION OF THE ABOVE.

##### 4.0.2

**BHEL IS PROVIDING CERTAIN MAJOR TOOLS AND PLANTS FOR THIS WORK ON SHARING BASIS AS INDICATED UNDER SECTION-7 IN THESE SPECIFICATIOIS. REST ALL OTHER TOOL AND PLANTS AND MEASUREMENT AND MONITORING DEVICES SUCH AS ALCOMETER ETC ARE TO BE PROVIDED BY THE CONTRACTOR.**

##### 4.0.3

WITH RESPECT TO CLAUSE NO. 6.02.23 SUB-SECTION D-17 REGARDING PAYMENT OF PTFE BEARING IT IS CLARIFIED THE PAYMENT WILL BE MADE BASED ON ACTUAL QUANTITY IN NUMBERS EXECUTED AND SO CERTIFIED BY BHEL

##### 4.0.4

WITH RESPECT TO CLAUSE NO. 2.06.02 SUB-SECTION D-18 REGARDING "YARD" IT IS CLARIFIED THAT ONLY A LIMITED SPACE FOR FABRICATION-CUM-STORAGE YARD FOR FABRICATED ITEMS WILL BE MADE AVAILABLE. THE CONTRACTOR SHALL ACCORDINGLY MAKE A VERY JUDICIOUS USE OF THE SAME SINCE BEGINNING TO AVOID ANY CONGESTION RELATED BOTTLENECK LATER ON. CONTRACTOR HAS TO PROVIDE FENCING FOR HIS ALLOTTED FABRICATED AREA IN ORDER TO AVOID ANY AMBIGUITY WITH OTHER AGENCY.

4.1 SCOPE OF WORK IS FURTHER DETAILED IN VARIOUS CLAUSES HEREIN AFTER.

4.1.1 GENERAL REQUIREMENTS – COMMON TO ALL WORK

##### 4.1.1.1

THE INTENT OF SPECIFICATION IS TO PROVIDE SERVICES ACCORDING TO THE MOST MODERN AND PROVEN TECHNIQUES AND CODES. THE OMISSION OF SPECIFIC REFERENCE TO ANY METHOD, EQUIPMENT OR MATERIAL NECESSARY FOR PROPER AND EFFICIENT EXECUTION OF THIS WORK SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF PROVIDING SUCH FACILITIES TO COMPLETE THE WORK WITHOUT ANY EXTRA COMPENSATION.

##### 4.1.1.2

THE TERMINAL POINTS DECIDED BY BHEL SHOULD BE FINAL AND BINDING ON THE CONTRACTOR FOR DECIDING THE SCOPE OF WORK AND EFFECTING PAYMENT FOR THE WORK DONE.

##### 4.1.1.3

THE WORK SHALL BE EXECUTED UNDER THE USUAL CONDITIONS AFFECTING MAJOR POWER PLANT CONSTRUCTION AND IN CONJUNCTION WITH NUMEROUS OTHER OPERATIONS AT SITE. THE CONTRACTOR AND HIS PERSONNEL SHALL COOPERATE WITH PERSONNEL OF BHEL, BHEL'S CUSTOMER, CUSTOMER'S CONSULTANTS AND OTHER CONTRACTORS, COORDINATING HIS WORK WITH OTHERS AND PROCEED IN A MANNER THAT SHALL NOT DELAY OR HINDER THE PROGRESS OF WORK OF THE PROJECT AS A WHOLE.

##### 4.1.1.4

THE WORK COVERED UNDER THIS SPECIFICATION IS OF HIGHLY SOPHISTICATED NATURE, REQUIRING THE BEST QUALITY WORKMANSHIP, SUPERVISION, ENGINEERING AND CONSTRUCTION MANAGEMENT. THE CONTRACTOR SHOULD ENSURE PROPER PLANNING AND SUCCESSFUL & TIMELY COMPLETION OF THE WORK TO MEET THE OVERALL PROJECT SCHEDULE. THE CONTRACTOR MUST DEPLOY ADEQUATE QUANTITY OF TOOLS & PLANTS, MODERN / LATEST

CONSTRUCTION AIDS ETC. HE MUST ALSO DEPLOY ADEQUATE TRAINED, QUALIFIED AND EXPERIENCED SUPERVISORY STAFF AND SKILLED PERSONNEL.

4.1.1.5

CONTRACTOR SHALL FABRICATE, ERECT ALL THE EQUIPMENTS AS PER THE SEQUENCE & METHODOLOGY PRESCRIBED BY BHEL DEPENDING UPON THE TECHNICAL REQUIREMENTS, AND AVAILABILITY OF MATERIALS AND FRONTS ETC. BHEL ENGINEER'S DECISION REGARDING CORRECTNESS OF THE WORK AND METHOD OF WORKING SHALL BE FINAL AND BINDING ON THE CONTRACTOR. NO CLAIMS FOR EXTRA PAYMENT FROM THE CONTRACTOR WILL BE ENTERTAINED ON THE GROUND OF DEVIATION FROM THE METHODS / SEQUENCE ADOPTED IN ERECTION OF SIMILAR SETS ELSEWHERE.

4.1.1.6

ALL NECESSARY CERTIFICATES AND LICENSES, PERMITS & CLEARANCES REQUIRED TO CARRY OUT THIS WORK FROM THE RESPECTIVE STATUTORY/ LOCAL AUTHORITIES ARE TO BE ARRANGED BY THE CONTRACTOR AT HIS COST IN TIME TO ENSURE SMOOTH PROGRESS OF WORK.

4.1.1.7

THE WORK SHALL CONFORM TO DIMENSIONS AND TOLERANCES SPECIFIED IN THE VARIOUS DRAWINGS / DOCUMENTS THAT WILL BE PROVIDED DURING VARIOUS STAGES OF ERECTION. IF ANY PORTION OF WORK IS FOUND TO BE DEFECTIVE IN WORKMANSHIP, NOT CONFORMING TO DRAWINGS OR OTHER STIPULATIONS DUE TO CONTRACTOR'S FAULT, THE CONTRACTOR SHALL DISMANTLE AND RE-DO THE WORK DULY REPLACING THE DEFECTIVE MATERIALS AT HIS COST, FAILING WHICH THE WORK WILL BE GOT DONE BY BHEL AND RECOVERIES WILL BE EFFECTED FROM THE CONTRACTOR'S BILLS TOWARDS EXPENDITURE INCURRED INCLUDING COST OF MATERIALS AND DEPARTMENTAL OVERHEADS OF BHEL.

4.1.1.8

THE CONTRACTOR SHALL PERFORM ANY SERVICES, TESTS ETC, WHICH MAY NOT BE SPECIFIED BUT NEVERTHELESS, REQUIRED FOR THE COMPLETION OF WORK WITHIN QUOTED RATES.

4.1.1.9

THE CONTRACTOR SHALL EXECUTE THE WORK IN THE MOST SUBSTANTIAL AND WORKMANLIKE MANNER. THE STORES SHALL BE HANDLED WITH CARE AND DILIGENCE.

4.1.1.10

BHEL RESERVES RIGHT TO RECOVER FROM THE CONTRACTOR ANY LOSS WHICH ARISES OUT OF UNDUE DELAY / DISCREPANCY / SHORTAGE / DAMAGE OR ANY OTHER CAUSES DUE TO CONTRACTOR'S LAPSE DURING ANY STAGE OF WORK. ANY LOSS TO BHEL DUE TO CONTRACTOR'S LAPSE SHALL HAVE TO BE MADE GOOD BY THE CONTRACTOR.

4.1.1.11

ALL CRANES, TRANSPORT EQUIPMENT, HANDLING EQUIPMENT, TOOLS, TACKLES, FIXTURES, EQUIPMENT, MANPOWER, SUPERVISORS/ENGINEERS, CONSUMABLES ETC, EXCEPT OTHERWISE SPECIFIED AS BHEL SCOPE ON FREE ISSUE, REQUIRED FOR THIS SCOPE OF WORK SHALL BE PROVIDED BY THE CONTRACTOR. ALL EXPENDITURE INCLUDING TAXES AND INCIDENTALS IN THIS CONNECTION WILL HAVE TO BE BORNE BY HIM UNLESS OTHERWISE SPECIFIED IN THE RELEVANT CLAUSES. THE CONTRACTOR'S QUOTED RATES SHOULD BE INCLUSIVE OF ALL SUCH CONTINGENCIES.

4.1.1.12

ALL WORKS SUCH AS CLEANING, LEVELING, ALIGNING, TRIAL ASSEMBLY, DISMANTLING OF CERTAIN EQUIPMENTS / COMPONENTS FOR CHECKING AND CLEANING, SURFACE PREPARATION, FABRICATION OF STRUCTURES, TUBES AND PIPES AS PER GENERAL ENGINEERING PRACTICE AND AS PER BHEL ENGINEER'S INSTRUCTIONS AT SITE, CUTTING, GOUGING, WELD DEPOSITING, GRINDING, STRAIGHTENING, CHAMFERING, FILING, CHIPPING, DRILLING, REAMING, SCRAPPING, LAPPING, FITTING UP ETC AS MAY BE APPLICABLE IN SUCH ERECTION WORKS AND WHICH ARE TREATED INCIDENTAL TO THE ERECTION WORKS AND NECESSARY TO COMPLETE THE WORK

SATISFACTORILY, SHALL BE CARRIED OUT BY THE CONTRACTOR AS PART OF THE WORK WITHIN THE QUOTED RATES.

#### 4.1.1.13

THE CONTRACTOR SHALL MAKE ALL FIXTURES, TEMPORARY SUPPORTS, STEEL STRUCTURES REQUIRED FOR JIGS & FIXTURES, ANCHORS FOR LOAD AND GUIDE PULLEYS REQUIRED FOR THE WORK. CONTRACTOR SHALL ARRANGE NECESSARY STEEL FOR SUCH USAGE.

#### 4.1.1.14

THE CONTRACTOR SHALL TAKE DELIVERY OF THE MATERIALS FROM THE BHEL STORES/ STORAGE AREA AFTER GETTING THE APPROVAL OF BHEL ENGINEER ON STANDARD INDENT FORMS OF BHEL. COMPLETE AND DETAILED ACCOUNT OF THE MATERIALS AND EQUIPMENTS AFTER USAGE SHALL BE SUBMITTED TO THE BHEL AND RECONCILED PERIODICALLY.

#### 4.1.1.15

CONTRACTOR SHALL PLAN AND TRANSPORT MATERIALS/ FABRICATED ITEMS FROM STORAGE TO FABRICATION YARD/ ERECTION SITE AND ERECT THEM IN SUCH A MANNER AND SEQUENCE THAT MATERIAL ACCUMULATION AT SUCH LOCATIONS DOES NOT LEAD TO CONGESTION IN THESE AREAS. MATERIALS SHALL BE STACKED NEATLY, PRESERVED AND STORED IN THE CONTRACTOR'S SHED AND AT WORK AREAS IN AN ORDERLY MANNER. IN CASE IT IS NECESSARY TO SHIFT AND RE-STACK THE MATERIALS KEPT AT WORK AREAS/ SITE TO ENABLE OTHER AGENCIES TO CARRY OUT THEIR WORK OR FOR ANY OTHER REASON, SAME SHALL BE DONE BY CONTRACTOR MOST EXPEDITIOUSLY. NO CLAIM FOR EXTRA PAYMENT FOR SUCH WORK WILL BE ENTERTAINED.

#### 4.1.1.16

PLANT MATERIALS SHOULD NOT BE USED FOR ANY TEMPORARY SUPPORTS / SCAFFOLDING/ PREPARING PRE-ASSEMBLY BED ETC.

#### 4.1.1.17

THE QUANTITIES OF VARIOUS ITEMS OF WORK TO BE EXECUTED UNDER THIS CONTRACT IS GENERALLY AS PER THE RATE SCHEDULE. THESE QUANTITIES ARE APPROXIMATE AND MEANT ONLY TO GIVE A GENERAL IDEA TO THE TENDERER ABOUT THE MAGNITUDE OF THE WORK INVOLVED. ACTUAL QUANTUM AND TYPE OF EQUIPMENTS WILL BE BASED ON THE RELEVANT ERECTION DOCUMENTS WHICH WILL BE FURNISHED TO THE CONTRACTOR IN DUE COURSE OF ERECTION AND THE WEIGHT AND QUANTITY AS PER THE RELEVANT ENGINEERING DOCUMENTS WILL ONLY BE ADMISSIBLE FOR THE BILLING PURPOSE.

#### 4.1.1.18

THE WORK SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE TO THE "FIELD QUALITY PLAN" APPROVED BY BHEL/CLIENT. CONTRACTOR, JOINTLY WITH BHEL, SHALL PREPARE ALL NECESSARY RECORDS OF MEASUREMENTS/READINGS/ PROTOCOLS ETC.

### 4.2 WELDING, RADIOGRAPHY AND OTHER NON-DESTRUCTIVE TESTING, POST WELD HEAT TREATMENT

#### 4.2.1 WELDING

##### 4.2.1.1

INSTALLATION OF EQUIPMENT INVOLVES GOOD QUALITY WELDING, NDE CHECKS, POST WELD HEAT TREATMENT ETC. CONTRACTOR'S PERSONNEL ENGAGED SHOULD HAVE ADEQUATE QUALIFICATION ON THE ABOVE WORKS.

##### 4.2.1.2

THE METHOD OF WELDING WILL BE INDICATED IN THE DETAILED DRAWING/DOCUMENTS. BHEL ENGINEER WILL HAVE THE OPTION OF CHANGING THE METHOD OF WELDING AS PER SITE REQUIREMENT.

##### 4.2.1.3

BEFORE ANY WELDER IS ENGAGED ON WORK, HE SHALL BE TESTED AND QUALIFIED BY BHEL/ CUSTOMER, THOUGH THEY MAY POSSESS THE PREVIOUS CERTIFICATE. BHEL RESERVES THE RIGHT TO REJECT ANY WELDER WITHOUT ASSIGNING ANY REASON. ALL THE EXPENDITURE IN TESTING/QUALIFICATION OF THE CONTRACTOR'S WELDER SHALL BE BORNE BY CONTRACTOR.

#### 4.2.1.4

UNSATISFACTORY AND CONTINUOUS POOR PERFORMANCE MAY RESULT IN DISCONTINUATION OF CONCERNED WELDER.

#### 4.2.1.5

THE WELDED SURFACE SHALL BE CLEANED OF SLAG AND PAINTED WITH PRIMER PAINT TO PREVENT RUSTING, CORROSION. FOR THIS CONSUMABLES LIKE PAINT /PRIMER ETC WILL BE IN THE CONTRACTOR'S SCOPE.

#### 4.2.1.6

WELDING ELECTRODES HAVE TO BE STORED IN ENCLOSURES HAVING TEMPERATURE AND HUMIDITY CONTROL ARRANGEMENTS. THIS ENCLOSURE SHALL MEET BHEL SPECIFICATIONS.

#### 4.2.1.7

WELDING ELECTRODES, PRIOR TO THEIR USE, CALL FOR BAKING FOR SPECIFIED PERIOD AND WILL HAVE TO BE HELD AT SPECIFIED TEMPERATURE FOR SPECIFIED PERIOD. ALSO, DURING EXECUTION, THE WELDING ELECTRODES HAVE TO BE CARRIED IN PORTABLE OVENS.

### 4.2.2 NON DESTRUCTIVE EXAMINATION:

#### 4.2.2.1

CONTRACTOR SHALL PROVIDE ALL RESOURCES AND MAKE ALL ARRANGEMENTS FOR THE RADIOGRAPHIC EXAMINATION OF WELDS FOR THIS WORK. FOR REASONS OF SAFETY, INVARIABLY THE RADIOGRAPHY WORK WILL BE CARRIED OUT AFTER THE NORMAL WORKING HOURS AND CLOSE OF OTHER SITE ACTIVITIES ONLY. IN THIS REGARD, THE CONTRACTOR HAS TO ADHERE TO THE SAFETY RULES / REGULATIONS LAID BY BARC AUTHORITIES FROM TIME TO TIME.

#### 4.2.2.2

RADIOGRAPHY INSPECTION OF WELDS SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS AND RECOMMENDATION OF BHEL ENGINEER. THE MINIMUM QUANTUM OF RADIOGRAPHIC INSPECTION SHALL BE AS PER PROVISION OF BHEL'S ERECTION DOCUMENTS. THEY MAY, HOWEVER BE INCREASED DEPENDING UPON THE PERFORMANCE OF THE INDIVIDUAL WELDER AT THE DISCRETION OF BHEL ENGINEER/BOILER INSPECTING AUTHORITY. BIDDER SHALL ALSO ARRANGE THE UT EQUIPMENT WITH RECORDING FACILITY AT HIS OWN COST. UT SHALL BE DONE AS PER REQUIREMENT OF BHEL / CLIENT. RECORDS OF UT SHALL BE PRODUCED & SUBMITTED TO AS PER SITE REQUIREMENT.

#### 4.2.2.3

ALL X-RAY / GAMMA RAY FILMS OF WELD JOINTS SHALL BE PRESERVED PROPERLY AND BE HANDED OVER TO BHEL.

#### 4.2.2.4

THE FIELD WELDED JOINTS SHALL BE SUBJECT TO DYE-PENETRANT/MPT/RT/ OTHER NON-DESTRUCTIVE EXAMINATION AS SPECIFIED IN THE RESPECTIVE ENGINEERING DOCUMENTS/ AS INSTRUCTED BY BHEL.

#### 4.2.2.5

WHERE REQUIRED, SURFACE PREPARATION, LIKE SMOOTH GRINDING OF WELDED AREA, PRIOR TO RADIOGRAPHY SHALL BE DONE. IT MAY ALSO BECOME NECESSARY TO ADOPT INTER-LAYER RADIOGRAPHY/MPT/UT DEPENDING UPON THE SITE/ TECHNICAL REQUIREMENT NECESSITATING INTERRUPTIONS IN CONTINUITY OF THE WORK AND MAKING NECESSARY ARRANGEMENTS FOR CARRYING OUT THE ABOVE WORK. THE CONTRACTOR SHALL TAKE ALL THIS INTO ACCOUNT IN

HIS OFFER. THE REQUIRED NDT METHOD/PROCEDURE WILL BE DECIDED BY BHEL ENGINEER AT SITE.

#### 4.2.2.6

FOR CARRYING OUT ULTRASONIC TESTING OF WELDING JOINTS OF LARGE SIZE, IT WILL BE NECESSARY TO PREPARE SURFACE BY GRINDING AND BUFFING A SMOOTH FINISH AND CONTOUR AS NECESSARY. THE CONTRACTOR'S SCOPE OF WORK INCLUDES SUCH PREPARATION AS INCIDENTAL TO WORK.

#### 4.2.2.7

NO SEPARATE PAYMENT FOR ANY NDE ACTIVITIES IS ENVISAGED. ACCORDINGLY THE OFFERED RATE SHALL BE INCLUSIVE OF COST OF ALL NDE.

### 4.4.2 HEAT TREATMENT:

#### 4.4.2.1

FOR THE PURPOSE OF TEMPERATURE RECORDING OF STRESS RELIEVING PROCESS, THERMOCOUPLES HAVE TO BE ATTACHED TO THE WELD JOINT. THE NUMBER OF TEMPERATURE MEASURING POINTS AND LOCATIONS SHALL BE AS PER THE STANDARDS OF BHEL. THERMOCOUPLES HAVE TO BE ATTACHED USING CAPACITOR DISCHARGE TYPE PORTABLE THERMOCOUPLE ATTACHMENT UNIT. CONTRACTOR SHALL ARRANGE SUFFICIENT NUMBER OF THERMOCOUPLE ATTACHMENT UNITS.

#### 4.4.2.2

CONTRACTOR SHOULD PROVIDE TEMPERATURE INDICATOR / TEMPERATURE RECORDER FOR MEASURING TEMPERATURE DURING PRE-HEATING FOR WELDING OR FOR CONTROLLING TEMPERATURE OF METAL FOR HOT CORRECTION ETC. THE TEMPERATURE RECORDERS SHOULD BE PREFERABLY OF SOLID STATE TYPE.

#### 4.4.2.3

HEAT TREATMENT MAY REQUIRE TO BE CARRIED OUT AT ANY TIME (DAY OR NIGHT) TO ENSURE THE CONTINUITY OF THE PROCESS. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS INCLUDING LABOURER REQUIRED FOR THE SAME AS PER DIRECTIONS OF BHEL.

#### 4.4.2.4

IN CERTAIN CASES ONLY THE PRE-HEATING OF WELD JOINTS MAY BE CALLED FOR.

#### 4.4.2.5

FOR WELD JOINTS OF HEAVY STRUCTURAL SECTIONS, IF HEAT TREATMENT IS REQUIRED, THE SAME SHALL BE CARRIED OUT AS PART OF THE WORK.

#### 4.4.2.6

CHECKING EFFECTIVENESS OF STRESS RELIEVING BY HARDNESS TESTS (BY DIGITAL HARDNESS TESTER OR OTHER APPROVED TEST METHODS AS PER BHEL ENGINEER'S INSTRUCTION) INCLUDING NECESSARY TESTING EQUIPMENTS IS WITHIN THE SCOPE OF THE WORK / SPECIFICATION.

#### 4.4.2.7

PREHEATING, INTER-PASS HEATING, POST WELD HEATING AND STRESS RELIEVING AFTER WELDING ARE PART OF ERECTION WORK AND SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH BHEL ENGINEER'S INSTRUCTIONS. WHERE THE ELECTRIC RESISTANCE HEATING METHOD IS ADOPTED CONTRACTOR SHALL MAKE ALL ARRANGEMENT INCLUDING HEATING EQUIPMENT WITH AUTOMATIC RECORDING DEVICES, ALL HEATING ELEMENTS, THERMOCOUPLES AND ATTACHMENT UNITS, GRAPH SHEETS, THERMAL CHALKS, & INSULATING MATERIALS LIKE MINERAL WOOL, ASBESTOS CLOTH, CERAMIC BEADS, ASBESTOS ROPES ETC, REQUIRED FOR ALL HEATING AND STRESS RELIEVING WORKS.

#### 4.4.2.8

ALL THE RECORDED GRAPHS FOR HEAT TREATMENT SHALL BE HANDED OVER TO BHEL/ IBR AUTHORITIES AND DUE CLEARANCES OBTAINED.

#### 4.4.2.9

RESULTS OF THESE PROCESSES SHALL BE VERIFIED/ VALIDATED AS PER REQUIREMENTS OF BHEL/CLIENT.

### 4.3 GENERAL RESPONSIBILITY OF THE CONTRACTOR

#### 4.3.1

THE CONTRACTOR SHALL HAVE TOTAL RESPONSIBILITY FOR ALL EQUIPMENT AND MATERIALS IN HIS CUSTODY AT CONTRACTOR'S STORES, LOOSE, SEMI-FABRICATED, FABRICATED OR ERECTED BY HIM AT SITE. HE SHALL EFFECTIVELY PROTECT THE FINISHED WORKS FROM ACTION OF WEATHER AND FROM DAMAGES OR DEFAACEMENT AND SHALL ALSO COVER THE FINISHED PARTS IMMEDIATELY ON COMPLETION OF WORK AS PER BHEL ENGINEER'S INSTRUCTIONS. THE MACHINE SURFACES/FINISHED SURFACES SHOULD BE GREASED AND COVERED.

#### 4.3.2 PRESERVATION & PROTECTION OF COMPONENTS

AT ALL STAGES OF WORK, EQUIPMENTS/MATERIALS IN THE CUSTODY OF CONTRACTOR, INCLUDING THOSE ERECTED, WILL HAVE TO BE PRESERVED AS PER THE INSTRUCTIONS OF BHEL. THE CONTRACTOR SHALL PROVIDE NECESSARY PRESERVATION AGENTS INCLUDING THE PRIMER & PAINT FOR THE ABOVE WORK.

#### 4.3.3

THE CONTRACTOR SHALL MAKE SUITABLE SECURITY ARRANGEMENTS INCLUDING EMPLOYMENT OF SECURITY PERSONNEL AND ENSURE PROTECTION OF ALL MATERIALS/ EQUIPMENT IN THEIR CUSTODY AND INSTALLED EQUIPMENTS FROM THEFT/FIRE/PILFERAGE AND ANY OTHER DAMAGES AND LOSSES.

#### 4.3.4

CONTRACTOR SHALL COLLECT ALL SCRAP/ WASTAGE MATERIALS PERIODICALLY FROM VARIOUS AREA OF WORK SITE, DEPOSIT THE SAME AT ONE PLACE EARMARKED AT SITE OR SHIFT THE SAME TO A PLACE EARMARKED IN BHEL/ CLIENT'S STORES. IN CASE OF FAILURE OF CONTRACTOR IN COMPLIANCE OF THIS REQUIREMENT, BHEL WILL MAKE SUITABLE ARRANGEMENT AT CONTRACTOR'S RISK AND COST.

#### 4.3.5

THE CONTRACTOR SHALL NOT UNDULY WASTE ANY MATERIALS ISSUED TO HIM. IN CASE IT IS OBSERVED AT ANY STAGE THAT THE WASTAGE/EXCESS UTILISATION OF MATERIALS IS NOT WITHIN THE PERMISSIBLE LIMITS, RECOVERY FOR THE EXCESS QUANTITY USED OR WASTED WILL BE EFFECTED WITH DEPARTMENTAL CHARGES FROM THE CONTRACTOR. DECISION OF BHEL ON THIS WILL BE FINAL AND BINDING ON THE CONTRACTOR.

#### 4.3.6

FOR ANY CLASS OF WORK FOR WHICH NO SPECIFICATIONS HAVE BEEN LAID DOWN IN THESE SPECIFICATIONS, WORK SHALL BE EXECUTED AS PER THE INSTRUCTIONS OF BHEL.

### 4.4

BHEL IS OPERATING WEB BASED COMPUTERIZED SITE OPERATION MANAGEMENT SYSTEM (SOMS) THAT INCLUDES, INTER-ALIA, ISSUE OF MATERIALS, DAILY PROGRESS REPORTING, CONTRACTOR'S RUNNING MONTHLY BILLING AND MATERIAL RECONCILIATION THROUGH A COMPUTERIZED DATA MANAGEMENT SYSTEM. CONTRACTOR SHALL INSTALL NECESSARY HARDWARE TO HOOK-UP WITH THE BHEL'S SYSTEM AND USE THE SAME FOR HIS SCOPE OF WORK.

IN THE EVENT THE COMPUTERIZED SOMS IS INOPERATIVE FOR ANY REASONS, THE CONTRACTOR SHALL TAKE DELIVERY OF MATERIALS FROM THE STORAGE AREA/SHEDS OF BHEL/CUSTOMER AFTER GETTING THE APPROVAL OF THE ENGINEER/CUSTOMER ON STANDARD INDENT FORMS TO

BE SPECIFIED BY BHEL/CUSTOMER. ALL THESE RECORDS HOWEVER SHALL BE UPDATED IN THE SOMS AS AND WHEN THE SOMS IS REACTIVATED/ NORMALIZED.

#### **5.5.0 MATERIAL**

- 5.5.1 Materials such as rolled sections, all plate sections, chequered plates & 3.15mm thick stainless steel plates for bunker liners as per specification specified in CI no 4.01 above shall be issued at free of cost by BHEL for use in the work covered in this contract from BHEL Stores/Storage. The contractor shall collect these materials from BHEL stores at specified places at his own cost and store the same at the work site or in his stores as per standard norms. Materials issued will be used only for construction of permanent work.
- 5.5.2 BHEL reserves the right to recover from the contractor any loss arising out of damage/ theft or any other causes or during verification/stacking or at any time under the custody of the contractor.
- 5.5.3 The Contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials.
- 5.5.5 No material shall be issued to the contractor except as those indicated above. Contractor will have to make his own arrangement at his own cost for procurement of any other materials, consumables etc. as required for the works and of such quality as acceptable to BHEL.
- 5.5.6 The contractor shall maintain proper store account for all the BHEL issued Materials and shall give three copies of monthly-computerized statement of such account to the BHEL.
- 5.8.7 Contractor shall also carryout in complete association with BHEL, the material management functions and execution like day to day update of materials, issued to contractor, accounting for surplus/scrap material returned etc. These functions shall also be carried out through computerized system utilizing suitable software. Contractor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same.
- 5.8.8 The contractor shall solely be responsible for the safety, quality & quantity of material after it is handed over and issued to contractor by the BHEL.
- 5.8.9 BHEL issued materials, shall not be taken out of the project site under any circumstances whatsoever unless otherwise permitted by BHEL.

#### **4.6.0 (FOLLOW UP & HANDLING OF MATERIALS ISSUED BY BHEL)**

- 4.6.1 BHEL will place purchase order on the manufactures for procurement of steel structures and successful bidders will provide all necessary supports for follow up/chase up with manufactures/supplies/vendors for speedy delivery of materials at site including posting a man for short duration at manufactures factory within their quoted rates.

4.6.2 Consignment of BHEL supplied Material will be issued to the contractor as received by BHEL i.e. on weightment basis/ Linear measurement basis from its supplier, as per the delivery challan of the supplier. It would be the responsibility of the contractor to keep in constant contact with BHEL site to find out the delivery status, arrival of the consignments and arrange for escort to accompany the trucks/ trailers for transportation of above materials by BHEL'S supplier, **if necessary**.

4.6.3 All materials issued by BHEL shall be stacked, stored above ground level by use of concrete or wooden sleepers. No materials shall remain on ground at any time. All concrete or wooden sleepers required for stacking the materials shall be arranged by contractor (successful bidder of this package) at his own cost within the quoted rates. All other equipments like winches, d-shackles, slings of various sizes, max puller, pulley blocks, jacks, trucks, trailers etc. required for such handling of steel from BHEL stores/storage yard etc. shall be arranged by contractor within quoted/accepted rates.

4.6.4 The contractor shall take delivery of the materials from the designated place within premises of 4x600 MW JSP Raigarh at his own cost and store the same at his stores as per standard norms. Open land for such purposes shall be provided by BHEL on free of cost basis. Temporary barbed wire fencing of the open storage yard is to be done by the contractor and is included under the scope of his work. Contractor shall also remove grass, bushes, trees etc wherever required off the land provided to him and shall make proper continuous up keeping of the open yard /land by removing grass, bushes trees etc and same is included under the scope of his work & no extra payment shall be made to the contractor in this regard. The bidder shall make complete arrangement of necessary security personnel's to safeguard all such materials in his custody. Materials issued will be used only for construction of permanent work. The contractor shall take care of material issued by BHEL and shall protect the same from theft, damage and weathering.

4.6.5 Excessive rusting of steel in custody of agency/contractor must be avoided. In case, due to any cause attributable to the contractor, such rusting of steel occur rendering the same unusable, then such quantity of steel shall be recovered from the interim payment at the penal rate specified in the tender. No material shall be issued to the contractor except as those indicated above i.e. steel unless otherwise expressly provided for in the contract. Contractor will have to make his own arrangement at his own cost for procurement of any other material as required for the works and of such quality as acceptable to BHEL.

#### 4.7.0 ISSUE OF BHEL MATERIALS

: -

**The steel shall be issued to the contractor on the following basis:**

(1) ALL ROLLED SECTIONS AS PER SPECIFICATION: Weightment basis

- (2) ALL PLATE SECTIONS AS PER SPECIFICATION FOR FABRICATION OF BUILT-UP STRUCTURES ETC- : Weighment basis
- (3) CHEQUERED PLATES AS PER SPECIFICATION: Weighment basis
- (4) 3.15 MM THICK STAINLESS STEEL PLATES AS PER SPECIFICATION FOR BUNKER LINER: Weighment basis

**All these materials issued by the BHEL shall be properly accounted for. The total quantity of steel required for the work will be calculated from the approved fabrication drawings including laps, chairs and lugs. The measurement for payment as well as for accounting (reconciliation) shall be based on linear measurements as per the sectional unit weights as per relevant IS code/Standard unit weight provided by Manufacturer/supplier.**

In case any such sectional weights are not available in the above documents, the manufacturer recommendation shall be binding.

The material issued to the contractor shall be mainly in standard length and sections as received from the supplier. However, the contractor shall be bound to accept the steel in length as available in the project stores no claims for extra payment because of issue of non-standard length will be entertained.

In case MS flats as required in the fabrication of structures are not available, the contractor shall cut such width out of the available MS plates to make flats at no extra cost till such material is available and procured by BHEL.

The contractor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL stores/Storage yard. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the contractor from BHEL stores/Storage yard.

The contractor shall submit to the engineer, a statement indicating estimated quantity of steel required during a quarter at least two months in advance of the quarter. In addition, the contractor shall also furnish the estimated requirement of steel during a month by the third week of the previous month indicating his requirement.

Bidders to ensure that no lamination materials are taken over by them from BHEL stores. Fabrication wastage, if any due to above, shall not be compensated by BHEL.

Bidder to note that all the BHEL supplied material etc. shall be supplied by the bidder as per relevant items of BOQ.

#### 4.8.0 RETURN OF MATERIALS

All surplus steel and all wastage materials will be taken back on weighment Measurement basis.

Surplus, unused and un-tampered steel shall be sorted section-wise and returned separately for a place directed by BHEL/Engineer within the project area, Return of such materials will not be entitled to any handling and incidental charges.

All wastage / scrap (including melting scrap, wastage, unusable scrap) shall be returned item wise to the stores and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any additional cost due handling and transportation and incidental charge.

All Scrap for structural steel including melting scrap shall be returned separately.

#### **4.9.0 STEEL CONSUMPTION AND WASTAGE:-**

STRUCTURAL STEEL (ROLLED SECTIONS, MS FLATS ETC.), STAINLESS STEEL LINER CONSUMPTION & WASTAGE:-

CONSUMPTION STRUCTRAL STEEL: -

##### 4.9.1

The theoretical consumption of various sections shall be based on approved drawings. Weights shall be calculated considering/based on linear measurements and the sectional weights as per Indian standard. No extra shall be payable to the contractor for any deviation in weights for the two different procedures adopted for issue and calculation of the theoretical consumption. **However, Rolling Margin/variation in standard unit weight w.r.t. actual unit weight (taken at site) shall be considered for reconciliation of steel & no panel recovery shall be done on this account.**

- i) Actual consumption = Issue – Surplus.
- ii) Surplus = Untampered, unused, uncut quantity of steel returned by the contractor to BHEL store.
- iii) Wastage = Actual consumption – Theoretical consumption.

#### **WASTAGE OF STRUCTURAL STEEL:-**

Allowable wastage: - (+) 5% (Plus five percent) of the theoretical consumption shall be considered. Wastage is further classified as serviceable cut pieces (pieces of rolled steel section length 3M and above) and unserviceable scrap (including pieces of rolled steel section length less than 3m & MS plate less than one sq. M Area width less than 100cm) measured as per actual weightment basis. Invisible wastage (loss of materials due to gas cutting, straightening of edges etc) shall be limited to 0.5% (zero point five percent) of theoretical consumption and shall be considered for reconciliation purposes only. But this invisible wastage shall be considered to be included in allowable wastage (i.e. five percent).

SL. NO.	CONSUMPTION OF STRUCTURAL STEEL (ROLLED SECTION, PLATES & SS liner)	BASIS OF ISSUE & PENAL RECOVERY
S-1	Theoretical consumption (without Considering any wastage, scrap or loss)	Free

S-2	Wastage limited to plus five percent (+5%) of the aforesaid theoretical Consumption (S-1) towards allowable wastage.	Free
S-3	Wastage beyond five percent (5%) of the aforesaid theoretical consumption (S-1). (All wastage steel shall be returned to BHEL).	Penal Rate

#### 4.10.0 RECONCILIATION OF BHEL ISSUED MATERIALS: -

##### A) INTERIM RECONCILIATION (Quarterly)

The contractor shall submit a interim reconciliation statement of steel issued to them **once in three months** to BHEL engineer. In turn BHEL Engineer shall issue a Certificate indicating the status of materials for processing of further RA bills.

The purpose of quarterly reconciliation of steel is to have a track of status of materials & to control the misuse and over wastage of steel. During the progress of work section wise reconciliation with segregation of serviceable cut piece & un-serviceable scrap/cut-pieces is not required as these cut-pieces shall be used at later stage also for various purposes & hence the same cannot be declared as wastage before completion of job. During the progress of work, following action need to be taken for reconciliation of structural steel:

- (1) Qty. used in permanent job, measured & paid under various RA Bills.
- (2) Qty. available in full length with agency at site (to be jointly assessed by BHEL engineer & Contractor).
- (3) Assessment of cut pieces available at site.

Only Certification of BHEL Engineer for the above is enough for processing the RA bills.

##### B) FINAL RECONCILIATION

On completion of work, contractor shall properly account for the material issued to him as specified herein clause no. 4.9.1 to the satisfaction of BHEL certifying that the balance materials are available with contractor's custody at site.

At the time of submission of final bill by the contractor, if it is noticed by BHEL that the wastage is high and calls recovery at the penal rate, then BHEL will proceed for recovery for the excess wastage as per penal recovery rates as specified.

The approved drawings schedules are to be considered for the purpose of reconciliation of materials.

#### 4.11.0 RECOVERY OF MATERIAL:-

If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly R/A Bill at the Penal Rate.

#### PENAL RATE OF MATERIALS

##### A. STRUCTURAL STEEL

- |  |                       |
|--|-----------------------|
| 1. Chqd. Plates/MS PLates                                  | Rs. 50, 000/- per MT. |
| 2. Flats/ Beams/ Channel/<br>Angles etc. (Rolled sections) | Rs. 50000/- per MT.   |
| 3. Stainless Steel liner                                   | Rs 2,50,000/- per MT  |

#### **PROCUREMENT OF MATERIALS BY SUCCESSFUL CONTRACTORS AND TESTING:**

MATERIAL REQUIRED FOR THE ENTIRE JOB OTHER THAN ISSUED BY BHEL AS EXPLAINED ABOVE REQUIRED FOR THE COMPLETION OF ENTIRE SCOPE, BOLTS, NUTS, WASHERS ETC HAVE TO BE ARRANGED BY THE CONTRACTOR, EXCEPTING THOSE SPECIFICALLY INDICATED AS BHEL SCOPE OF SUPPLY. BHEL RESERVES THE RIGHT TO REJECT ANY MATERIAL NOT FOUND SATISFACTORY. CONTRACTOR SHALL PRODUCE MANUFACTURER'S TEST CERTIFICATE .

## SECTION-5

### SPECIAL CONDITIONS OF CONTRACT

- 5.0 OBLIGATIONS OF THE CONTRACTOR (TOOLS, TACKLES, CONSUMABLES ETC.)
- 5.1 ACCOMMODATION, DRINKING WATER & LOCAL TRANSPORTATION FOR THE LABOUR OTHER EMPLOYEES

BHEL/CLIENT WILL BE PROVIDING ONLY THE SPACE FOR LABOUR COLONY OUTSIDE OF THE PLANT APPROX. 3-5 KM. FROM PLANT MAIN GATE. CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR ACCOMODATION WITH NECESSARY FACILITIES SUCH AS DRINKING WATER, SANITATION AND LIGHTING ETC FOR HIS WORKMEN AND THE STAFF. **BHEL WILL NOT PROVIDE ELECTRICITY FOR LABOUR COLONY.** ALSO, THE CONTRACTOR HAS TO MAKE HIS OWN ARRANGEMENT FOR TRANSPORTATION OF HIS WORKMEN AND OTHER EMPLOYEES. BHEL/CLIENT SHALL NOT PROVIDE ANY FACILITY IN THIS REGARD.

#### 5.2 TOOLS AND TACKLES, MEASURING AND MONITORING DEVICES:

##### 5.2.1

THE CONTRACTOR SHALL PROVIDE ALL (EXCEPTING THOSE INDICATED IN BHEL SCOPE) REQUIRED TOOLS AND PLANTS, MONITORING AND MEASURING DEVICES (MMD) AND HANDLING & TRANSPORTATION EQUIPMENTS FOR THE SCOPE OF WORK COVERED UNDER THESE SPECIFICATIONS. CONTRACTOR HAS TO PROVIDE SUITABLE CRANES FOR MATERIAL HANDLING AT BHEL/CLIENT'S STORES/STORAGE YARD. BHEL'S CRANE WILL NOT BE AVAILABLE FOR THIS PURPOSE. PLEASE REFER RELEVANT APPENDIX FOR THE LIST OF T&P BEING PROVIDED BY BHEL FREE OF CHARGES ON SHARING BASIS.

##### 5.2.2

ALL TOOLS AND TACKLES TO BE DEPLOYED BY THE CONTRACTOR FOR THE WORK SHALL HAVE THE PRIOR APPROVAL OF BHEL ENGINEER WITH REGARD TO BRAND, QUALITY AND SPECIFICATION. INDICATIVE LIST OF MAJOR T&P TO BE ARRANGED BY THE CONTRACTOR HAS BEEN FURNISHED IN RELEVANT APPENDIX. CONTRACTOR SHALL ALSO MOBILIZE ALL OTHER T&P NECESSARY FOR TIMELY AND SATISFACTORY COMPLETION OF THE WORK IN SCOPE.

##### 5.2.3

CONTRACTOR'S RESPONSIBILITIES WITH REGARD TO OPERATOR, FUEL, LUBRICANTS AND DAILY UPKEEP OF T&P PROVIDED BY BHEL IS FURTHER DETAILED IN SECTION-7.

##### 5.2.4

TIMELY DEPLOYMENT OF ADEQUATE QUANTITY OF T&P IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE PREPARED TO AUGMENT THE T & P AT SHORT NOTICE TO MATCH THE PLANNED PROGRAMME AND TO ACHIEVE THE MILESTONES.

##### 5.2.5

CONTRACTOR SHALL MAINTAIN AND OPERATE HIS TOOLS AND PLANTS IN SUCH A WAY THAT MAJOR BREAKDOWNS ARE AVOIDED. IN THE EVENT OF MAJOR BREAKDOWN, CONTRACTOR SHALL MAKE ALTERNATIVE ARRANGEMENTS EXPEDITIOUSLY SO THAT THE PROGRESS OF WORK IS NOT HAMPERED.

##### 5.2.6

IN THE EVENT OF CONTRACTOR FAILING TO ARRANGE THE REQUIRED TOOLS, PLANTS, MACHINERY, EQUIPMENT, MATERIAL OR NON-AVAILABILITY OF THE SAME OWING TO BREAKDOWN, BHEL WILL MAKE THE ALTERNATIVE ARRANGEMENT AT THE RISK AND COST OF THE CONTRACTOR.

#### 5.2.7

THE T&P TO BE ARRANGED BY THE CONTRACTOR SHALL BE IN PROPER WORKING CONDITION AND THEIR OPERATION SHALL NOT LEAD TO UNSAFE CONDITION. THE MOVEMENTS OF CRANES, AND OTHER EQUIPMENT SHOULD BE SUCH THAT NO DAMAGE/BREAKAGE OCCURS TO FOUNDATIONS, OTHER EQUIPMENTS, MATERIAL, PROPERTY AND MEN. ALL ARRANGEMENTS FOR THE MOVEMENT OF THE T&P ETC SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE NECESSARY TEST CERTIFICATES FOR EQUIPMENTS TO BE SUBMITTED.

#### 5.2.8

USE OF WELDING GENERATORS/ RECTIFIERS FOR WELDING ONLY SHALL BE PERMITTED. USE OF WELDING TRANSFORMERS WILL BE SUBJECT TO SPECIFIC APPROVAL OF BHEL ENGINEER.

#### 5.2.9

THE CONTRACTOR AT HIS COST SHALL CARRY OUT PERIODICAL TESTING OF HIS CONSTRUCTION EQUIPMENTS AND CALIBRATION OF MEASURING & MONITORING DEVICES (MMD). TEST/ CALIBRATION CERTIFICATES SHALL BE FURNISHED TO BHEL. MMDS SHALL BE CALIBRATED ONLY AT ACCREDITED LABORATORY AS PER THE LIST AVAILABLE WITH BHEL OR ANY OTHER LABORATORY APPROVED BY BHEL.

#### 5.2.10

BHEL T&P WILL BE ISSUED IN BASIC ASSEMBLED CONDITION; CONTRACTOR SHALL TRANSPORT THESE T&P TO & FRO BETWEEN BHEL STORES AND SITE. ADDITIONAL LOOSE COMPONENTS/ SUB-ASSEMBLIES / ATTACHMENTS AS AND WHEN NECESSARY, WILL BE ISSUED BY BHEL, TO & FRO MOVEMENT BETWEEN BHEL STORES AND SITE OF SUCH ITEMS SHALL ALSO BE DONE BY THE CONTRACTOR. ASSEMBLY OF SUCH ADDITIONAL LOOSE COMPONENTS/SUB-ASSEMBLIES/ ATTACHMENTS IS IN CONTRACTOR'S SCOPE. ANY BOOM REDUCTION/ EXTENSION OF BHEL CRANES FOR CONTRACTOR'S USE AND RESTORATION TO PREVIOUS STATE OR AS DIRECTED BY BHEL SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL PROVIDE ALL ENABLING SERVICES WITH TOOLS AND TACKLES FOR ASSEMBLY/DISMANTLING AND BOOM EXTENSION/REDUCTION AS ABOVE.

### 5.3 CONSUMABLES

#### 5.3.1

THE CONTRACTOR SHALL PROVIDE ALL CONSUMABLES REQUIRED FOR CARRYING OUT THE WORK COVERED UNDER THESE SPECIFICATIONS EXCEPTING THOSE SPECIFICALLY INDICATED AS BHEL SCOPE.

#### 5.3.2

ALL CONSUMABLES TO BE USED FOR THE WORK SHALL HAVE PRIOR APPROVAL OF BHEL ENGINEER WITH REGARD TO BRAND AND QUALITY SPECIFICATIONS. TEST REPORTS / CERTIFICATES IN RESPECT OF THESE CONSUMABLES, WHEREVER APPLICABLE, SHALL BE SUBMITTED TO BHEL ENGINEER.

#### 5.3.3 PRIMERS & PAINTS

ALL PRIMERS AND PAINTS IS IN THE CONTRACTOR'S SCOPE UNLESS PROVIDED OTHERWISE IN BHEL SCOPE AS FREE ISSUE.

#### 5.3.4 COSUMABLIS FOR BHEL SUPLLIED EQUIPMENTS (CRANES, T &P ETC)

REFER RELEVANT CLAUSE OF SECTION-7 SPECIAL CONDITIONS OF CONTRACT IN THIS REGARD.

### 5.4 WELDING ELECTRODES

CONTRACTOR, AT HIS COST, SHALL ARRANGE ALL THE REQUIRED WELDING ELECTRODES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PRIOR APPROVAL OF BHEL, BEFORE PROCUREMENT, REGARDING MANUFACTURER, TYPE OF ELECTRODES ETC. ON RECEIPT OF THE ELECTRODES AT SITE, IT SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY BHEL

REGARDING TYPE OF ELECTRODES, BATCH NUMBER, DATE OF EXPIRY ETC. BATCH TEST CERTIFICATES SHALL BE MADE AVAILABLE FOR VERIFICATION & RECORD BEFORE THE ACTUAL USE OF THE WELDING CONSUMABLES.

BHEL RESERVES THE RIGHT TO REJECT THE USE OF ANY ELECTRODES, IF FOUND NON-ACCEPTABLE BECAUSE OF BAD QUALITY, DETERIORATION IN QUALITY DUE TO IMPROPER STORAGE, SHELF LIFE EXPIRY, UNAPPROVED TYPE / BRAND ETC.

## 5.5 FIELD OFFICE

### 5.5.1

THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR FIELD OFFICE AND STORES FOR ACCOMMODATING NECESSARY EQUIPMENTS, TOOLS ROOM FOR EXECUTION OF THE WORK. ONLY OPEN SPACE WILL BE PROVIDED BY BHEL / CUSTOMER, FREE OF CHARGES WITHIN THE PROJECT PREMISES AS PER THE AVAILABILITY OF SPACE.

### 5.5.2

ON COMPLETION OF WORK, ALL THE TEMPORARY BUILDINGS, STRUCTURES, PIPELINES, CABLES, ETC SHALL BE DISMANTLED AND LEVELED AND DEBRIS SHALL BE REMOVED AS PER INSTRUCTION OF BHEL BY THE CONTRACTOR AT HIS COST. IN THE EVENT OF HIS FAILURE TO DO SO, BHEL WILL ARRANGE TO REMOVE AND EXPENDITURE THEREOF INCLUDING BHEL OVERHEARD EXPENSES (PRESENTLY @30%) WILL BE RECOVERED FROM THE CONTRACTOR. THE DECISION OF BHEL ENGINEER IN THIS REGARD SHALL BE FINAL. HOWEVER, THE SCOPE OF DISMANTLING AND LEVELING THE AREA IS LIMITED ONLY TO THE CONTRACTOR'S SITE OFFICE, YARD AND OTHER SPACES OCCUPIED BY THE CONTRACTOR.

## 5.6 AREA LIGHTING

CONTRACTOR SHALL ARRANGE ADEQUATE FLOODLIGHTS, HAND LAMPS AND AREA LIGHTING. CONTRACTOR SHALL USE HIS OWN MATERIALS LIKE CABLES, FUSES, AND SWITCHBOARDS ETC. BHEL/CLIENT WILL NOT PROVIDE ANYTHING IN THIS REGARD.

## 5.7 CONSTRUCTION POWER & WATER

### 5.7.1

CONSTRUCTION POWER (THREE PHASE, 415V / 440V) WILL BE PROVIDED AT ONE POINT NEAR THE SITE APPROXIMATELY 500 METERS FROM ERECTION SITE **FREE OF CHARGE**. HOWEVER TAXES, DUTIES, LEVIES IF ANY SHALL BE BORNE BY THE CONTRACTOR. REQUIRED ENERGY METER, ALL CABLES, FUSES, DISTRIBUTION BOARDS, SWITCHES, SWITCHBOARDS, BUS BARS, EARTHING ARRANGEMENTS, PROTECTION DEVICES e.g. ELCB, IF ANY, AND ANY OTHER INSTALLATION AS SPECIFIED BY STATUTORY AUTHORITY, CLIENT IN THIS REGARD, FOR DRAWL OF CONSTRUCTION POWER SHALL BE ARRANGED BY THE CONTRACTOR. OBTAINING APPROVALS, PAYMENT OF NECESSARY FEES, DUTIES ETC. TOWARDS THE CLEARANCE OF SUCH INSTALLATIONS, PRIOR TO THESE BEING PUT TO USE OR AS MAY BE SPECIFIED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

### 5.7.2

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE, MAINTAIN THE COMPLETE INSTALLATION ON THE LOAD SIDE OF THE SUPPLY WITH DUE REGARD TO THE SAFETY REQUIREMENTS AT SITE. ALL CABLING AND INSTALLATIONS SHALL COMPLY IN ALL RESPECTS WITH THE APPROPRIATE STATUTORY REQUIREMENTS. LICENSED AND EXPERIENCED ELECTRICIAN SHALL DO THE INSTALLATION AND MAINTENANCE OF THIS.

### 5.7.3

THE CUSTOMER WILL PROVIDE WATER FOR CONSTRUCTION PURPOSE AT A SINGLE POINT FREE OF CHARGE. HOWEVER, TAXES, DUTIES, LEVIES, CHARGES, IF ANY, SHALL BE BORNE BY THE CONTRACTOR. ALL ARRANGEMENTS FOR FURTHER DISTRIBUTION BEYOND THIS POINT HAVE TO BE MADE BY THE CONTRACTOR.

#### 5.7.4

CONTRACTOR SHALL BE WELL EQUIPPED WITH BACK-UP POWER SUPPLY ARRANGEMENT LIKE DG SET AND DIESEL OPERATED WELDING MACHINE ETC. TO TACKLE SITUATIONS ARISING DUE TO FAILURE OF CUSTOMER SUPPLIED POWER, SO AS TO ENSURE CONTINUITY AND COMPLETION OF CRITICAL PROCESSES THAT ARE UNDERWAY AT THE TIME OF POWER FAILURE OR IMPORTANT ACTIVITIES PLANNED IN IMMEDIATE FUTURE.

#### 5.7.5

BHEL IS NOT RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE CONTRACTOR'S EQUIPMENT AS A RESULT OF VARIATIONS IN VOLTAGE OR FREQUENCY OR INTERRUPTIONS IN POWER SUPPLY.

#### 5.8 RESPONSIBILITIES WITH REGARD TO LABOUR EMPLOYMENT ETC.

REFER CLAUSE 2.8 OF GENERAL CONDITIONS OF CONTRACT ALSO IN THIS REGARD.

#### 5.8.1

CONTRACTOR SHALL ALSO COMPLY WITH THE REQUIREMENTS OF LOCAL AUTHORITIES/ PROJECT AUTHORITIES CALLING FOR POLICE VERIFICATION OF ANTECEDENTS OF THE WORKMEN, STAFF ETC.

#### 5.8.2

BHEL / CUSTOMER MAY INSIST FOR WITNESSING THE REGULAR PAYMENT TO THE LABOUR. THEY MAY ALSO LIKE TO VERIFY THE RELEVANT RECORDS FOR COMPLIANCE WITH STATUTORY REQUIREMENTS. CONTRACTOR SHALL ENABLE SUCH FACILITIES TO BHEL / CUSTOMER.

#### 5.8.3

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE GATE PASS FOR ALL HIS EMPLOYEES, T&P ETC FOR ENTERING THE PROJECT PREMISES. NECESSARY COORDINATION WITH CUSTOMER OFFICIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO FOLLOW ALL THE PROCEDURES LAID DOWN BY THE CUSTOMER FOR MAKING GATE PASSES. WHERE PERMITTED, BY CUSTOMER / BHEL, TO WORK BEYOND NORMAL WORKING HOURS, THE CONTRACTOR SHALL ARRANGE NECESSARY WORK PERMITS FOR WORKING BEYOND NORMAL WORKING HOURS.

#### 5.8.4.

CONTRACTOR SHALL PROVIDE AT DIFFERENT ELEVATION SUITABLE ARRANGEMENT FOR URINAL AND DRINKING WATER FACILITY WITH NECESSARY PLUMBING & DISPOSAL ARRANGEMENT INCLUDING CONSTRUCTION OF SEPTIC TANK. THESE INSTALLATIONS SHALL BE MAINTAINED IN HYGINIC CONDITION AT ALL TIMES.

#### 5.9

IF AT ANY TIME DURING THE EXECUTION OF WORK, IT IS NOTICED THAT THE WORK IS SUFFERING ON ACCOUNT OF NON-AVAILABILITY/SHORTFALL IN PROVISION OF RESOURCES FROM THE CONTRACTOR'S SIDE, BHEL WILL MAKE SUITABLE ALTERNATE ARRANGEMENTS AT THE RISK AND COST OF CONTRACTOR. THE EXPENDITURE INCURRED WITH OVERHEADS THEREON SHALL BE RECOVERED FROM THE CONTRACTOR.

### **5.9.0 TAXES, DUTIES, LEVIES**

Refer to Clause 2.8.4 of General Conditions of Contract. Notwithstanding anything contained therein, the following provisions shall be applicable for this contract.

#### **5.9.1**

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit. **However,**

**provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.**

### **5.9.2 Service Tax & Cess on Service Tax**

Service Tax and Cess on Service Tax as applicable on output Services are excluded from contractor's scope; therefore contractor's price/rates shall be **exclusive** of Service Tax and Cess on Output Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and deposit the same with the concerned tax authorities, such applicable amount will be paid by BHEL.

**Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. Contractor shall submit serially numbered Service Tax and Cess Invoice, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely,**

**The name, address and the registration number of the contractor,  
The name and address of the party receiving taxable service,  
Description, classification and value of taxable service provided and,  
The service tax payable thereon.**

All the four conditions shall be fulfilled in the invoice before release of service tax payment.

**Contractor shall obtain prior written consent from BHEL before billing the amount towards such taxes.**

With introduction of Cenvat Credit Rules 2004, which came into force w.e.f. 10.09.2004, Excise Duty paid on Input Goods including Capital Goods and Service Tax paid on Input Services that are used for providing the output services can be taken credit of against the Service Tax payable on output services. However BHEL may opt for availing the abatement provision in which case cenvat credit may not be available on input duty.

### **5.9.3 VAT (Sales Tax /WCT)**

As regards Value Added Tax (VAT) on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be **exclusive** of the same. Where such taxes are required to be paid by the contractor, this will be reimbursed on production of proof of payment made to the authorities by the Contractor. In any case the Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. The contractor has to take all necessary steps to **minimize tax on input goods** by purchasing the materials from any registered dealer of the concerned state only. In case contractor opts for composition, it will be with the prior express consent of BHEL. Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.

#### **5.9.4 Modalities of Tax Incidence on BHEL**

Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.

#### **5.9.5 New Taxes/Levies**

In case the Government imposes any new levy/tax on the output service/goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same **before opening of Price Bid**. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

#### **5.10.0 SUBMISSION OF PERIODICAL REPORTS**

CONTRACTOR SHALL SUBMIT PERIODICAL REPORTS IN RESPECT OF FOLLOWING ASPECTS OF OPERATION:

CONSUMPTION OF WELDING ELECTRODES AND GASES  
CONSUMPTION OF CONSTRUCTION POWER  
AVAILABILITY AND UTILIZATION OF BHEL'S CRANES  
MANPOWER REPORTS  
PROGRESS REPORTS - PERIODICALLY  
FIELD CALIBRATION REPORTS

BHEL AT SITE WILL SUGGEST FORMATS FOR THESE REPORTS.

#### **5.2.12 PENALTY FOR DELAYED DEPLOYMENT OF CRANE**

BHEL SHALL LEVY NON-REFUNDABLE PENALTY IN THE FOLLOWING MANNER IF THE CONTRACTOR DELAYS DEPLOYMENT OF MAJOR T&P SUCH AS CRANES. ( Deployment Plan of these cranes are given in Appendix-II )

- a) IN RESPECT OF 8 / 10 MT CAPACITY PICK AND CARRY MOBILE CRANE: @ RS. 1,000/- PER DAY OF DELAY, PER CRANE.
- b) IN RESPECT OF 40/45 MT CAPACITY CRANE: @ RS. 10,000/- PER DAY OF DELAY, PER CRANE
- c) IN RESPECT OF 75 MT CAPACITY CRANE: @ RS. 15,000/- PER DAY OF DELAY, PER CRANE
- d) IN RESPECT OF 180 MT CAPACITY CRANE: @ RS. 30,000/- PER DAY OF DELAY, PER CRANE

IN CASE SUCH DELAY IS ATTRIBUTABLE TO EITHER BHEL OR FORCE MAJEURE CONDITIONS, NO SUCH PENALTY SHALL BE APPLICABLE.

## **SECTION-6**

### **SPECIAL CONDITIONS OF CONTRACT**

6.0 CONTRACTOR'S OBLIGATION IN REGARD TO EMPLOYMENT OF SUPERVISORY STAFF AND WORKMEN

6.1

THE CONTRACTOR SHALL DEPLOY ALL THE SKILLED/SEMISKILLED/ UNSKILLED LABOUR INCLUDING HIGHLY SKILLED WORKMEN ETC. THESE WORKMEN SHOULD HAVE PREVIOUS EXPERIENCE ON SIMILAR JOB. THEY SHALL HOLD VALID CERTIFICATES WHEREVER NECESSARY. BHEL RESERVES THE RIGHT TO INSIST ON REMOVAL OF ANY EMPLOYEE OF THE CONTRACTOR AT ANY TIME IF HE IS FOUND TO BE UNSUITABLE AND THE CONTRACTOR SHALL FORTHWITH REMOVE HIM. CONTRACTOR SHOULD FURNISH A TENTATIVE DEPLOYMENT PLAN OF HIS MANPOWER AS REQUIRED VIDE RELEVANT APPENDIX. ALSO THE ACTUAL DEPLOYMENT WILL BE SO AS TO SATISFY THE ERECTION AND COMMISSIONING TARGETS SET BY BHEL.

6.2

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENGAGE HIS WORKMEN IN SHIFTS AND OR ON OVERTIME BASIS FOR ACHIEVING THE TARGETS SET BY BHEL. THIS TARGET MAY BE SET TO SUIT BHEL'S COMMITMENTS TO ITS CUSTOMER OR TO ADVANCE DATE OF COMPLETION OF EVENTS OR DUE TO OTHER REASONS. THE DECISION OF BHEL IN REGARD TO SETTING THE ERECTION AND COMMISSIONING TARGETS WILL BE FINAL AND BINDING ON THE CONTRACTOR.

6.3

CONTRACTOR SHALL DEPLOY ONLY QUALIFIED AND EXPERIENCED ENGINEERS/ SUPERVISORS. THEY SHALL HAVE PROFESSIONAL APPROACH IN EXECUTING THE WORK.

6.4

THE CONTRACTOR'S SUPERVISORY STAFF SHALL EXECUTE THE WORK IN THE MOST PROFESSIONAL MANNER IN THE STIPULATED TIME. ACCURACY OF WORK AND AESTHETIC FINISH ARE ESSENTIAL PART OF THIS CONTRACT. THEY SHALL BE RESPONSIBLE TO ENSURE THAT THE ASSEMBLY AND WORKMANSHIP CONFORM TO DIMENSIONS AND TOLERANCES GIVEN IN THE DRAWINGS/INSTRUCTIONS GIVEN BY BHEL ENGINEER FROM TIME TO TIME.

6.5

THE SUPERVISORY STAFF EMPLOYED BY THE CONTRACTOR SHALL ENSURE PROPER OUTTURN OF WORK AND DISCIPLINE ON THE PART OF THE LABOUR PUT ON THE JOB BY THE CONTRACTOR. ALSO IN GENERAL THEY SHOULD SEE THAT THE WORKS ARE CARRIED OUT IN A SAFE AND PROPER MANNER AND IN COORDINATION WITH OTHER LABOUR AND STAFF EMPLOYED DIRECTLY BY BHEL OR OTHER CONTRACTORS OF BHEL OR BHEL'S CLIENT.

6.7

IF AT ANY TIME, IT IS FOUND THAT THE CONTRACTOR IS NOT IN A POSITION TO DEPLOY THE REQUIRED ENGINEERS/SUPERVISORS/WORKMEN DUE TO ANY REASON, BHEL SHALL HAVE THE OPTION TO MAKE ALTERNATE ARRANGEMENTS AT THE CONTRACTOR'S RISK AND COST.

6.8 SITE ORGANISATION

THE CONTRACTOR SHALL PROVIDE ADEQUATE STAFFING IN THE FOLLOWING AREAS IN ADDITION TO THE STAFFING REQUIREMENTS OF EXECUTION AS INSTRUCTED/INFORMED BY BHEL FROM TIME TO TIME:

OVERALL PLANNING, MONITORING & CONTROL

QUALITY CONTROL AND QUALITY ASSURANCE

MATERIALS MANAGEMENT

SAFETY, FIRE & SECURITY

INDUSTRIAL RELATIONS AND FULFILLMENT OF LABOUR LAWS AND OTHER STATUTORY OBLIGATIONS.

## **SECTION-7**

### **SPECIAL CONDITIONS OF CONTRACT**

7.0 OBLIGATIONS OF BHEL

7.1 FACILITIES TO BE PROVIDED BY BHEL

7.1.1 SPACE FOR SITE OFFICE / STORES  
REFER SECTION-5 IN THIS REGARD.

7.1.2 CONSTRUCTION POWER & WATER  
REFER SECTION-5 IN THIS REGARD.

7.1.3 OTHER MATERIALS AND CONSUMABLES:  
BHEL SHALL NOT PROVIDE ANY MATERIAL / CONSUMABLES EXCEPTING THOSE SPECIFICALLY MENTIONED AS BHEL SCOPE IN THESE SPECIFICATIONS.

7.1.4 MATERIALS FOR IBR WELDER SITE QUALIFICATION TEST

CONTRACTOR SHALL ARRANGE ALL THE MATERIALS AND PREPARE TEST COUPONS FOR SITE QUALIFICATION TEST OF ALL HIS WELDERS.

7.2 EQUIPMENTS – TOOLS & PLANTS

BHEL WILL MAKE AVAILABLE T&P LISTED IN THE RELEVANT APPENDIX FREE OF CHARGE. FURTHER DETAILS ARE AS UNDER:

#### **7.2.1 CRANES TO BE PROVIDED BY BHEL**

7.2.1.1

BHEL WILL MAKE AVAILABLE THE CRANES AS LISTED IN RELEVANT APPENDIX, FREE OF CHARGE TO THE CONTRACTOR ON SHARING BASIS MAINLY FOR THE PURPOSES ENUMERATED VIDE NOTES THEREIN. THESE HAVE TO BE SHARED WITH OTHER AGENCIES / CONTRACTORS OF BHEL. THE ALLOCATION OF CRANES SHALL BE THE DISCRETION OF BHEL ENGINEER, WHICH SHALL BE BINDING ON THE CONTRACTOR.

7.2.1.2

CONTRACTOR SHALL LAY NECESSARY SLEEPER BEDS, BACKFILLING OF APPROACHES WHEREVER NECESSARY FOR SAFE MOVEMENT OF THE CRANES AS DIRECTED BY BHEL. THE CONTRACTOR SHALL ARRANGE NECESSARY SLEEPERS FOR THIS. CONTRACTOR SHALL TRANSPORT THE EQUIPMENTS AND COMPONENTS/SUB ASSEMBLIES/ATTACHMENTS OF BHEL/ BHEL HIRED EQUIPMENTS TO & FRO BETWEEN BHEL STORES AND SITE.

7.2.1.3

CRANES, INCLUDING THE CRANE HIRED BY BHEL, WILL BE INITIALLY ISSUED IN BASIC ASSEMBLED CONDITION. ANY ALTERATION/ADDITION LIKE BOOM REDUCTION/EXTENSION, ASSEMBLY OF COMPONENTS/SUB-ASSEMBLIES NEEDED FOR MODULATING THE CAPACITY/ REACH/OTHER FEATURES OF CRANES AND RESTORATION TO THE STATE AS DIRECTED BY BHEL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

7.2.1.4

THE DAY-TO-DAY UPKEEP AND RUNNING MAINTENANCE LIKE FILLING / TOPPING UP OF LUBRICANTS, CHANGING FILTERS ETC, OF BHEL CRANES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SPARES IF ANY, REQUIRED IN NORMAL COURSE WILL BE PROVIDED BY BHEL. MAJOR BREAKDOWNS WILL BE ATTENDED TO BY BHEL. FOR HIRED CRANES THESE RESPONSIBILITIES WILL BE IN THE SCOPE OF CRANE HIRING AGENCY. THE CRANES PROVIDED BY BHEL (INCLUDING THE HIRED CRANES) WILL BE WITHDRAWN FOR REGULAR AND CAPITAL MAINTENANCE AS PER THE RESPECTIVE SCHEDULE OF MAINTENANCE. AS FAR AS POSSIBLE SUCH SCHEDULES WILL BE INTIMATED TO THE CONTRACTOR IN ADVANCE AND MAY BE ADJUSTED

DEPENDING ON THE WORK REQUIREMENTS AT SITE. HOWEVER NO CLAIM WHATSOEVER WILL BE ENTERTAINED ON ACCOUNT OF NON-AVAILABILITY OF CRANE(S).

#### 7.2.1.5

LUBRICANTS LIKE ENGINE OIL, CARDIUM COMPOUND, HYDRAULIC OIL, GEAR OIL, GREASE ETC FOR BHEL'S CRANES WILL BE PROVIDED BY BHEL FREE OF CHARGE. SIMILARLY FILTERS FOR CRANES WILL BE PROVIDED FREE OF CHARGE BY BHEL. ALL OTHER CONSUMABLES LIKE COTTON WASTE, CLEANING AGENTS ETC SHALL BE IN THE CONTRACTOR'S SCOPE.

#### 7.2.1.6

CONTRACTOR SHALL PROVIDE THE FUEL FOR ALL THESE CRANES (INCLUDING THE HIRED CRANES). OPERATORS FOR THE CRANES HIRED BY BHEL WILL BE PROVIDED BY THE CRANE HIRING AGENCY OF BHEL. BHEL SHALL PROVIDE THE OPERATORS FOR BHEL CRANES AS REMARKED IN THE RELEVANT APPENDIX.

#### 7.2.1.7

WHERE THE SERVICES OF THE CRANES PROVIDED BY BHEL ARE TO BE SHARED BY OTHER AGENCIES/ CONTRACTORS OF BHEL, THE CONTRACTOR'S RESPONSIBILITIES DEFINED ABOVE WILL ALSO BE APPORTIONED ACCORDINGLY TO THE BENEFICIARY AGENCY. WORKING ARRANGEMENTS IN THIS REGARD WILL BE DONE AT SITE BY BHEL ENGINEER AND IN ANY CASE HIS DECISION SHALL BE FINAL AND BINDING.

### 7.3 GENERAL

THE CONTRACTOR MUST NOT USE THESE EQUIPMENTS FOR ANY PURPOSE OTHER THAN WHAT THEY ARE INTENDED FOR. IF THE ABOVE ITEMS ISSUED TO CONTRACTOR ARE FOUND NOT UTILISED / NOT MAINTAINED TO THE SATISFACTION OF BHEL ENGINEER OR MISUSED, THESE WILL BE WITHDRAWN AND NO REPLACEMENT WILL BE DONE FOR SUCH ITEMS.

**SECTION-8 (Rev 01, 24/01/2009)**  
**SPECIAL CONDITIONS OF CONTRACT**

**8.0 Inspection/Quality Assurance/Quality Control/ Statutory Inspection**

8.1 Various inspection/quality control/quality assurance procedures/methods at various stages of erection and commissioning will be as per BHEL/customer quality control procedure/codes and other statutory provisions and as per BHEL engineer's instructions.

8.2 Preparation of quality assurance log sheets and protocols with customer/consultants/statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification. These records shall be submitted to BHEL/customer for approval from time to time.

The protocols between contractor and customer/ BHEL shall be made prior to installation for correctness of foundations, materials, procedures, at each stage of installation, generally as per the requirement of customer/ BHEL. This is necessary to ensure elimination of errors or keeping them within tolerable limits and to avoid accumulation and multiplication of errors.

8.3 A daily log book should be maintained by every supervisor/engineer of contractor on the job in duplicate (one for BHEL and one for contractor) for detailing and incorporating alignment/clearance / centering / leveling readings and inspection details of various equipments etc.

High pressure welding details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc. will be documented in welding log as per BHEL Engineer's instructions.

Record of radiography containing details like serial number of weld joints, date of radiography, repairs, if any, re-shots etc shall also be maintained as per BHEL Engineer's instructions.

Record of heat treatments performed shall be maintained as prescribed by BHEL.

8.4 The performance of welders will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be periodically furnished for scrutiny of BHEL's Engineer. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately.

8.5 All the welders shall carry identity cards as per the proforma prescribed by BHEL/Customer/Consultant. Only welders duly authorized by BHEL/customer/consultant shall be engaged on the work.

8.6 Contractor shall provide all the measuring monitoring devices (MMDs) required for completion of the work satisfactorily. These MMDs shall be of brand, quality and accuracy specified by BHEL Engineer and should have necessary calibration and other certificates as per the requirement of BHEL Engineer. Decision of BHEL Engineer regarding acceptance or otherwise of the measuring instruments/gauges/tools for the work under this specification, is final and binding on the contractor. The indicative list of MMDs required for this work and to be made available by the contractor is given in relevant appendix. The list will be reviewed by BHEL and the contractor shall meet any augmentation needed wherever required.

8.7 It is the responsibility of the contractor to prove the accuracy of the testing/measuring/calibrating equipments brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions.

8.8

Any re-laying or re-termination of cables/re-erection of instruments/ recalibration of instruments etc. required due to contractor's mistake or design requirement and found at any stage inspection, shall be carried out by the contractor at no extra cost.

8.9 BHEL, Power Sector – Western Region (PSWR) has already been accredited with ISO 9002 certification and as such this work is subject to various audits to meet ISO 9002 requirements. One particular aspect which needs special mention is about arrangement of calibration of instruments by the contractor. Contractor shall ensure deployment of reliable and calibrated MMDs (Instrument Measuring and Test Equipment). The MMDs shall have test / calibration certificates from authorised / Government approved / Accredited agencies traceable to National / International Standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMDs so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMDs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall ie repeat the readings taken by that instrument, failing which BHEL may deploy MMD and retake the readings at Contractor's cost.

8.10 Re-work necessitated on account of use of invalid MMDs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions, including resource augmentation if any, as specified by BHEL to make-up for the loss of time.

8.11 In the courses of erection, it may become necessary to carry repeated checks of the work with instruments recently calibrated, re-calibrated. BHEL may counter/ finally check the measurements with their own MMDs. Contractor shall render all assistance in conduct of such counter/final measurements.

8.12 Vibration indicators / vibration recorders / vibration analysers will be provided by BHEL for checking and analysing vibration levels of rotating equipments with necessary operators. Contractor shall provide necessary labour for carrying out such tests.

8.13 Total Quality is the watchword of the work and Contractor shall strive to achieve the Quality Standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and Quality Standards. Contractor shall provide the services of Quality Assurance Engineer.

#### **8.14 Stage Inspection By FES/QA Engineers**

Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipments under erection and commissioning at various stages shall also be conducted by teams of Engineers from Field Engineering Services of BHEL's Manufacturing Units, Quality Assurance teams from field Quality Assurance, Unit/Factory Quality Assurance and Commissioning Engineers from Technical Services etc. Contractor shall arrange all labour, tools and tackles etc for such stage inspections free of cost.

8.15 Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per Section 13, and provided such modifications have not arisen for reasons attributable to the contractor.

#### **Statutory Inspection of Work**

8.16 The work to be executed under these specifications has to be offered for inspection, at appropriate stages of work completion, to various statutory authorities for compliance with applicable regulations.

The work related statutory inspections, though not limited to, are as under:

- 1) Inspectorate of steam boilers and smoke nuisance
- 2) Factory Inspector, Labour Commissioner, Electrical Inspector PF Commissioner and other authority connected to this project work

The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL Engineer's instructions, arranging materials for ground inspection, taking rub outs for the pressure parts to be offered for inspection, submitting co-related inspection reports, documents, radiographs etc and following up the matter with them. Contractor shall also make all arrangements for offering the Products / Systems for inspection at location, as applicable, to the concerned authority.

- 8.17 Contractor should be qualified to execute pressure parts & piping work coming under the purview of IBR, for which he should register himself with CIB of state concerned. contractor also should be aware of the latest IBR regulations and Electricity Act, including the amendments thereof.
- 8.18 All fees connected with the contractors for testing his welders / men / workers and testing, inspection, calibrating of his instruments and equipments, shall be paid by the contractor. It shall be contractor's responsibility to obtain approval of Statutory Authorities, wherever applicable, for the conducting of any work which comes under the purview of these authorities.
- 8.19 Other fees like fees for periodic visits, hydraulic test fees, light up inspection fees etc. shall be borne by the contractor.
- 8.20 Payment of Registration fees for Boiler is excluded from the scope.
- 8.21 BHEL shall pay the ground inspection fees of Boiler Inspectorate. All other arrangements for site visits periodically by Boiler Inspector to site, for obtaining Inspection certificate etc, will have to be made by contractor.
- 8.22 The quality management system of BHEL, Power Sector – Western Region (PSWR) has already been certified and accredited under ISO 9002 standards in this regard. The basic philosophy of the quality management system is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product/ procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of such non-conformities, & maintain the relevant quality records. The non-conformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers/vendors of various products/services contributing in the work are also considered as part of the quality management system. .as such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.

### **Field Quality Assurance**

- 8.23 Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) as revised from time to time. Total quality shall be the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide the services of quality assurance engineer as per the relevant clauses.

**SECTION-9**  
**SPECIAL CONDITIONS OF CONTRACT**

**Safety, Occupational Health and Environmental Management**

BHEL PSWR has been certified for Environmental Management under ISO 14001:1996 standard and Occupational Health & Safety under OHSAS 18001 by DNV. In order to comply with the above standards, it shall be the endeavour of BHEL and all its subcontractors to meet and implement the requirements by following the guidelines issued under Environmental, Occupational Health and Safety Management (EHS) manual a copy of which will be available with the BHEL Site-in-charge.

Contractor shall also enter into a "Memorandum of Understanding" as given in clause 9.9 in case of award of contract.

**9.0 Responsibility of the Contractor in Respect of Safety of Men, Equipment, Material and Environment.**

**9.1 The Contractor shall:**

9.1.1

Abide by the Safety Regulations applicable for the Site/Project and in particular as mentioned in the booklet "Safe Work Practices" issued by BHEL. Contractors are also to ensure that their employees and workmen use safety equipments as stipulated in the Factories Act (Latest Revision) during the execution of the work. Failure to use safety equipment as required by BHEL Engineer will be a sufficient reason for issuance of memo, which shall become part of Safety evaluation of the contractor at the end of the Project. Also all site work may be suspended if it is found that the workmen are employing unsafe working practice and all the costs/losses incurred due to suspension of work shall be borne by contractor. A comprehensive list of National Standards from which the contractor can draw references for complying with various requirements under this section is given under 9.10

9.1.2

Hold BHEL harmless and indemnified from and against all claims, cost and charges under Workmen's Compensation Act 1923 and 1933 and any amendment thereof and the contractor shall be solely responsible for the same.

9.1.3

Abide by the Procedure governing entry/exit of the contractor's personnel within the Customer/Client premises. All the contractors employees shall be permitted to enter only on displaying of authorized Photo passes or any other documents as authorized by the Customer/Client.

9.1.4

Be fully responsible for the identity, conduct and integrity of the personnel/workers engaged by them for carrying out the contract work and ensure that none of them are ever engaged in any anti national activity

9.1.5

Prepare a signboard giving the following information and display it near work site:

- i) Name of Contractor
- ii) Name of Contractor Site-in-charge & Telephone number

- iii) Job Description in short
- iv) Date of start of job
- v) Date of expected completion
- vi) Name of BHEL Site-in-charge.

#### 9.1.6

Abide by the rules and regulations existing during the contract period as applicable for the contractors at the Project premises.

#### 9.1.7

Observe the timings of work as advised by BHEL Engineer-in-charge for carrying out the contract work.

### 9.2 **SPECIAL CONDITIONS**

#### 9.2.1 **Safety**

##### 9.2.1.1 **Safety Plan**

Before commencing the work, contractor shall submit a "safety plan" to the authorized BHEL official. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety to men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder.

The contractor shall submit "safety plan" before start of work. During negotiations, before placing of work order and during execution of the contract, BHEL shall have right to review and suggest modifications in the safety plan. Contractor shall abide by BHEL's decision in this respect.

##### 9.2.1.2

The contractor shall take all necessary safety precautions and arrange for appropriate appliances and/or as per direction of BHEL or its authorized person to prevent loss of human lives, injuries to men engaged and damage to property and environment.

##### 9.2.1.3

The contractor shall provide to his work force and also ensure the use of Personnel Protection Equipment (PPE) as found necessary and/or as directed and advised by BHEL officials without which permission is liable to be denied.

- Safety helmets conforming to IS 2925/1984 (1990)
- Safety belts conforming to IS 3521/1989
- Safety shoes conforming to IS 1989 part-II /1986(1992)
- Eye and face protection devices conforming to IS 2573/1986(1991), IS 6994 (1973), part-I (1991), IS 8807/1978 (1991), IS 8519/1977(1991).
- Other job specific PPEs of standard ISI make as may be prescribed

##### 9.2.1.4

All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, cages, safety nets, ladders, equipment, etc used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item found to be unsafe.

#### 9.2.1.5

All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carryout all types of electrical works. All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed.

#### 9.2.1.6

The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 volts.

#### 9.2.1.7

The contractor shall adopt all fire safety measures as per relevant Indian Standards

#### 9.2.1.8

Where it becomes necessary to provide and/or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down by the relevant government acts, such as petroleum act, explosives act, petroleum and carbides of calcium manual of the chief controller of explosives, Government of India etc. The contractor in all such matters shall also take prior approval of the authorized BHEL official at the site.

#### 9.2.1.9

Proper means of access must be used e.g. ladders, scaffolds, platforms etc. No makeshift access such as oil drums or pallets shall be used. Design of these will be in accordance with relevant standards and certified by competent persons before use.

#### 9.2.1.10

Temporary arrangements made at Site for lifting , platforms, approach access etc should be properly designed and approved before being put to use.

#### 9.2.1.11

All excavations and openings must be securely and adequately fenced/barricaded and warning signs erected when considered necessary as per relevant code of practice.

#### 9.2.1.12

No persons shall remove guardrails, covers or protective devices unless authorized by a responsible supervisor and alternative precautions have been taken

#### 9.2.1.13

Access ways, means of escape and fire exits shall be clearly marked, kept clear and unobstructed at all times

#### 9.2.1.14

Only authorized persons holding relevant license will drive and operate site plant and equipments e.g. cranes, dumpers, excavators, transport vehicles etc

9.2.1.15

Only authorized personnel are allowed to repair, commission electrical equipments.

9.2.1.16

Gas Cylinders shall be handled and stored as per Gas Cylinders Rules and relevant safe working practices

9.2.1.17

All wastes generated at Site shall be segregated and collected in a designated place so as to prevent spillage/contamination/scattering at Site, until the waste is lifted for disposal to designated disposal area as advised by BHEL official.

9.2.1.18

The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural day light is not adequate for clear visibility.

9.2.1.19

The contractor shall train adequate number of workers/supervisors for administering "FIRST AID". List of competent first aid administrators should be prominently displayed.

9.2.1.20

The contractor shall display at strategic places and in adequate numbers the following in fluorescent markings

- Emergency telephone numbers
- Exit, Walkways
- Safe working load charts for wire ropes, slings, D shackles etc
- Warning signs

9.2.1.21

The contractor shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instructions that may endanger safety of men, equipment, material and environment in his scope of work or other contractors or agencies. Cost of damage, if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.

9.2.1.22

In case of a fatal or disabling injury/accident to any person at construction sites due to lapses by the contractor, the victim and/or his/her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

9.2.1.23

In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover cost of such damages from payments due to the contractor after holding an appropriate enquiry.

#### 9.2.1.24

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from payments due to the contractor after notifying the contractor suitably and giving him opportunity to present his case.

#### 9.2.1.25

If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so, and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.

#### 9.2.1.26

### **Emergency Response**

BHEL will have an Emergency Response Plan for each Project Site in consultation with the Owner as the case may be, detailing the procedure for mobilization of personnel and equipment, and defining the responsibilities of the personnel indicated, in order to prepare for any emergency that may arise in order to ensure the priorities of

- Safeguard of life
- Protect assets under construction or neighbouring
- Protect environment
- Resumption of normal operations as soon as the emergency condition is called off

All Contractors shall also be part of the Emergency response Plan and the personnel so nominated shall be aware of their duties and responsibilities in an emergency response situation.

#### 9.2.1.27

At least 5% Contractors supervisors and workmen shall undergo training in administering 'First Aid'. The trained persons should represent for all categories of work and for all areas of work. Adequate number of trained persons should be available for each shift. These first aides shall be included in the emergency response team. Contractor employees and workmen are encouraged to participate in first aid training programmes whenever organized by BHEL.

## **9.2.2 OCCUPATIONAL HEALTH**

### 9.2.2.1

Specific occupational health hazards will be identified through the hazard evaluation processes in consultation with BHEL engineers and the necessary prevention/reduction/elimination methods implemented.

### 9.2.2.2

All personnel working in an activity with a potential risk to health shall be made aware of all those risks and the actions they must take to reduce/control/eliminate the risk

#### 9.2.2.3

Safety coordinator shall conduct periodic checks to ensure that every group of workers engaged in similar activities are aware of potential risks to health and the actions required to be taken to mitigate the risk

#### 9.2.2.4

In order to protect personnel from associated health hazards, the following main areas will be focused

- Issue of approved Personnel Protective Equipment
- Verification that the PPE are adequate/maintained and worn by all staff involved in operations that are potentially hazardous to their health
- Ensure that the personnel deployed are physically fit for the operation/work concerned
- Provide hygienic and sanitary working conditions

#### 9.2.2.5

Contractor workers employees engaged in noise risk areas shall be issued with hearing protection aids and the use of the same will be enforced. Further, these workers will be educated on the hazards of noise

#### 9.2.2.6

Contractor workers engaged in dust environment shall be issued with necessary dust protection aids and the use of the same shall be enforced

#### 9.2.2.7

Workers engaged in exposure to bright light/rays as in welding or radiation shall be issued with eye protection devices and the use of the same shall be enforced

#### 9.2.2.8

Adequate arrangements shall be made to provide safe drinking water

#### 9.2.2.9

Health monitoring records on at least sample basis for contractor employees & workmen shall be maintained for persons engaged in specified categories of work. These shall include

- Noise induced hearing loss
- Lung Function test
- Ergonomic Test
- Eye Test for Welders, Grinders, Drivers etc

### **9.2.3.0 HYGIENE and HOUSEKEEPING**

#### 9.2.3.1

Good house keeping and proper hygiene is one of the key requirements of Occupational Health Safety and Environment management. Towards this the contractor shall encourage his workers and supervisors to maintain cleanliness in their area of work.

#### 9.2.3.2

The Contractor shall arrange to place waste bins/chutes at convenient locations for the collection of scrap and other wastes. The bins shall be clearly marked and segregated for metal, non-metal, hazardous and non hazardous wastes.

#### 9.2.3.3

BHEL may take up appropriate remedial measures at the cost of the contractors if the contractors fail in good house keeping and if there is an imminent risk of pollution

### **9.2.4 ENVIRONMENT MANAGEMENT**

#### 9.2.4.1

BHEL has a sound environmental management system, which is to be maintained and implemented by all the contractors. The system allows for project specific objectives to be set and developed sensitive to client requirements, applicable environmental legislation and BHEL's own objectives and policy. BHEL engineers will assess and monitor the environmental impact of their work and lay out objectives for their minimization. The contractors shall implement the objectives for continual improvement of environmental performance. BHEL shall regularly audit environmental impacts and their improvements.

#### **9.2.4.2 WASTE MANAGEMENT**

##### 9.2.4.3.1

The objective of waste management is to ensure the safe and responsible disposal of waste, ensuring that it is correctly disposed of and being able to audit the process to ensure compliance.

##### 9.2.4.3.2

Chemical wastes if any shall be collected separately and disposed of to BHEL designated refuse yard as per BHEL advice.

##### 9.2.4.3.3

No dangerous chemicals, noxious waste products or materials will be disposed off on or off site without approval obtained through BHEL.

##### 9.2.4.3.4

All disposal of wastes generated during construction shall be in accordance with all relevant legislation.

##### 9.2.4.3.5

Acid and alkali cleaning wastes shall be neutralized to acceptable norms before disposal to the designated area.

##### 9.2.4.3.6

All necessary measures shall be taken to ensure safe collection and disposal of waste oils. In particular to ensure the prevention of their discharge into surface waters, ground waters, coastal waters or drainages

### **9.3 SUPERVISION**

#### 9.3.1

Contractor must provide at least one full time on site safety coordinator when the manpower engaged is in excess of 50 for the contract activities in the premises. If the manpower is less than 50, the on site safety coordination responsibilities shall be assumed by any one of the contractor's other supervisory staff; however in both the cases, the contractor must specify in writing the name of such persons to the BHEL Engineer in Charge.

#### 9.3.2

Contractor's safety coordinator or his supervisor responsible for safety as the case may be shall conduct at his work site, and document formal safety inspection and audits at least once in a week. Such documents are to be submitted to BHEL Engineer in Charge for his review and record.

Contractor, supervisor must attend all schedule safety meetings as would be intimated to him by the BHEL Engineer in Charge.

#### 9.3.3

Before starting work under any contract, the contractor must ensure that a job specific safety procedures/field practices as required over and above the safety permit conditions are prepared and followed .He should also ensure that all supervisors and workers involved understand and follow this procedures /field practices.

#### 9.3.4

Contractor must ensure that in his work site appropriate display boards are put displaying signs for site safety, potential hazards and precautions required.

### 9.4.0 **TRAINING & AWARENESS**

#### 9.4.1

Contractor shall deploy experienced supervisors and other manpower who are well conversant with the safety and environment regulations of the Project. The electricians to be deployed on the job should have wireman license.

#### 9.4.2

All Supervisors & Workmen of the Contractor shall undergo Fire safety training/ demonstration whenever arranged by BHEL with the help of either Customer's Fire and Safety department or outside faculty so as to acquire knowledge of fire prevention and also to be able to make use of appropriate fire extinguishers.

#### 9.4.3

Contractor must familiarize himself from BHEL Engineer in Charge about all known potential fire, explosion or toxic release hazards related to the contract. He in turn will ensure that same information has been passed to the supervisors and workmen

#### 9.4.4

Contractor must ensure that all his supervisors are properly trained and each employee has received and understood from his supervisor necessary training and briefing about the safety requirement. Necessary document as a means to verify that employees have understood the training is to be maintained.

#### 9.4.5

The contractor supervisors shall also give a small safety briefing to all the workmen under his charge before undertaking any new work and specially understand the safety requirements that are mandatory

#### 9.5.0 **REPORTING**

##### 9.5.1

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorized BHEL official immediately after such occurrence but in any case not later than twelve hours of the occurrence. Such report shall be furnished in the manner prescribed by BHEL and also to meet statutory requirement.

##### 9.5.2

Any injury sustained by any of the contractor's employees within the Project premises must be reported to BHEL supervisor and FIRST AID should be immediately administered. The Contractor shall be responsible for keeping and maintaining proper records of Accidents to his personnel.

##### 9.5.3

Contractor must arrange to immediately investigate, properly document and report any injury, accident or near miss involving any of his employees and take appropriate follow up action. He must furnish within 12 hours of the incident a written report to BHEL Engineer in charge and the Safety Section.

##### 9.5.4

According to the Factory Act and the Employees state Insurance Act & regulation, any person sustaining any injury within the project premises and absenting himself from work for more than 46 hours, his accident report has to be sent to the respective Government Authorities. Therefore contractor shall inform the owner's representative such matter immediately for their needful action.

##### 9.5.5

In addition, contractor shall submit periodic reports on safety to the authorised BHEL official from time to time as prescribed.

##### 9.5.6

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

#### 9.6 **AUDIT REVIEW AND INSPECTION**

##### 9.6.1

BHEL shall conduct audit on the contractor performance and compliance with the project specific requirements of the Environment and Occupational Health & Safety Management systems. The programme of audit shall cover all activities under the contract but will focus particularly on high-risk activities. The Construction Manager shall decide the schedule of audit. The audit findings shall be communicated to the

contractors and necessary remedial action as advised by BHEL Engineers shall be under taken within the stipulated time.

#### 9.6.2

Inspections shall be carried out regularly by the contractors and by BHEL Engineers on activities, facilities, equipment, documentation, to cover the following aspects.

- Compliance with procedures and systems
- Availability, condition and use of PPE
- Condition of maintenance tools, equipments, facilities
- Availability of fire fighting equipments and its condition
- Use of fire fighting equipments and first aid kit
- Awareness of occupational health hazard
- Awareness of safe working practices
- Presence of quality supervision
- Housekeeping

The Safety coordinator shall visit and inspect work sites daily. All unsafe acts, unsafe conditions that have imminent potential for causing harm/injury/damage will be immediately corrected. He shall maintain a daily logbook giving details of unsafe acts or conditions observed and the corrective action taken and recommendations for preventing recurrence. Adequacy of corrective actions will be verified

The contractor shall take remedial measures as per the findings of each inspection Besides the above, the contractor shall be required to carry out the following inspections

Sl no	Equipment	Scope of inspection	Inspection by	Schedule
1	Hand tools	To identify unsafe/defective tool	User	Daily
2	Power tools	To identify unsafe/defective tool	User	Daily
3	Fire Extinguishers	To check pressure and any defect	User / Safety Coordinator	Daily Every month
4	Lifting equipment/tackles	To check for defects and efficacy of brakes	User Third party	Daily Every Year
5	PPE	To check for defects	User	Daily

#### 9.7 **NON COMPLIANCE:-**

##### 9.7.1

NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND THE BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER **for every instance of violation noticed:**

Sl. No	Instance of Violation	Fine (in Rs)
01	Not Wearing Safety Helmet	50/-
02.	Not wearing Safety Belt	100/-
03.	Grinding Without Goggles	50/-
04.	Not using 24 V Supply For Internal Work	500/-
05.	Electrical Plugs Not used for hand Machine	100/-
06.	Not Sliding property	200/-
07.	Using Damaged Sling	200/-
08.	Lifting Cylinders Without Cage	500/-
09.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
10.	Not Removing Small Scrap From Platforms	200/-
11.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-
12.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
13.	Improper Earthing Of Electrical T&P	500/-
	Major Accident or Accidents causing partial loss of earning to the victim	50,000/- per victim
14	Fatal Accident or Accidents causing permanent loss of earning to the victim	1,00,000/- per victim

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the contractor. The amount collected above will be utilised for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

### 9.8

**CITATION:**-If safety record of the contractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job

### 9.9 Memorandum of Understanding

After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:

#### **Memorandum of Understanding**

**WR is committed to Health, Safety and Environment Policy (EHS Policy) as given in the booklet titled “ Safe Working Practices” issued to all contractors.**

M/s \_\_\_\_\_ do hereby also commit to the same EHS Policy while executing the Contract Number \_\_\_\_\_

M/s \_\_\_\_\_ shall ensure that safe work practices not limited to the above booklet are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance.

BHEL will be carrying out EHS audits twice a year and M/s \_\_\_\_\_ shall ensure to close any non-conformity observed/reported within fifteen days.

Signed by authorized representative of M/s-----

Name :

Place & Date:

### 9.10

Comprehensive list of National Standards for reference and use wherever applicable in the execution of Civil, Erection and Commissioning Contracts.

IS No	YEAR	Amd upto	DESCRIPTION
IS 10204	1982		PORTABLE FIRE EXTINGUISHERS MECHANICAL FOAM TYPE
IS 10245	1994		SPECIFICATION FOR BREATHING APPARATUS
IS 10291	1982		SAFETY CODE FOR DRESS DRIVERS IN CIVIL ENGINEERING WORKS
IS 10658	1983		HIGHER CAPACITY DRY POWDER FIRE EXTINGUISHERS (TROLLEY MOUNTED)
IS 10662	1992		COLOUR TELEVISION
IS 10667	1983		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF FOOT AND LEG
IS 11037	1984		ELECTRONIC FAN REGULATORS
IS 11057	1984		INDUSTRIAL SAFETY NETS
IS 11451	1998		RECOMMENDATION FOR SAFETY AND HEALTH REQUIREMENT RELATING TO OCCUPATION EXPOSURE TO ASBESTOS
IS 1169	1967		PEDESTAL FANS
IS 1179	1967		SPECIFICATION FOR EQUIPMENT FOR EYE AND FACE PROTECTION DURING WELDING
IS 11833	1986		DRY POWDER FIRE EXTINGUISHERS FOR METAL FIRES
IS 11972	1987		CODE OF PRACTICE FOR SAFETY PRECAUTION TO BE TAKEN WHEN ENTERING A SEWAGE SYSTEM
IS 1287	1986		ELECTRIC TOASTER
IS 13063	1991		STRUCTURAL SAFETY OF BUILDINGS ON SHALLOW FOUNDATIONS ON ROCKS
IS 13385	1992		SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE WHEEL MOUNTED WATER TYPE (GAS CARTRIDGES)
IS 13386	1992		SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE MECHANICAL FOAM TYPE

IS No	YEAR	Amd upto	DESCRIPTION
IS 13415	1992		CODE OF SAFETY FOR PROTECTIVE BARRIERS IN AND AROUND BUILDINGS
IS 13416	1992		RECOMMENDATIONS FOR PREVENTIVE MEASURES AGAINST HAZARDS AT WORKING PLACE PART 1 TO PART 5
IS 13430	1992		CODE OF PRACTICE FOR SAFETY DURING ADDITIONAL CONSTRUCTION AND ALTERATION TO EXISTING BUILDINGS
IS 13849	1993		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE ( CONSTANT PRESSURE)
IS 1446	1985		CLASSIFICATION OF DANGEROUS GOODS (FIRST REVISION)
IS 1476	1979		REFRIGERATORS
IS 1641	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): GENERAL PRINCIPLES OF FIRE GRADING AND CLASSIFICATION
IS 1642	1989		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS- DETAILS OF CONSTRUCTION
IS 1643	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): EXPOSURE HAZARD
IS 1646	1997		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): ELECTRICAL INSTALLATIONS
IS 1904	1986		CODE OF PRACTICE FOR DESIGN AND CONSTRUCTION OF FOUNDATIONS IN SOIL
IS 1905	1987		STRUCTURAL SAFETY OF BUILDINGS MASONARY WALLS
IS 2082	1985		ELECTRICAL GEYSERS
IS 2171	1985		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CARTRIDGE)
IS 2309	1989		PRACTICE FOR THE PROTECTION OF BUILDINGS AND ALLIED BUILDINGS AGAINST LIGHTENING
IS 2312	1967		EXHAUST FANS
IS 2361	1994		SPECIFICATION FOR BUILDING GRIPS - FIRST REVISION
IS 2418	1977		TUBULAR FLUORSCENT LAMPS IS 2418 (FT-1)
IS 2750	1964		STEEL SCAFFOLDINGS
IS 2762	1964		SAFE WORKING LOADS IN KGS FOR WIRE ROPE SLINGS
IS 2878	1986		FIRE EXTINGUISHERS CARBON DIOXIDE TYPE (PORTABLE AND TROLLEY MOUNTED)
IS 2925	1984		SPECIFICATION FOR INDUSTRIAL SAFETY HELMETS
IS 3016	1982		CODE OF PRACTICE FOR FIRE PRECAUTIONS IN WELDING AND CUTTING OPERATIONS- FIRST REVISION
IS 3315	1974		DESERT COOLERS
IS 3521	1989		INDUSTRIAL SAFETY BELTS AND HARNESS
IS 368	1983		IMMERSION WATER HEATERS
IS 3696	1991		SAFETY CODE OF SCAFFOLDS AND LADDERS PART 1 TO 2
IS 3737	1996		LEATHER SAFETY BOOTS FOR WORKERS IN HEAVY METAL INDUSTRIES
IS 374	1979		CEILING FANS INCLUDING REGULATORS
IS 3764	1992		EXCAVATION WORK - CODE OF SAFETY

IS No	YEAR	Amd upto	DESCRIPTION
IS 3786	1983		METHOD FOR COMPUTATION OF FREQUENCY AND SEVERITY RATES FOR INDUSTRIAL INJURIES AND CLASSIFICATION OF INDUSTRIAL ACCIDENTS
IS 3935	1966		CODE OF PRACTICE FOR COMPOSITE CONSTRUCTION
IS 4014	1967		CODE OF PRACTICE FOR STEEL TUBULAR SCAFFOLDING
IS 4081	1986		SAFETY CODE FOR BLASTING AND RELATED DRILLING OPERATIONS
IS 4082	1977	1996	STACKING AND STORAGE OF CONSTRUCTION MATERIALS AND COMPONENTS AT SITE
IS 4130	1991		DEMOLITION OF BUILDINGS - CODE OF SAFETY PART 1 TO 2
IS 4138	1977		SAFETY CODE FOR WORKING IN COMPRESSED AIR (FIRST REVISION)
IS 4155	1966		GLOSSARY OF TERMS RELATING TO CHEMICAL AND RADIATION HAZARDS AND HAZARDOUS CHEMICALS
IS 4209	1967		CODE OF SAFETY FOR CHEMICAL LABORATORY
IS 4250	1980		FOOD MIXERS
IS 4262	1967		CODE OF SAFETY FOR SULFURIC ACID
IS 4756	1978		SAFETY CODE FOR TUNNELING WORK
IS 4912	1978		SAFETY REQUIREMENTS FOR FLOOR AND WALL OPENINGS, RAILINGS AND TOE BOARDS
IS 5121	1969		SAFETY CODE FOR PILING AND OTHER DEEP FOUNDATIONS
IS 5182	1969	1982	METHODS FOR MEASUREMENT OF AIR POLLUTION
IS 5184	1969		CODE OF SAFETY FOR HYDROFLUORIC ACID
IS 5216	1982	2000	RECOMMENDATIONS ON SAFETY PROCEDURES AND PRACTICE IN ELECTRICAL WORK PART I AND II
IS 555	1979		TABLE FANS
IS 5557	1995		INDUSTRIAL AND SAFETY LINED RUBBER BOOTS ( SECOND REVISION)
IS 5916	1970		SAFETY CODE FOR CONSTRUCTION INVOLVING USE OF HOR BITUMINOUS MATERIALS
IS 5983	1980		SPECIFICATION FOR EYE PROTECTORS - FIRST REVISION
IS 6234	1986		PORTABLE FIRE EXTINGUISHERS WATER TYPE ( STORED PRESSURE)
IS 692	1994		CRITERIA FOR SAFETY AND DESIGN OF STRUCTURES SUBJECTED TO UNDERGROUND BLASTS
IS 6994	1973		SPECIFICATION FOR SAFETY GLOVES
IS 7155	1986		CODE OF RECOMMENDED PRACTICE FOR CONVEYOR SAFETY (PART 1 TO 8)
IS 7205	1974		SAFETY CODE FOR ERECTION OF STRUCTURAL STEEL WORK
IS 7293	1974		SAFETY CODE FOR WORKING WITH CONSTRUCTION MACHINERY
IS 7323	1994		GUIDELINES FOR OPERATIONS OF RESERVOIRS
IS 7812	1975		CODE OF SAFETY FOR MERCURY
IS 7969	1975		SAFETY CODE FOR HANDLING AND STORAGE OF BUILDING MATERIALS

IS No	YEAR	Amd upto	DESCRIPTION
IS 8089	1976		CODE OF SAFE PRACTICE FOR LAYOUT OF OUTSIDE FACILITIES IN AN INDUSTRIAL PLANT
IS 8091	1976		CODE OF PRACTICE FOR INDUSTRIAL PLANT LAYOUT
IS 8095	1976		ACCIDENTS PREVENTION TAGS
IS 818	1968	1997	CODE OF PRACTICE FOR SAFETY AND HEALTH REQUIREMENTS IN ELECTRIC AND GAS WELDING, AND CUTTING OPERATIONS
IS 8448	1989		AUTOMATIC LINE VOLTAGE CORRECTOR (STABILISER)
IS 8519	1977		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR BODY PROTECTION
IS 8520	1977		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR EYE, FACE AND EAR PROTECTION
IS 875	1987		STRUCTURAL SAFETY OF BUILDING: LOADING STANDARD PART 1 TO 5
IS 8807	1978		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF ARMS AND HANDS
IS 8978	1985		INSTANTANEOUS WATER HEATERS
IS 8989	1978		SAFETY CODE FOR ERECTION OF CONCRETE FRAMED STRUCTURES
IS 940	1989		PORTABLE FIRE EXTINGUISHERS WATER TYPE ( GAS CARTRIDGE)
IS 9457	1980		SAFETY COLOURS AND SIGNS
IS 9679	1980		CODE OF SAFETY FOR WORK ENVIRONMENTAL MONITORING
IS 9706	1997		CODE OF PRACTICE FOR THE CONSTRUCTION OF AERIAL RPEWAYS FOR THE TRANSPORTATION OF MATERIAL
IS 9759	1981		GUIDELINES FOR DEWATERING DURING CONSTRUCTION
IS 9815	1989		SERVO MOTOR OPERATED LINE VOLTAGE CORRECTOR (SERVO STABILISER)
IS 9944	1992		RECOMMENDATIONS ON SAFE WORKING LOAD FOR NATURAL AND MAN-MADE FIBRE ROPE SLINGS
IS 996	1979		SINGLE PHASE ELECTRIC MOTORS
ISO 3873	1977		SAFETY HELMET

## SECTION-10

### DRAWINGS AND DOCUMENTS

10.1

THE DETAILED DRAWINGS, WILL BE ISSUED TO THE CONTRACTOR DURING THE EXECUTION AT SITE. WORK SHALL BE CARRIED OUT AS PER THE “**RFC**” RELEASED FOR CONSTRUCTION DRAWINGS

10.2

TWO SETS OF NECESSARY DRAWINGS/DOCUMENTS TO CARRY OUT THE WORK WILL BE FURNISHED TO THE CONTRACTOR BY BHEL ON LOAN, WHICH SHALL BE RETURNED TO BHEL AFTER COMPLETION OF THE WORK. CONTRACTOR'S PERSONNEL SHALL TAKE CARE OF THESE DOCUMENTS GIVEN TO THEM.

10.3

The data furnished in various sections and appendices and the drawings enclosed with this tender specification describe the equipment to be installed, tested and commissioned under this specification, briefly. However, the changes in the design and in the quantity may be expected to occur as is usual in any such large scale of works.

10.4

If any error or ambiguity is discovered in the specification/information contained in the documents/drawings and tender, the contractor shall forthwith bring the same to the notice of BHEL before submission of offer.

10.5

In case an ambiguity is detected after award of work, the same must be brought to the notice of BHEL before commencement of the work/activity. BHEL's interpretation in such cases will be final and binding on the contractor.

## **SECTION-11**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **TIME SCHEDULE, MOBILIZATION, PROGRESS MONITORING, OVER RUN, VARIATION ETC.**

##### 11.1 TIME SCHEDULE & MOBILIZATION

###### 11.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

CONTRACTOR SHALL REACH SITE, MAKE HIS SITE ESTABLISHMENT AND BE READY TO COMMENCE THE WORK WITHIN FOUR WEEKS FROM THE DATE OF FAX LETTER OF INTENT OR AS PER DIRECTIONS OF CONSTRUCTION MANAGER OF BHEL.

THE CONTRACTOR HAS TO SUBSEQUENTLY AUGMENT HIS RESOURCES IN SUCH A MANNER THAT THE ENTIRE WORK IS COMPLETED TO ACHIEVE THE FOLLOWING TENTATIVE SCHEDULE:

<b>SN</b>	<b>MAJOR MILESTONE</b>	<b>COMPLETION PERIOD FOR EACH BLOCK</b>
01	FABRICATION OF BUNKER STRUCTURES AND BUNKER, ERECTION, TESTING AND COMPLETION	<b>20 MONTHS</b>

**TIME GAP BETWEEN BLOCK-I AND BLOCK-II IS 4 MONTHS.**

**CONTRACTOR HAS TO PLAN TO START THE FABRICATION WORK OF UNIT-1 IMMEDIATELY AFTER GETTING THE FAX LETTER OF LOI AND UNIT-1 HAS TO BE COMPLETED IN 12 MONTHS IN ALL RESPECT. FURTHER WORK OF UNIT-3 WILL BE CARRIED OUT IN SUCH A WAY THAT THE COMPLETION PERIOD OF BLOCK-I (UNIT-1 & 3) WILL NOT EXCEED 20 MONTHS.**

**SIMILARLY CONTRACTOR HAS TO PLAN TO START THE FABRICATION WORK OF UNIT-2 IMMEDIATELY AFTER GETTING THE FAX LETTER OF LOI AND UNIT-2 HAS TO BE COMPLETED IN 12 MONTHS IN ALL RESPECT. FURTHER WORK OF UNIT-4 WILL BE CARRIED OUT IN SUCH A WAY THAT THE COMPLETION PERIOD OF BLOCK-II (UNIT-2 & 4) WILL NOT EXCEED 20 MONTHS.**

IN ORDER TO MEET ABOVE SCHEDULE IN GENERAL, AND ANY OTHER INTERMEDIATE TARGETS SET, TO MEET CUSTOMER/PROJECT SCHEDULE REQUIREMENTS, CONTRACTOR SHALL ARRANGE & AUGMENT ALL NECESSARY RESOURCES FROM TIME TO TIME ON THE INSTRUCTIONS OF BHEL.

###### 11.1.2 CONTRACT PERIOD

THE TOTAL CONTRACT PERIOD FOR COMPLETION OF **EACH BLOCK UNDER SCOPE SHALL BE 20 (TWENTY) MONTHS** FROM THE START OF CONTRACT PERIOD.

ACTUAL START OF FABRICATION OF ANY COMPONENT AS DIRECTED AND ACCEPTED BY BHEL SHALL BE RECKONED FOR START OF CONTRACT.

###### 11.1.3 GRACE PERIOD

GRACE PERIOD NOT APPLICABLE

**11.2 PROGRESS MONITORING, CONTRACT EXTENSION AND OVERRUN**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**11.2.3 CONTRACT EXTENSION**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**11.2.6 OVERRUN COMPENSATION**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**11.3 PRICE VARIATION**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**11.4 CONTRACT VARIATIONS**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**11.5 INTEREST BEARING RECOVERABLE ADVANCE**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**11.6 DEFINITION OF WORK COMPLETION**

THE CONTRACTOR'S SCOPE OF WORK UNDER THESE SPECIFICATIONS WILL BE DEEMED TO HAVE BEEN COMPLETED IN ALL RESPECT, ONLY WHEN ALL THE ACTIVITIES ARE COMPLETED SATISFACTORILY AND SO CERTIFIED BY BHEL SITE IN CHARGE. THE DECISION OF BHEL IN THIS REGARD SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

## **SECTION-12**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **12.0 TERMS OF PAYMENT**

##### **12.0.1**

The contractor shall submit his monthly RA account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month. However, first RA Bill shall be released only after signing of Contract Agreement.

##### **12.0.2**

GCC ( general conditions of contract ) shall be referred to as regards mode of payment, and measurement of the work completed.

##### **12.0.3**

Release of payment in each running bill will be restricted to 95% of the value of work admitted, as per the percentage break-up for the stage of work completion stipulated vide clauses hereinafter.

The 5% thus remaining shall released as specified in GCC .

##### **12.0.4**

The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.

##### **12.0.5**

BHEL will release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, the following details are to be furnished by the Contractor pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker:

1. Name of the Company
2. Name of Bank
3. Name of Bank Branch
4. City/Place
5. Account Number
6. Account type
7. IFSC code of the Bank Branch
8. MICR Code of the Bank Branch

BHEL may also choose to release payment by other alternative modes as suitable.

## 12.1 STAGES OF PROGRESSIVE PRO-RATA PAYMENTS

100% OF ITEM RATE ON PRORATA BASIS AGAINST MONTHLY RA BILLS AS FOLLOWS.

AS PER SCHEDULE OF RATE FOR ITEM NO. 2301 (b) FOR ERECTION, ALIGNMENT & WELDING CAN BE FURTHER BREAK UP AS FOLLOWS

- (A) ERECTION : 80% OF QUOTED RATE UNDER ITEM 2301 (b)**
- (B) WELDING & ALIGNMENT : BALANCE 20% OF QUOTED RATE UNDER ITEM 2301(b)**

## 12.3 GENERAL

### 12.3.1

WEIGHT OF PACKERS AND SHIMS FABRICATED AT SITE WHICH BECOME PERMANENT PART OF EQUIPMENT, WILL BE PAID FOR BASED ON ACTUAL WEIGHT.

## 12.4 MEASUREMENT OF THE WORK COMPLETED

- A) WHERE PAYMENT IS TO BE MADE ON THE BASIS OF WEIGHT, THE WEIGHT PER UNIT GIVEN IN THE BHEL DOCUMENT ONLY SHALL BE TAKEN IN TO CONSIDERATION. IN CASE SUCH INFORMATION IS NOT AVAILABLE IN BHEL DOCUMENTS, THEN THE LATEST RELEVANT INDIAN STANDARDS IN THIS REGARD MAY BE APPLIED.
- B) SPARES, SURPLUS QUANTITY, ERECTION CONTINGENCY MATERIALS WILL NOT BE PAID FOR UNLESS THE SAME HAS BEEN CONSUMED IN PLACE OF REGULAR ITEM OF MEASURABLE WORK AS PER THE RATE SCHEDULE.
- C) WHERE THE PAYMENT IS MADE ON THE BASIS OF ITEM RATE, ACTUAL EXECUTED QUANTITY MEASURED JOINTLY SHALL ONLY BE PAID FOR.
- D) IT IS CLARIFIED THAT AS FAR AS WEIGHT CONSTITUTED BY WELDING CONSUMABLES AND OTHER CONSUMABLES SUPPLIED BY BHEL AS WELL AS BY THE CONTRACTOR, SHALL NOT BE CONSIDERED FOR PAYMENT.
- E) BHEL ENGINEER'S DECISION REGARDING STAGE OF PAYMENT CORRESPONDING TO PROGRESS OF WORK, CALCULATION OF WEIGHT ETC WILL BE FINAL AND BINDING ON THE CONTRACTOR.
- F) NO SEPARATE PAYMENT SHALL BE MADE FOR PROVIDING GROUT MATERIALS AND GROUTING OF STRUCTURES ETC SPECIFIED ELSEWHERE IN THESE SPECIFICATIONS.

**SECTION-13**  
**SPECIAL CONDITIONS OF CONTRACT**

**13.0 EXTRA CHARGES FOR RECTIFICATION AND MODIFICATION**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**SECTION-14**  
**SPECIAL CONDITIONS OF CONTRACT**

**14.0 INSURANCE**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**SECTION-15**  
**SPECIAL CONDITION OF CONTRACT**

**15.0 EARNEST MONEY DEPOSIT, SECURITY DEPOSIT & BANK GUARANTEE**

SHALL BE AS PER GCC ( GENERAL CONDITIONS OF CONTRACT ) OF THIS TENDER

**SECTION 16**  
**SUSPENSION OF BUSINESS DEALING WITH CONTRACTORS**

16.1 A bidder may be put on HOLD for a period of 6 months, for future tenders for specific works on the basis of one or more of the following reasons:

- I. Bidder does not honour his own offer or any of its conditions within the validity period.
- II. Bidder fails to respond against **three consecutive** enquires of BHEL.
- III. After placement of order, Bidder fails to execute a contract.
- IV. Bidder fails to settle sundry debt account, for which he is legitimately liable, within one year of its occurrence.
- V. Bidder's performance rating falls below 60% in specific category.
- VI. Bidder works are under strike/ lockout for a long period.

16.2 A Bidder may be de-listed from the list of registered Bidders of the region for a period of 1 year on the basis of one or more of the following reasons:-

- I. Bidder tampers with tendering procedure affecting ordering process or commits any misconduct which is contrary to business ethics.
- II. Bidder has substituted, damaged, failed to return, short returned or unauthorizedly disposed off materials/ documents/ drawings/ tools etc of BHEL.
- III. Bidder no longer has the technical staff, equipment, financial resources etc. required to execute the orders/ contracts.

16.3 A Bidder can be banned from doing any business with all Units of BHEL for a period of 3 years on the basis of one or more of the following reasons:

- I. Bidder is found to be responsible for submitting fake/ false/ forged documents, certificates, or information prejudicial to BHEL's interest.
- II. In spite of warnings, the Bidder persistently violates or circumvents the provisions of labour laws/ regulations/ rules and other statutory requirements.
- III. Bidder is found to be involved in cartel formation.
- IV. The Bidder has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc which are contrary to business ethics.
- V. The Bidder is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings.
- VI. The Bidder is declared bankrupt, insolvent, has wound up or been dissolved; i.e ceases to exist for all practical purposes.
- VII. Bidder is found to have obtained Official Company information/ documentation by questionable means.
- VIII. Communication is received from the administrative Ministry of BHEL to ban the Bidder from business dealings.

## **SECTION-17**

### **IMPLEMENTATION OF INTEGETY PACT IN BHEL**

#### **INTEGRITY PACT ( IP )**

- 1.0** The IP shall be a part of tender document and shall be returned by bidder along with techno-commercial bid duly signed by the authorized signatory who signs the bid. The IP duly signed by bidder and authorized official of BHEL will form a part of purchase order/contract.
- 2.0** Only those bidders who have entered into such IP would be competent to participate in the bidding. In other words, entering into this pact would be preliminary qualification.
- 3.0** Independent External Monitor ( IEM )- BHEL has appointed IEM as detailed below to oversees the compliance of obligations under IP.

**Sh J M LYNGDOH ( IAS ) Retd**

**Between**

Bharat Heavy Electricals Ltd. (BHEL). A company registered under the Companies Act 1956 and having its registered office at “BHEL house” Sir Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal” which expression unless repugnant to the context of meaning hereof shall include its successors or assigns of the ONE PARE

**And**

\_\_\_\_\_ (description of the party along with address) hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

**Preamble**

The Principal intends to award, under laid-down organizational procedures, contract/s for

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ The Principal values full compliance with all relevant laws of the land, rules and regulations and the principles of economic use of resources and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

## **Section 17.1 - Commitment of the Principal**

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
  - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand take a promise for or accept, for itself or third person any material or immaterial benefit which the person is not legally entitled to.
  - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with enquiry and reason. The Principal will in particular before and during the tender process provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
  - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

## **Section 17.2 – Commitment of the Bidder(s)/ Contractor(s)**

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
  - 2.1.1 the Bidder(s)/ Contractor(s) will not directly or through any other person or firm offer promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding whether formal or informal. This applies in particular to prices, specification, certifications, subsidiary contracts submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/PC Act: further the Bidder(s)/ Contractor(s) will not use improperly, for purpose of competition or personal gain or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, transmitted electrically.
- 2.1.4 The Bidders (s)/ Contractor(s) will. When presenting his bid, disclose any and all payments he has made and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third person to commit offences outlined above or be an accessory to such offences.

### **Section 17.3 – Disqualification from tender process and execution from future contracts**

If the Bidder(s)/Contractor(s) before award or during execution has committed a transgression through a violation of Section 2 above or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per separate “Guidelines for Suspension of Business Dealing with Suppliers/ Contractors” framed by the Principal.

### **Section 17.4 Compensation for Damages**

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3 or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

## **Section 17.5 – Previous Transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country confirming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on his subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

## **Section 17.6 – Equal treatment of all Bidders/ Contractors/ Sub-Contractors**

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to demand from his sub-contractors a commitment consistent with this Integrity Pact. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal.
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

## **Section -17.7 Criminal Charges against violating Bidders/ Contractors/ Sub-contractors**

If the Principal obtains knowledge of conduct of a Bidder. Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder. Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regards, the Principal will inform the Vigilance Office.

## **Section – 17.8 Independent External Monitor(s)**

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.

- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest. Unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sib-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meeting could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right demand from the parties that they act in a specific manner, refrain from action or tolerate action.\
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposal for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC/PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

**Section 17.9 – Pact Duration**

- 9.1 This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this Pact as specified as above, unless it is discharged/ determined by the CMD, BHEL

**Section 17.10 – Other Provisions**

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those Bidders/ Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

\_\_\_\_\_  
For & On Behalf of the Principal  
(Office Seal)

\_\_\_\_\_  
For & On Behalf of the Bidder/ Contractor  
(Office Seal)

Place: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_  
(Name & Address) \_\_\_\_\_

Witness: \_\_\_\_\_  
(Name & Address) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SECTION 18**  
**REVERSE AUCTION PROCEDURE (Dtd 08/04/2010)**

**Business Rules, Terms & Conditions of Online Reverse Auction for the work of:**

SUPPLY (EXCEPTING BHEL SUPPLIED MATERIALS), COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD; TRANSPORTATION TO FABRICATION YARD/ SITE; FABRICATION, ERECTION, ALIGNMENT, BOLTING/ WELDING/ FASTENING, GROUTING, TESTING AND HANDING OVER OF BUNKER STRUCTURE AND RAW COAL BUNKER IN BLOCK-I (UNIT-1 & 3 ) AND BLOCK-II (UNIT-2 & 4 ) AT 4X600 MW RAIGARH THERMAL POWER PROJECT AT JINDAL POWER LIMITED PHASE-III,(4X600 MW JPL STPP) SALIBHATA,TAMNAR VILLAGE ,DISTT: RAIGARH, CHATTISGARH :

**TENDER SPECIFICATION NO: BHE/PW/PUR/RGIT-STR/727**

<b>BUYER'S NAME</b>	BHARAT HEAVY ELECTRICALS LIMITED POWER SECTOR – WESTERN REGION
<b>AUCTION TO BE CONDUCTED BY</b>	<b>M/s. e-Procurement Technologies Ltd. (abcprocure)</b> B-705, Wall Street-II, Opp. Orient Club, Nr. Gujarat College, Ellis Bridge, Ahmedabad – 380 006, Gujarat, India.  Ph. Nos. : +91 79 – 4001 6860 / 861 / 863 / 864 / 866 / 874 / 875 / 877 / 878 / 880 / 882  Fax No. : +91 79 – 4001 6876 / 816  <b>Auction Website: <a href="https://bhel.abcprocure.com">https://bhel.abcprocure.com</a></b>
<b>DATE &amp; TIME OF AUCTION</b>	Auction Date : <b>(Shall be informed later)</b>  <i>Online Sealed Bid Time : (Shall be informed later)</i>  Online Reverse Auction Time : <b>(Shall be informed later)</b>
<b>DOCUMENTS ATTACHED</b>	<ol style="list-style-type: none"> <li>1) Business rules for reverse auction</li> <li>2) Terms &amp; conditions of reverse auction</li> <li>3) Process Compliance Statement (Annexure II)</li> <li>4) Final Price Confirmation (Annexure III)</li> <li>5) Contact Information</li> </ol>

## BUSINESS RULES FOR REVERSE AUCTION

### GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION

Against this Enquiry for the subject item/system with detailed scope of supply as per our specification, BHEL-PSWR may resort to "ONLINE REVERSE AUCTION PROCEDURE" i.e. **ONLINE BIDDING on INTERNET.**

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
3. BHEL will inform the vendor in writing in case reverse auction, the details of service provider to enable them to contact and get trained.
4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
5. Vendors have to email a scanned copy of the Process Compliance Form (**Annexure II**) in the prescribed (provided by service provider) before start of Online Initial Sealed Bid. Without this form, the vendor will not be eligible to participate in the event.
6. ~~BHEL will provide the calculation sheet (e.g.: EXCEL sheet), if any, which will help to arrive at "Total Cost to BHEL" like packing & forwarding charges, Taxes and duties, Freight charges, Insurance, Service tax for services and loading factors (for non-compliance to BHEL standard Commercial terms and conditions.) for each the vendor to enable them to fill in the price and keep it ready for keying in during the auction.~~
7. Reverse auction will be conducted on schedule date & time.
8. At the end of reverse auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to email a scanned copy of the price break-up & confirmation duly signed filled-in prescribed format (as per BHEL's price excel sheet) as provided on case-to-case basis to BHEL through service provider within 24 hours of the reverse auction without fail.
10. Any variation between the on-line bid value and sealed price bid will be considered as sabotaging the tender process and will invite disqualification of vender to conduct business with BHEL as per prevailing procedure.
11. In case BHEL decides not to go for Reverse auction procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with BHEL shall be opened as per procedures mentioned in the tender specifications.
12. Only those vendors, who participate in the Online Initial Sealed Bid, will be eligible to participate in the subsequent Online English Reverse Auction.
13. **The reverse auction will be treated as closed only when the bidding process gets closed in all respects for the item listed in the tender.**

## Business Rules for finalization of the procurement

BHEL shall finalise the procurement of the item against this Tender through reverse auction mode. BHEL has made arrangement with **M/s. e-Procurement Technologies Ltd., Ahmedabad**, who shall be BHEL's authorized service provider for the same. Please go through the guidelines given below and submit your acceptance to the same along with your Commercial Bid.

1. Computerized reverse auction shall be conducted by BHEL, on pre-specified date, while the vendors shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by vendors themselves. In extreme case of failure of Internet connectivity, (due to any reason whatsoever may be) it is the bidders' responsibility / decision to send fax communication immediately to M/s. e-Procurement Technologies Ltd., Ahmedabad. Furnishing the price the bidder wants to bid online with a request to the service provider to upload the faxed price on line so that the service provider will up load that price on line on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by the service provider in a readable / legible form and also the Bidder should simultaneously check up with service provider about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be up loaded by the service provider only within the closure of Bid time and under no circumstance it shall be allowed beyond the closure of Bid time / reverse auction. It shall also be noted that the service provider should be given a reasonable required time by the bidders, to upload such prices online and if such required time is not available at the disposal of the Service provider at the time of receipt of the fax message from the bidders, the service provider will not be uploading the prices and either BHEL or the service provider are not responsible for this unforeseen circumstances. In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power at the premises of vendors during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor M/s. e-Procurement Technologies Ltd., Ahmedabad is responsible for such eventualities.
2. e-Procurement Technologies Ltd. shall arrange to train your nominated person (s), without any cost to you. They shall also explain you, all the Rules related to the Reverse Auction / Business Rules Document to be adopted along with bid manual. You are required to give your compliance on it before start of bid process.
3. **MATERIAL FOR BID:** Scope of Work as detailed in Tender Specification No: **BHE/PW/PUR/RGIT-STR/727**
- 4.
5. **Starting Bid/Bid Decrement:** The opening price of the RA and the bid decrement value can be viewed by the bidders on the bidding screen.
6. **BIDDING CURRENCY AND UNIT OF MEASUREMENT:** Bidding and evaluation will be conducted in **Indian Rupees (INR)** of the item. The price bid placed during the "Sealed Bid Auction" as well as "Reverse Auction" shall be the **total amount for the entire** Scope of Work as mentioned in Price Bid Specification of Tender Specification No **BHE/PW/PUR/BELAT-STG/708**

7. **BID PRICE:** The Bidder has to quote the Total Cost to BHEL for the entire Scope of work. Calculation sheet to arrive at the Total Cost to BHEL will be provided by BHEL if required.
8. The technical & commercial terms are as per BHEL Tender Specification No **BHE/PW/PUR/RGIT-STR/727**. Vendors technical and commercial bid and subsequent correspondences between BHEL and the vendors regarding commercial terms & conditions.
9. **VALIDITY OF BIDS:** The Bid price shall be firm for a period mentioned in the subject tender and shall not be subjected to any change whatsoever.
10. At the end of the reverse auction, bidder has to provide a detailed price break-up & price confirmation for his lowest offer, as per the Annexure III format, within 24 hours of the reverse auction.
11. **Procedure of Reverse Auctioning:**
  - i. **Online Initial Sealed Bid:** The opening bid (In the initial auction) of the bidders shall place a bid which shall be same as that quoted in their Final Sealed price submitted to BHEL or lesser. The bidders shall confirm in writing to BHEL that their opening bid shall be same as that quoted in their final sealed price bid submitted against Tender Specification No **BHE/PW/PUR/RGIT-STR/727**. If it is found to be otherwise at a later date, the bidder will be disqualified from the tender.
  - ii. **Online English Reverse (no ties) Auction {Reverse Auction}:** BHEL will declare its **Opening Price (OP)**, which shall be visible to the all vendors during the start of the reverse Auction. You will be required to start bidding after announcement of Opening Price and decrement amount. Also, please note that the start price of an item in online reverse auction is open to all the participating bidders. Any bidder can start bidding, in the online reverse auction, from the start price itself. If the start price is your own price, you still need to bid in the online reverse auction. Also, please note that the first online bid that comes in the system during the online reverse auction can be equal to the auction's start price, or lesser than the auction's start price by one decrement, or lesser than the auction's start price by multiples of decrement. The second online bid and onwards will have to be lesser than the L1 rate by one decrement value, or lesser than the L1 rate by multiples of the decrement value.
  - iii. The vendor's who have participated in the Initial Sealed Bid Auction will only be eligible to participate in the subsequent English Reverse Auction.
  - iv. Online Initial Sealed Bid will be for **30 minutes** and Online English Reverse (no ties) Auction shall be for a **period of one hour**. If a bidder places a bid in the last 10 minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another 10 minutes, for the entire auction, from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last 10 minutes and if that bid gets accepted. If the bid does not get

accepted, the auto-extension will not take place even if that bid might have come in the last 10 minutes. In case, there is no bid in the last 10 minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, vendors are advised not to wait till the last minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

- v. The bid decrement amount shall be specified by BHEL before start of bidding.
  - ~~vi. Any commercial loading shall be intimated to bidders in advance and it shall be added to price during dynamic auction process. For evaluation purpose, commercial loading if any, shall be added to the quoted price of respective bidder. However for ordering only the final bid placed by you shall be considered.~~
  - ~~vii. After the completion of English Reverse (no ties), the **Closing Price (CP)** shall be available. In case, any commercial loading was made to L1 bidder's price, it shall be de-loaded from the closing price of L1 bidder (**CP**) for further processing.~~
  - viii. **The ratio of CP and originally quoted price shall be applied on all elements of originally quoted prices to arrive at the final price break up.**
12. Successful vendor shall be required to submit the final prices, quoted during the English Reverse (no ties) in the **Annexure III Format** after the completion of Auction to BHEL, duly signed and stamped as token of acceptance without any new condition other than those already agreed to before start of auction.
13. During the Online English Reverse (No Ties) Auction, if no bid is received in the auction system/website within the specified time duration of the reverse auction, then **BHEL**, at its discretion, may decide to revise the auction's Opening Price / scrap the online reverse auction process / proceed with the conventional mode of tendering (opening of the hard copy final bids submitted by you earlier to BHEL).
14. Your bid will be taken as an offer to supply. Bids once made by you, cannot be cancelled / withdrawn and you shall be bound to supply as mentioned above at your final bid price. **Should you back out and not supply as per the rates quoted, BHEL shall take action as appropriate.**
15. You shall be assigned a **Unique User Name & Password** by BHEL (or) e-Procurement Technologies Ltd. **You are advised to change the Password** and edit the information in the Registration Page after the receipt of initial Password from BHEL / e-Procurement Technologies Ltd. to ensure confidentiality. All bids made from the Login ID given to you will be deemed to have been made by your company.
16. You will be able to view the following on your screen along with the necessary fields in the English Reverse (no ties) {Reverse Auction}:
  - a. Leading Bid in the Auction (only total price)
  - b. Bid Placed by you
  - c. Your Own Rank

d. Opening Price & Bid Decrement value.

17. At the end of the Reverse Auction, BHEL will decide upon the winner. BHEL's decision on award of Contract shall be final and binding on all the Bidders.
18. BHEL shall be at liberty to cancel the reverse auction process / tender at any time, before ordering, without assigning any reason.
19. BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause.
20. Other terms and conditions shall be as per your techno-commercial offers and other correspondences till date.
21. You are required to submit your acceptance (Process Compliance Form - Annexure II) to the terms/ conditions/ modality given above before participating in the reverse auction.

## Terms & Conditions of Reverse Auction

1. **LOG IN NAME & PASSWORD:** Each Bidder is assigned a Unique User Name & Password by e-Procurement Technologies Ltd. The Bidders are requested to change the Password and edit the information in the Registration Page after the receipt of initial Password from e-Procurement Technologies Ltd., Ahmedabad. All bids made from the Login ID given to the bidder will be deemed to have been made by the bidder.
2. **BIDS PLACED BY BIDDER:** The bid of the bidder will be taken to be an offer to execute the work. Bids once made by the bidder cannot be cancelled. The bidder is bound to execute the work as mentioned above at the price that they bid. Should any bidder back out and not make the supplies at per the rates quoted, BHEL and / or e-Procurement Technologies Ltd., Ahmedabad shall take action as appropriate.
3. **LOWEST BID OF A BIDDER:** In case the bidder submits more than one bid, the lowest bid will be considered as the bidder's final offer to execute the work.
4. **AUCTION TYPE:** 1). Online Initial Sealed Bid  
2). Online English Reverse (No Ties) Auction (refer Bidder Manual for details)
5. **DURATION OF AUCTION:** The duration of Auction will be for one hour. If a bidder places a bid in the last 10 minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another 10 minutes, for the entire auction, from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last 10 minutes and if that bid gets accepted. If the bid does not get accepted, the auto-extension will not take place even if that bid might have come in the last 10 minutes. In case, there is no bid in the last 10 minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, vendors are advised not to wait till the last minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc. (THIS SCHEDULE IS TENTATIVE. IF ANY CHANGE IN SCHEDULE, THE SAME SHALL BE COMMUNICATED TO YOU)
6. **BID DECREMENT:** The minimum Bid decrement shall be available to the Bidders at the start of the auction. The bidder can view the same by clicking on the Item details at the start of the auction. The bidder can bid lower than the Lowest Bid in the auction by a decrement, multiple of the minimum Bid decrement or at least of minimum bid decrement plus multiples of Bid Decrement. Also, please note that the start price of an item in online reverse auction is open to all the participating bidders. Any bidder can start bidding, in the online reverse auction, from the start price itself. If the start price is your own price, you still need to bid in the online reverse auction. Also, please note that the first online bid that comes in the system during the online reverse auction can be equal to the auction's start price, or lesser than the auction's start price by one decrement, or lesser than the auction's start price by multiples of decrement. The second online bid and onwards will have to be lesser than the L1 rate by one decrement value, or lesser than the L1 rate by multiples of the decrement value.
7. **VISIBILITY TO BIDDER:** The Bidder shall be able to view the following on his screen along with the necessary fields during English Reverse –NO ties Auction:

- Leading Bid in the Auction
- Bid Placed by him
- His Own Rank
- Start Price & Bid Decrement Value

8. **AUCTION WINNER:** At the end of the Reverse Auction, BHEL will evaluate all the bids submitted and will decide upon the winner.

9. **PROXY BIDS:** Proxy bidding feature is a pro-supplier feature to safe guard the supplier's interest of any Internet failure or to avoid last minute rush. The Proxy feature allows Bidders to place an automated bid against other Bidders in an auction and bid without having to enter a new amount each time a competing Bidder submits a new offer.

The bid amount that a Bidder enters is the minimum that the Bidder is willing to offer. Here the software bids on behalf of the supplier.

- **The proxy amount is the minimum amount that the Bidder is willing to offer. During the course of bidding, the Bidder cannot delete or change the amount of a Proxy Bid.**
- **Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing Bidder bids, regardless if competing bids are submitted as proxy or standard bids.**
- **This feature can be used only once during a particular Reverse Auction and only after the L1 rate is equal to or less than the minimum bid amount that the bidder has put in the system will he get the option to manually bid for the same. In no case during the bidding till the L1 rate or less is not reached as equivalent to the minimum bid amount offered by the bidder, will the bidder get the option to manually bid for the same.**

**GENERAL TERMS & CONDITIONS:** Bidders are required to read the "Terms and Conditions" section of the auction website (<https://bhel.abcprocure.com>) using the Login IDs and passwords given to them.

**10. OTHER TERMS & CONDITIONS:**

- **The Bidder shall not involve himself or any of his representatives in Price manipulation of any kind directly or indirectly by communicating with other suppliers / bidders.**
- **The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.**

- BHEL's decision on award of Contract shall be final and binding on all the Bidders.
- BHEL along with e-Procurement Technologies Ltd., Ahmedabad can decide to extend, reschedule or cancel any Auction. Any changes made by BHEL and / or e-Procurement Technologies Ltd., after the first posting will have to be accepted if the Bidder continues to access the site after that time.
- e-Procurement Technologies Ltd., shall not have any liability to Bidders for any interruption or delay in access to the site irrespective of the cause.
- e-Procurement Technologies Ltd., is not responsible for any damages, including damages that result from, but are not limited to negligence.
- e-Procurement Technologies Ltd., will not be held responsible for consequential damages, including but not limited to systems problems, inability to use the system, loss of electronic information etc.

N.B.

- All the Bidders are required to submit the Agreement Form / Process Compliance Form (**Annexure - II**) duly signed to M/s e-Procurement Technologies Ltd., Ahmedabad before the due date (auction date). After the receipt of the Agreement Form, Login ID & Password shall be allotted to the suppliers (bidders).
- After the completion of the Auction event, all the Bidders have to submit the Price Break-up & confirmation as per the Annexure III format, within 24 hours of the reverse auction, to M/s e-Procurement Technologies Ltd., Ahmedabad for further proceedings.

## ANNEXURE- I

**The List of Items to be procured along with the Quantities and the Auction Start Time & Close Time is as follows:**

DESCRIPTION OF WORK:

SUPPLY (EXCEPTING BHEL SUPPLIED MATERIALS), COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD; TRANSPORTATION TO FABRICATION YARD/ SITE; FABRICATION, ERECTION, ALIGNMENT, BOLTING/ WELDING/ FASTENIG, GROUTING, TESTING AND HANDING OVER OF BUNKER STRUCTURE AND RAW COAL BUNKER IN BLOCK-I (UNIT-1 & 3 ) AND BLOCK-II (UNIT-2 & 4 ) AT 4X600 MW RAIGARH THERMAL POWER PROJECT AT JINDAL POWER LIMITED PHASE-III,(4X600 MW JPL STPP) SALIBHATA,TAMNAR VILLAGE ,DISTT: RAIGARH, CHATTISGARH TENDER **SPECIFICATION NO: BHE/PW/PUR/RGIT-STR/727**

Item	Quantity	Opening Prices in Rs	Bid Decrement in Rs	Opening Time	Closing Time
As Detailed IN subject tender	As Detailed IN subject tender	Would be displayed on the bidding screen	Would be displayed on the bidding screen	<b>Shall be informed later</b>	<b>Shall be informed later</b>

**Annexure- II**  
**Process Compliance Form**

(The bidders are required to print this on their company's letterhead, sign & stamp before emailing a scanned copy)

To,  
M/s. e-Procurement Technologies Ltd. (**abcprocure**)  
B-705, Wall Street-II, Opp. Orient Club,  
Nr. Gujarat College, Ellis Bridge,  
Ahmedabad – 380 006, Gujarat, India.

Sub: Agreement to the Process related Terms and Conditions for the Reverse Auction

Dear Sir,

**This has reference to the Terms & Conditions for the Reverse Auction mentioned in the Tender Specification No BHE/PW/PUR/RGIT-SRG/727**

This letter is to confirm that:

- 1) The undersigned is authorized representative of the company.
- 2) We have studied the Commercial Terms and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- 4) We also confirm that we will email a scanned copy or fax the Price Confirmation (**Annexure-III**) & break-up (as per Excel Sheet), if any, of our online quoted price, immediately after the completion of the Reverse Auction.
- 5) We, hereby, confirm that we will honor the Bids placed by us during the auction process.
- 6) We confirm that we have changed the password on the auction website after first log in.

With regards,

Signature with company seal  
Name –  
Company / Organization –  
Designation within Company / Organization –  
Address of Company / Organization –

- **Scan & email this document to [abcprocure](#).**



**CONTACT INFORMATION**

<p><b>M/s. e-Procurement Technologies Ltd., Ahmedabad (<a href="#">abcprocure</a>)</b></p>	<p><b>Bharat Heavy Electricals Limited, PSWR</b></p>
<p><b>B-705, Wall Street-II, Opp. Orient Club, Nr. Gujarat College, Ellis Bridge, Ahmedabad – 380 006, Gujarat, India.</b></p> <p><b>Ph. Nos. : +91 79 – 4001 6860 / 861 / 863 / 864 / 866 / 874 / 875 / 877 / 878 / 880 / 882</b></p> <p><b>Fax Nos. : +91 79 – 4001 6876 / 816</b></p> <p><b>Helpdesk Email-Id: <a href="mailto:helpdesk@tendertiger.com">helpdesk@tendertiger.com</a></b></p> <p><b>Mr. Parin Desai Cell : 0 – 93745 19754 E-mail : <a href="mailto:parin@abcprocure.com">parin@abcprocure.com</a></b></p>	<p><b>Mr Santosh Nair Sr Deputy General Manager/Purchase</b></p> <p><b>E mail : <a href="mailto:snair@bhhelpswr.co.in">snair@bhhelpswr.co.in</a> Phone : 0712 - 3048645 Fax : 0712 - 3048605</b></p> <p><b>(Or)</b></p> <p><b>Mr. S M BORKAR SR.Manager/Purchase</b></p> <p><b>Email : <a href="mailto:smborkar@bhhelpswr.co.in">smborkar@bhhelpswr.co.in</a> Phone: 0712 - 3048639 Fax : 0712 - 3048605</b></p> <p><b>(Or)</b></p> <p><b>Mr. Pratish Gee Varghese Engineer/Purchase</b></p> <p><b>Email: <a href="mailto:pgv@bhhelpswr.co.in">pgv@bhhelpswr.co.in</a> Phone: 0712 - 3048713 Fax : 0712 - 3048605</b></p>

## APPENDIX-I

### LIST OF T&P TO BE PROVIDED BY BHEL FREE OF CHARGES ON SHARING BASIS

SL.NO.	DESCRIPTION & CAPACITY OF T&P	QUANTITY	REMARKS
01	250 MT CRAWLER CRANE	02 No.	<b>BHEL OWNED CRANES. OPERATOR FOR THIS WILL BE PROVIDED BY BHEL.</b>

NOTE: 1. FUEL FOR THE ABOVE CRANES SHALL BE IN CONTRACTOR'S SCOPE.

2. ABOVE CRANES ARE CONSIDERED MAINLY FOR BOILER ERECTIONS, HOWEVER ON NEED BASED FOR HEAVY LIFT AND/OR HIGH REACH IN BUNKER BAY STRUCTURE ERECTION THESE CRANES SHALL BE MADE AVAILABLE. THE ALLOCATION OF THESE CRANES WILL BE DECIDED BY BHEL SITE ENGINEER, BASED ON ITS AVAILABILITY AND OTHER IMMINENT NEEDS, WHICH SHALL BE BINDING ON CONTRACTOR. THESE CRANES (i.e. 250 T MT) SHALL NOT BE AVAILABLE FOR USE IN FABRICATION YARD.

3. FURTHER, USE OF ABOVE CRANES MAY BE ALLOWED FOR ANY OTHER ERECTION RELATED ACTIVITY AT THE DISCRETION & APPROVAL OF BHEL SITE INCHARGE.

**APPENDIX-II**  
**LIST OF T&P AND MMD TO BE DEPLOYED BY THE CONTRACTOR FOR EACH BLOCK**

A: TOOL & PLANTS

SN	DESCRIPTION OF EQUIPMENTS	CAPACITY (MINIMUM)	Remarks/MINIMUM QUANTITY
	180 T CRAWLER CRANE	01 No.	THE CONTRACTOR SHALL PROVIDE THE CRANE WITH OPERATOR FROM START OF WORK AT SITE.
	75 T CRAWLER CRANE	01 No.	THE CONTRACTOR SHALL PROVIDE THE CRANE WITH OPERATOR FROM START OF WORK AT SITE.
	40/45 T CRAWLER CRANE	02 No.	THE CONTRACTOR SHALL PROVIDE BOTH THE CRANE WITH OPERATOR FROM START OF WORK AT SITE.
	8/10 T HYDRA CRANE	02 No.	THE CONTRACTOR SHALL PROVIDE BOTH THE CRANE WITH OPERATOR FROM START OF WORK AT SITE.
	3 Ph DISTRIBUTION BOARD WITH COMPLETE SET UP FOR DRAWL OF CONSTRUCTION POWER	800 Amp, 415 Volt	AS PER REQMT
	ELECTRIC CABLE FOR DRAWAL & DISTRIBUTION OF CONSTRUCTION POWER	AS PER SITE REQUIREMENT	AS PER SITE REQUIREMENT
	GANTRY FOR FABRICATION YARD	ADEQUATE	01
	PICK AND CARRY MOBILE CRANE	14 – 18 T	02
	TRAILER WITH HORSE - TO HANDLE HEAVY AND LONG COMPONENTS ETC	ADEQUATE CAPACITY & SUFFICIENT BED LENGTH	02
	TRACTOR TROLLEY - TO HANDLE REGULAR COMPONENTS OF BOILER ETC	ADEQUATE CAPACITY	02
	DRILLING MACHINES : ASSORTED TYPES AND SIZES	TO MEET ALL REQUIREMENT	TO MEET ALL REQUIREMENT
	GRINDING MACHINES : ASSORTED TYPES AND SIZES	TO MEET ALL REQUIREMENT	TO MEET ALL REQUIREMENT
	WELDING GENERATOR (ELECTRIC &	300 AMPS	AS REQUIRED

SN	DESCRIPTION OF EQUIPMENTS	CAPACITY (MINIMUM)	Remarks/MINIMUM QUANTITY
	DIESEL)		
	SUBMERGED ARC WELDING M/C	SUITABLE FOR APPLICATION	ADEQUATE TO MEET COMPLN SCHEDULES
	MIG WELDING M/C	-DO-	-DO-
	WELDING RECTIFIER	SUITABLE FOR APPLICATION	ADEQUATE
	PUG CUTTING M/C	SUITABLE FOR APPLICATION	ADEQUATE
	PLASMA CUTTING M/C	SUITABLE FOR APPLICATION	ADEQUATE
	OXY-ACETELYNE GAS CUTTING SET	SUITABLE FOR APPLICATION	ADEQUATE
	BAKING OVEN AND HOLDING OVEN WITH THERMOSTAT AND TEMPERATURE GAUGE FOR BAKING COATED WELDING ELECTRODES	AS PER REQUIREMENT	ADEQUATE
	PORTABLE OVEN FOR COATED WELDING ELECTRODES	AS PER SITE REQUIREMENT	15
	PRE HEATING / STRESS RELIEVING SET (HEATING CONTROL PANEL, CABLES, HEATING ELEMENTS ETC.)	AS PER REQUIREMENT	ADEQUATE
	RADIOGRAPHY ARRANGEMENT INCLUDING THE SOURCE	IR 192	2 SETS
	ARRANGEMENT FOR UT OF HIGHER THICKNESS JOINTS WITH RECORDING FACILITY.	SUITABLE FOR APPLICATION	01 SET
	RADIOGRAPHY FILM VIEWER	HI INTENSITY	2 NOS.
	SAND BLASTING SET WITH AIR COMPRESSOR	SUITABLE FOR APPLICATION	ADEQUATE
	HSFG BOLT TORQUE WRENCH & CALIBRATOR	SUITABLE FOR APPLICATION	ADEQUATE
	ELECTRIC WINCHES	3T/ 5T	ADEQUATE
	HAND WINCHES	½ / 1 T	ADEQUATE
	HOISTING & PULLING DEVICES/ PULLEYS ETC	ASSORTED CAP	ADEQUATE
	MECH & HYD JACKS	AS PER REQMT	ADEQUATE
	THEODOLITE OF REQUIRED ACCURACY	-	01No.

**B: MEASURING AND MONITORING DEVICES (MMD):**

AS PER REQUIREMENT TO BE FINALIZED AT SITE, SHALL MEET THE REQUIREMENTS AS PER FIELD QUALITY PLAN AND OTHER ERECTION, TESTING RELATED ACTIVITIES.

**NOTE:**

THE LIST INDICATED ABOVE IS ONLY SUGGESTIVE AND NOT EXHAUSTIVE. CONTRACTOR SHALL DEPLOY ALL OTHER T&P AND MMD AS WELL THAT ARE NECESSARY FOR PROPER EXECUTION OF THE SCOPE OF WORK.

### APPENDIX-III

#### ANALYSIS OF UNIT RATE QUOTED

SL.N O.	DESCRIPTION	% OF QUOTED RATE	REMARKS
01	SITE FACILITIES VIZ., ELECTRICITY, WATER OTHER INFRASTRUCTURE.		
02	SALARY AND WAGES + RETRENCHMENT BENEFITS		
03	CONSUMABLES		
04	T&P DEPRECIATION & MAINTENANCE		
05	ESTABLISHMENT & ADMINISTRATIVE EXPENSES		
06	OVERHEADS		
07	PROFIT		
TOTAL		100%	

SIGNATURE OF THE TENDERER

DATE:

APPENDIX-IV  
 FORMAT FOR MONTH-WISE MANPOWER DEPLOYMENT PLAN

**(CATEGORY-WISE NUMBERS TO BE INDICATED FOR EACH MONTH) FOR TOTAL CONTRACT PERIOD for One Block of Two Units**

SL. NO.	CATEGORY	MONTHS											
		1	2	3	4	5	6	7	8	9	10	SO ON	
01	RESIDENT ENGINEER												
02	FABRICATION ENGINEERS												
03	FABRICATION SUPERVISORS												
04	ERECTION ENGINEERS												
05	ERECTION SUPERVISORS												
06	QUALITY ASSURANCE ENGINEER												
07	SAFETY ENGINEER												
08	MATERIALS MANAGEMENT SUPERVISORS												
09	STRUCTURAL & OTHER WELDERS												
10	FITTERS												
11	CRANE OPERATOR												
12	TRUCK/TRAILER DRIVERS												
13	STORE KEEPERS												
14	ELECTRICIANS												
15	SEMISKILLED/ UNSKILLED WORKERS												
SO ON													
	MONTH WISE TOTAL												

**BIDDER MAY USE SEPARATE SHEET AS REQUIRED**

APPENDIX-V

**FORMAT FOR DEPLOYMENT PLAN FOR MAJOR TOOLS AND PLANTS FOR TOTAL CONTRCT PERIOD for One Block of 2 Units**

SN	DESCRIPTION & CAPACITY OF T&P	MONTHS											
		1	2	3	4	5	6	7	8	9	10	SO ON	
01													
02													
03													
04													
05													
06													
07													
08													
09													
10													
SO ON													

**BIDDER MAY USE SEPARATE SHEET AS REQUIRED**

SIGNATURE OF THE TENDERER

DATE:

APPENDIX-VI

**CONCURRENT COMMITMENTS**

SL.N O.	FULL POSTAL ADDRESS OF CLIENT AND NAME OF OFFICER IN- CHARGE	DESCRIPTION OF THE WORK	VALUE OF THE CONTRACT	COMMENC- EMENT DATE	SCHEDU- LED COMPLE- TION	% COMPL- TD. AS ON DATE	ANTICIPA- TED COMPLN. DATE	REMARKS

**BIDDER MAY USE SEPARATE SHEET AS REQUIRED**

DATE

SIGNATURE OF THE TENDERER

**APPENDIX-VII**

**DETAILS OF SIMILAR WORK DONE DURING THE LAST SEVEN YEARS**

<b>SL. NO.</b>	<b>FULL POSTAL ADDRESS OF CLIENT &amp; NAME OF OFFICER IN CHARGE</b>	<b>DESCRIPTION OF WORK</b>	<b>VALUE OF CONTRACT</b>	<b>DATE OF AWARD OF WORK</b>	<b>DATE OF COMMENCEMENT OF WORK</b>	<b>ACTUAL COMPLETION TIME (MONTHS)</b>	<b>DATE OF ACTUAL COMPLETION OF WORK</b>	<b>REMARKS</b>
1								
2								
3								
4								
5								
6								

**BIDDERS SHALL ENCLOSE COPIES OF DETAILED WORK ORDER (GIVING BILL OF QUANTITIES AND SCOPE OF WORK) AND COMPLETION CERTIFICATE IN SUPPORT OF THIS STATEMENT. BIDDER MAY USE SEPARATE SHEET AS REQUIRED**

DATE

SIGNATURE OF TENDERER WITH SEAL