T E N D E R S P E C I F I C A T I O N

No: BHE/PW/PUR/BSJI-INS/486

FOR

HANDLING & COLLECTION OF MATERIALS AT BHEL/CLIENT'S STORAGE YARD/ STORES, TRANSPORTATION TO SITE, APPLICATION OF LINING & INSULATION MATERIALS INCLUDING ERECTION OF FIXING & SUPPORTING COMPONENTS, SHEET CLADDING, OUTER CASING, ETC ON BOILER AND ITS AUXILIARIES, TG AUXILIARIES, TG PIPING, POWER CYCLE PIPING & LP PIPING AND OTHER EQUIPMENTS INCLUDING BOIs AND HANDING OVER OF 2x250 MW UNIT # 1 & 2

AT

NTPC-SAIL POWER COMPANY PRIVATE LTD

EXPANSION OF BHILAI POWER PROJECT (2x250 MW)

BHILAI, DISTT: DURG,

CHHATTISGARH

PART I
(TECHNICAL BID SPECIFICATION, NOTICE INVITING TENDER and GCC)

BHARAT HEAVY ELECTRICALS LIMITED
(*A GOVERNMENT OF INDIA UNDERTAKING*)
POWER SECTOR : WESTERN REGION
345, KINGSWAY : NAGPUR 440 001

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C O N T E N T S

LEGEND:

$: PLACED BEFORE 'GENERAL CONDITIONS OF CONTRACT' IN BOTH HARD AND SOFT COPY DOCUMENTS.

#: ATTACHED AT THE END OF HARD COPY OF TENDER SPECS. PART-I (TECHNICAL BID) AND AS A SEPARATE FILE TITLED '**WEB_NIT_GCC**' AS SOFT COPY HOSTED IN WEB PAGE.

@: ISSUED AS SEPARATE BOOKLET IN HARD COPY AS **PRICE BID SPECIFICATION** AND AS SEPARATE FILE TITLED 'PRICE_BID' AS SOFT COPY HOSTED IN WEB PAGE.

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

No.- BHE/PW/PUR/BSJI-INS/486

FOR

HANDLING & COLLECTION OF MATERIALS AT BHEL/CLIENT'S STORAGE YARD/ STORES, TRANSPORTATION TO SITE, APPLICATION OF LINING & INSULATION MATERIALS INCLUDING ERECTION OF FIXING & SUPPORTING COMPONENTS, SHEET CLADDING, OUTER CASING, ETC ON BOILER AND ITS AUXILIARIES, TG AUXILIARIES, TG PIPING, POWER CYCLE PIPING & LP PIPING AND OTHER EQUIPMENTS INCLUDING BOIs AND HANDING OVER OF 2x250 MW UNIT # 1 & 2

AT

NTPC-SAIL POWER COMPANY PRIVATE LTD

EXPANSION OF BHILAI POWER PROJECT (2x250 MW)

BHILAI, DISTT: DURG,

CHHATTISGARH

EARNEST MONEY DEPOSIT: Please refer Special Conditions of Contract Section-15

LAST DATE AND TIME FOR
RECEIPT OF OFFERS Please refer web page (www.bhel.com) for latest updates

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING **PART-I** AND **PART- II** ARE ISSUED TO:

M/s.

(THESE TENDER DOCUMENTS ARE NOT TRANSFERABLE)

FOR BHARAT HEAVY ELECTRICALS LIMITED

DGM (Purchase)
PLACE: NAGPUR
DATE:

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
POWER SECTOR - WESTERN REGION
345, KINGS WAY - NAGPUR 440 001

PROCEDURE FOR SUBMISSION OF SEALED TENDERS & INSTRUCTIONS TO BIDDERS

The bidder must submit his tender 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 in the Notice Inviting Tender.

Part-I (Technical Bid) cover-I:
Excepting rate schedule, all other schedules, data sheets and details called for in the specification shall be enclosed in **part-I "Technical Bid" only.**

EARNEST MONEY DEPOSIT (EMD)

Please see Special Conditions of Contract (Section-15)

Part-II (Price Bid) cover-II:

All indications of price shall be given in this part-II "Price Bid". **EMD shall not be included in this cover.**

These Two Separate Covers-I and II (Part-I And Part-Ii) shall together be enclosed in a third Envelope (Cover-III) along with requisite EMD as indicated earlier and this sealed cover shall be superscribed and submitted to Dy. General Manager (Purchase) at the above mentioned address on or before the Due Date as indicated.

The Qualified bidder will be intimated separately about the status of their offer.

Bidders are requested to make specific note of the following conditions:

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

2. CONTRACTOR SHOULD HAVE SOUND FINANCIAL STABILITY.

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

4. BIDDER SHALL MEET ALL THE QUALIFYING REQUIREMENTS AS MENTIONED IN THE NOTICE INVITING TENDER.

5. ALL INFORMATION AS CALLED FOR IN VARIOUS APPENDICES AND CLAUSES OF TENDER SPECIFICATION SHOULD BE FURNISHED. PLEASE REFER THE CHECKLIST. THE DETAILS SO FURNISHED BY TENDERER SHOULD BE COMPLETE IN ALL RESPECTS AND AS PER FORMATS SPECIFIED IN TENDER SPECIFICATION.

6. 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.

7. TENDERER SHALL NOTE THAT THEIR OFFER WILL BE CONSIDERED SUBJECT TO THE APPROVAL OF BHEL'S CUSTOMER.

PROJECT INFORMATION

INTRODUCTION

NTPC-SAIL Power Company Pvt. Ltd. a joint venture of NTPC & SAIL, is going for two coal fired thermal units of 250MW

The proposed plant is located near the town of Bhilai, in Durg District of Chhattisgarh state. Contractor is advised to visit the site and appraise himself about the conditions of the site and infrastructure available in the area for fulfilling their commitment under the contract.

APPROACH TO SITE

The site is approximately 40 km from Raipur. The nearest railway junction station (Broad Gauge) is Durg. Durg is on Mumbai-Howrah main line.

3.0 CLIMATIC CONDITIONS

a) Maximum temperature	:	48-50Deg elsius
b) Minimum temperature	:	Deg Celsius
c) Maximum Relative Humidity	:	%
d) Minimum Relative Humidity	:	%
e) Average Annual rainfall	:	mm
f) Seismic Zone	:	
g) Height above MSL	:	M

.

Check List

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 One Time EMD or, 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?	Yes (vide Document reference:	No	
		Bidder to note that tender with conditions unacceptable to BHEL shall be rejected.		
	Bidder has visited the project site and acquainted with the site conditions		Yes	No
1.	Details of concurrent jobs are furnished(as per appendix-V)		Yes	No
2.	Head quarter's organization is furnished		Yes	No
3.	Proposed site organization is furnished		Yes	No
4.	Names and particulars of directors/partners are furnished		Yes	No
5.	Financial status of the company (annexure 'A' of GCC) is furnished		Yes	No
6.	**Copy of Audited Profit & Loss Account** for preceding three years duly authenticated on each copy by bidders Chartered Accountants		Yes	No
7.	**Latest Certificate by Bidder's Banker for Overdraft & BG Limits** is Furnished (Certificate shall not be older than six months from the Last Date for offer submission)		Yes	No
8.	Latest copy of **IT Return** along with copy of **PAN Card** are Furnished		Yes	No

Check List (Vide Para 1.3 Of Section-I of General Conditions Of Contract)			
9.	Manpower deployment plan (Appendix – III) is furnished	Yes	No
10	Analysis of unit rates quoted (Appendix-II) is furnished	Yes	No
11	Month wise deployment plan for major T&P (Appendix-I) is furnished	Yes	No
12	List of Jobs completed in last seven years is furnished (**Appendix-VI**)	Yes	No
13	Whether all the pages of the tender documents are read, understood and signed	Yes	No
14	Power of Attorney Enclosed in Favour of Person Making Offer	Yes	No
15	Bidder Has familiarized himself with all Relevant Local Laws & Conditions	Yes	No
16	Safety Requirement of This work in A Running plant Premises has been understood.	Yes	No
17	Erection and Commissioning programme	Yes	No

Note : Strike off yes or no, as applicable

Declaration by Bidder's Authorized Signatory

I …… hereby certify that all the information and data furnished by me with regard to this tender specification No. **BHE/PW/PUR/BSJI-INS/486** is true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of the specification. I further certify that I am duly authorised representative of the under mentioned bidder and a **valid power of attorney to this effect is also enclosed with the offer**.

Bidder's name and address

Authorised representative's signature with Name and Address

Date:

CERTIFICATE OF NO-DEVIATION

TENDER SPECIFICATION No. BHE/PW/PUR/BSJI-INS/486

I/WE, M/s ……

HEREBY CERTIFY THAT NOTWITHSTANDING ANY CONTRARY INDICATIONS/ CONDITIONS ELSEWHERE IN OUR OFFER DOCUMENTS, I/WE HAVE NEITHER SET ANY TERMS AND CONDITIONS NOR THERE IS ANY DEVIATION TAKEN FROM THE CONDITIONS OF BHEL'S TENDER SPECIFICATIONS, EITHER TECHNICAL OR COMMERCIAL, AND I/WE AGREE TO ALL THE TERMS AND CONDITIONS MENTIONED IN BHEL'S TENDER SPECIFICATION WITH ASSOCIATED AMENDMENTS AND CLARIFICATIONS.

Signature of the Bidder

Date :

SECTION-3
OFFER OF THE CONTRACTOR

DGM (Purchase)
BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR - WESTERN REGION
SHREEMOHINI COMPLEX
345, KINGS WAY
NAGPUR 440 001

DEAR SIR,

I/WE HEREBY OFFER TO CARRY OUT THE WORK DETAILED IN TENDER SPECIFICATION NO. **BHE/PW/PUR/BSJI-INS/486** FOR UNITS 1 & 2 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 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 LAKHS 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 FURNTHER 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: SIGNATURE OF TENDERER:
DATE : ADDRESS:

WITNESSES WITH THEIR ADDRESS

SIGNATURE	NAME	ADDRESS
1.		
2.		

SECTION -4

SPECIAL CONDITIONS OF CONTRACT

4.1 SCOPE OF WORK

4.1.1
THE WORK TO BE CARRIED OUT UNDER SCOPE OF THIS SPECIFICATION COVERS THE COMPLETE WORK OF HANDLING, LOADING OF MATERIALS AT BHEL/CUSTOMER STORES/ STORAGE YARD, TRANSPORTION TO AND UNLOADING AT SITE, APPLICATION OF INSULATION, FINISHING, CLADDING AND OUTER CASING ETC OF THE FOLLOWING:

1. MAIN BOILER
2. BOILER AUXILIARIES INCLUDING, BUT NOT LIMITED TO, ESP, DUCTS, FUEL OIL EQUIPMENTS, FANS ETC
3. BOILER INTEGRAL PIPING AND TANKS & VESSELS
4. POWER CYCLE PIPING AND CRITICAL PIPING INCLUDING VESSELS AND TANKS & OTHER EQUIPMENTS
5. LP PIPING AND OTHER EQUIPMENTS
6. ST-TG AUXILIARIES INCLUDING, BUT NOT LIMITED, TO HEAT EXCHANGERS, PUMPS, TANKS AND VESSELS AND OTHER EQUIPMENTS
7. TG INTEGRAL & CYCLE PIPING INCLUDING CONDENSATE AND EXTRACTION SYSTEM PIPING
8. OTHER EQUIPMENTS INCLUDING BOIs, THOUGH NOT LISTED ABOVE BUT REQUIRED FOR COMPLETION

THE WORK SHALL CONFORM TO DIMENSION AND TOLERANCES SPECIFIED IN THE VARIOUS DRAWING. AND DOCUMENTS THAT WILL BE PROVIDED DURING THE EXECUTION. IF ANY PORTION OF THE WORK IS FOUND TO BE DEFECTIVE IN WORKMANSHIP OR NOT CONFORMING TO DRAWINGS OR OTHER SPECIFICATIONS, 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 ENGAGING OTHER AGENCIES OR DEPARTMENTALLY AND RECOVERIES WILL BE DEDECTED FROM CONTRACTOR'S BILLS TOWARDS EXPENDITURE INCURRED INCLUDING 30% DEPARTMENTAL CHARGES.

4.1.2
THE TERMINAL POINTS AS DECIDED BY BHEL SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

4.1.3
THE ESTIMATED WEIGHTS GIVEN IN THE PART-II: PRICE BID, RATE SCHEDULE ARE APPROXIMATE AND ARE MEANT FOR GENERAL IDEA TO THE TENDERER ABOUT THE MAGNITUDE OF THE WORK INVOLVED. THESE ARE SUBJECT TO CHANGE AS PER SITE CONDITIONS.

4.1.4
THE WORK COVERED UNDER THIS SPECIFICATION IS OF HIGHLY SOPHISTICATED NATURE REQUIRING THE BEST QUALITY OF WORKMANSHIP, ENGINEERING AND CONSTRUCTION MANAGEMENT. THE CONTRACTOR SHOULD ENSURE TIMELY COMPLETION OF THE WORK. THE CONTRACTOR MUST HAVE THE ADEQUATE QUANTITY OF TOOLS, CONSTRUCTION AIDS, EQUIPMENTS, ETC IN THIS POSSESSION. HE MUST ALSO HAVE ON HIS ROLLS ADEQUATE TRAINED, QUALIFIED AND EXPERIENCED SUPERVISORY STAFF AND SKILLED PERSONNEL.

4.1.5
THE WORK SHALL BE EXECUTED UNDER THE USUAL CONDITION AFFECTING MAJOR POWER PLANT CONSTRUCT ION AND IN CONJUNCTION WITH NUMEROUS OTHER OPERATIONS AT SITE. THE CONTRACTOR AND HIS PERSONNEL SHALL CO -OPERATE WITH THE PERSONNEL OF OTHER AGENCIES, CO -ORDINATE HIS WORK WITH OTHERS AND PROCEED IN A MANNER THAT SHALL NOT DELAY OR HINDER THE PROGRESS OF WORK.

4.1.6
CONTRACTOR SHALL EXECUTE THE WORK AS PER SEQUENCE AND PROCEDURE PRESCRIBED BY BHEL AT SITE. BHEL ENGINEER, DEPENDING UPON THE AVAILABILITY OF MATERIALS, FRONTS ETC, WILL DECIDE THE SEQUENCE OF ERECTION AND METHODOLOGY. NO CLAIMS FOR EXTRA PAYMENT FROM THE CONTRACTOR WILL BE ENTERTAINED ON THE GROUNDS OF DEVIATION FROM THE METHODS OF ERECTION ADOPTED IN ERECTION OF SIMILAR JOBS OR FOR ANY REASONS WHATSOEVER.

4.1.7
CONTRACTOR HAS TO WORK IN CLOSE CO -ORDINATION WITH OTHER ERECTION AGENCY AT SITE. BHEL ENGINEER WILL CO -ORDINATE AREA CLEARANCE. IN A PROJECT OF SUCH MAGNITUDE, IT IS POSSIBLE THAT THE AREA CLEARANCE MAY BE LESS/MORE AT A PARTICULAR GIVEN TIME. ACTIVITIES AND ERECTION PROGRAM HAVE TO BE PLANNED IN SUCH A WAY THAT THE MILESTONE EVENTS LIKE BOILER LIGHT UP, STEAM BLOWING, ROLLING ETC ARE ACHIEVED AS PER SCHEDULE/ PLANS. CONTRACTOR SHALL ARRANGE & AUGMENT THE RESOURCES ACCORDINGLY.

4.1.8
DURING THE COURSE OF EXECUTION OF WORK, CERTAIN REWORK/MODIFICATION/ RECTIFICATION/ REPAIRS/FABRICATION ETC WILL BE NECESSARY ON ACCOUNT OF FEED BACK FROM VARIOUS RELEVANT SOURCE, AND ALSO ON ACCOUNT OF DESIGN DISCREPANCIES/ ALTERATIONS, MANUFACTURING DEFECTS, SITE OPERATIONS/ MAINTENANCE REQUIREMENTS. CONTRACTOR SHALL CARRY OUT SUCH REWORK/ MODIFICATION/ RECTIFICATION/ FABRICATION/ REPAIRS ETC PROMPTLY AND EXPEDITIOUSLY DAILY LOG SHEETS INDICATING THE DETAILS OF WORK CARRIED OUT, MAN-HOURS ETC SHALL BE MAINTAINED BY THE CONTRACTOR AND GOT SIGNED BY BHEL ENGINEER EVERY DAY. CLAIMS OF CONTRACTOR, IF ANY, FOR SUCH WORKS WILL BE DEALT AS PER CLAUSES 13.1 TO 13.8.

4.1.9
ALL TOOLS, TACKLES, FIXTURES, EQUIPMENTS, MATERIALS, MANPOWER SUPERVISORS/ENGINEERS, CONSUMABLE ETC REQUIRED FOR THE CONTRACTOR SHALL PROVIDE THIS SCOPE OF WORK. ALL THE EXPENDITURE INCLUDING TAXES AND INCIDENTALS IN THIS CONNECTION WILL HAVE TO BE BORN BY HIM UNLESS OTHERWISE SPECIFIED IN THE RELEVANT CLAUSE. THE CONTRACTORS QUOTED RATES SHOULD BE INCLUSIVE OF ALL SUCH CONTINGENCIES.

4.1.10
IT SHALL BE SPECIALLY NOTED THAT THE CONTRACTOR'S LABO UR AND STAFF MAY HAVE TO WORK ROUND THE CLOCK TO MEET THE COMPLETION SCHEDULES/ PLANS WHICH MAY INVOLVE PAYMENT OF CONSIDERABLE OVERTIME. THE CONTRACTORS QUOTED RATES SHOULD BE INCLUSIVE OF ALL SUCH CONTINGENCIES.

4.1.11
THE CONTRACTOR IS STRICTLY PROHIBITED FROM USING BHEL'S REGULAR COMPONENTS LIKE ANGLES, CHANNELS, BEAMS, PLATES, PIPE/TUBES, AND HANDRAILS ETC FOR ANY TEMPORARY SUPPORTING OR SCAFFOLDING WORKS. CONTRACTOR SHALL ARRANGE HIMSELF ALL SUCH MATERIALS. IN CASE OF SUCH MISUSE OF BHEL MATERIALS, A SUM AS DETERMINED BY BHEL ENGINEER WILL BE RECOVERED FROM THE CONTRACTOR'S BILL. THE DECISION OF BHEL ENGINEER IS FINAL AND BINDING ON THE CONTRACTOR.

4.1.12
NO MEMBER OF THE ALREADY ERECTED STRUCTURE/ PLATFORM, PIPES, GRILLS; PLATFORM, OTHER COMPONENT AND AUXILIARIES SHOULD TO CUT WITHOUT SPECIFIC APPROVAL OF BHEL ENGINEER.

THE CONTRACTOR'S SCOPE OF WORK IS FURTHER DESCRIBED IN THE CLAUSES HERE AFTER.

4.2 COLLECTION OF MATERIALS

4.2.1

THE CONTRACTOR SHALL TAKE DELIVERY OF EQUIPMENTS, ON STANDARD INDENT FORM, FROM THE STORAGE YARD/STORES/SHEDS OF BHEL/CUSTOMER. THE CONTRACTOR SHOULD NOTE THAT THE TRANSPORT OF EQUIPMENT TO ERECTION SITE, ASSEMBLY YARDS ETC SHOULD BE DONE TO AVOID THE SITE CONGESTION AND BY THE PRESCRIBED ROUTE WITHOUT DISTURBING THE OTHER WORKS AND CONTRACTORS AND IN THE MOST PROFESSIONAL MANNER. SPECIAL EQUIPMENT SUCH AS CLADDING SHEETS, POURABLE REFRACTORY, AND MINERAL WOOL ETC SHALL BE STORED WHEN TAKEN OVER BY THE CONTRACTOR IN APPROPRIATE MANNER AS PER BHEL'S INSTRUCTIONS. RELOCATION/SHIFTING IF NECESSARY, OF MATERIAL, T&P ETC DUE TO SITE CONDITIONS/ CUSTOMER REQUIREMENT SHALL BE DONE EXPEDITIOUSLY AS INCIDENTAL TO WORK.

4.2.2

THE CONTRACTOR SHALL HANDOVER ALL PARTS/ MATERIALS REMAINING EXTRA OVER THE NORMAL REQUIREMENT WITH PROPER IDENTIFICATION TAGS IN A PACKED CONDITION IF SO SPECIFIED, TO BHEL STORES. IN CASE OF ANY MISUSE OR EXCESS USE OVER DESIGN REQUIREMENTS, BHEL RESERVE THE RIGHT TO RECOVER THE COST OF PARTS /MATERIAL USED IN EXCESS OR MISUSED. DECISION OF BHEL ENGINEER IN THE REGARD WILL BE FINAL AND BINDING ON THE CONTRACTOR.

4.2.4

THE CONTRACTOR SHALL HAVE TOTAL RESPONSIBILITY FOR ALL BHEL/CUSTOMER'S EQUIPMENT AND MATERIALS IN HIS CUSTODY WHETHER AT HIS STORES OR AT SITE IN LOOSE, SEMI-ASSEMBLED OR ERECTED CONDITION. HE SHALL EFFECTIVELY PROTECT THE FINISHED WORKS FROM ACTION OF WEATHER AND FROM DAMAGES OR DEFACEMENT AND SHALL ALSO COVER THE FINISHED PARTS IMMEDIATELY ON COMPLETION AS PER BHEL ENGINEER'S INSTRUCTIONS. THE CONTRACTOR SHALL MAKE ADEQUATE ARRANGEMENTS INCLUDING EMPLOYMENT OF SECURITY PERSONNEL AND INSURANCE EQUIPMENTS ISSUED TO HIM FOR THE WORK.

4.2.5

ALL MATERIALS SHALL BE HANDLED VERY CAREFULLY TO PREVENT ANY DAMAGE OR LOSS. PROPER WIRE ROPES, SLINGS ETC SHALL BE USED FOR UNLOADING AND /OR HANDLING OF THE EQUIPMENTS

4.2.6

CONTRACTOR SHALL REMOVE PERIODICALLY ALL SCRAP MATERIALS AND OTHER SCRAP GENERATED FROM ALL THE WORK AREA DURING EXECUTION OF THIS WORK. IN CASE OF CONTRACTOR'S FAILURE TO CARRYOUT THIS WORK TO THE SATISFACTION OF BHEL, BHEL RESERVES THE RIGHT TO REMOVE THE RIGHT AT CONTRACTOR'S RISK AND COST.

4.2.7

ALL THE POURABLE AND CASTABLE INSULATION BAGS ISSUED TO THE CONTRACTOR HAVE TO BE PROPERLY STORED AND THE SAME SHOULD BE IN A COVERED STORAGE WITHOUT EXPOSING TO ATMOSPHERIC CONDITIONS. FOR THIS PURPOSE, CONTRACTOR SHOULD ARRANGE SUFFICIENT QUANTITY OF FIRE RETARDANT TARPAULINS OR TEMPORARY COVERED SHED.

4.3 WELDING ELECTRODES AND WELDING

4.3.1 WELDING ELECTRODES

4.3.1.1
THE SELECTION AND USE OF ELECTRODES WILL BE AS PER THE STANDARDS AND SPECIFICATION OF BHEL /CUSTOMER. CONTRACTOR SHALL USE ONLY THE TYPE OF ELECTRODE SPECIFIED BY BHEL/CUSTOMER ENGINEER.

4.3.1.2
THE ELECTRODES TO BE USED SHALL BE ACCOMPANIED BY PROPER TEST CERTIFICATE AND THESE CERTIFICATES SHOULD BE SUBMITTED REGULARLY FOR THE SCRUTINY OF BHEL ENGINEER'S PRIOR TO USE THE ELECTRODES.

4.3.1.3
ALL WELDING ELECTRODES WILL HAVE TO BE STORED IN SEPARATE ENCLOSURE SPECIALLY MADE FOR THE PURPOSE, WHICH SHALL CONFORM TO BHEL'S SPECIFICATION IN THIS REGARD. HEATING ARRANGEMENTS FOR THIS ENCLOSURE WILL HAVE TO BE MADE TO KEEP THE ENCLOSURE'S TEMPERATURE ABOVE THAT OF AMBIENT. CONTINUOUS MONITORING OF TEMPERATURE AND HUMIDITY HAS TO BE ENSURED. CONFORMANCE TO BHEL'S PRESCRIPTIONS IN THIS REGARD ARE ESSENTIAL.

4.3.1.4
ALL RACKS AND OTHER ITEMS USED FOR STORAGE OF ELECTRODES SHALL BE MADE OF MOISTURE ABSORPTION RESISTANT MATERIAL.

4.3.1.5 SUFFICIENT NUMBER OF ELECTRODE BAKING AND PORTABLE DRYING OVENS SHALL BE DEPLOYED FOR USE. ALL THE LOW HYDROGEN ELECTRODES SHALL BE BAKED MINIMUM FOR ONE HOUR AT 375-425 DEGREE CENTIGRADE IN ELECTRODE BAKING OVEN AND THEN HELD IN HOLDING OVENS AT AROUND 100 DEGREE CENTIGRADE UNIT USE. ALL RUTILE ELECTRODES IF SPECIFIED OR PRESCRIBED SHALL BE DRIED FOR A MINIMUM OF ONE HOUR FOR 100-150 DEGREE CENTIGRADE BEFORE USE.

4.3.2 WELDING

4.3.2.1
ALL WELDERS SHALL BE TESTED AND APPROVED BY BHEL ENGINEER/CUSTOMER BEFORE THEY ARE ACTUALLY ENGAGED IN WORK THOUGH THEY MAY POSSES THE REQUISITE CERTIFICATE. BHEL RESERVES THE RIGHT TO REJECT ANY WELDER WITHOUT ASSIGNING ANY REASONS.

4.3.2.2
ALL CHARGES FOR TESTING OF CONTRACTOR'S WELDERS INCLUDING DESTRUCTIVE AND NON-DESTRUCTIVE TEST CONDUCTED BY BHEL AT SITE SHALL HAVE TO BE BORNE BY THE CONTRACTOR ONLY (ALSO REFER TO CLAUSE 5.4.3)

4.3.2.3
BHEL ENGINEER IS ENTITLED TO STOP ANY WELDER FROM HIS WORK IF HIS WORK IS UNSATISFACTORY FOR ANY TECHNICAL REASON OR IF THERE IS A HIGHLY PERCENTAGE OF REJECTION BY HIM, WHICH IN THE OPINION OF BHEL ENGINEER, WILL ADVERSELY AFFECT THE QUALITY OF WELDING THOUGH THE WELDERS HAVE PASSED THE TESTS PRESCRIBED. THE FACT THAT THE WELDERS HAVE PASSED THE TESTS, DOSE NOT RELIEVE THE CONTRACTOR FROM HIS CONTRACTUAL OBLIGATIONS TO CHECKS THE PERFORMANCE OF THE WELDERS.

4.3.2.4
ALL WELDS SHALL BE SUBJECTED TO ACCEPTANCE BY BHEL ENGINEER/CUSTOMER WHOSE DECISION WILL BE FINAL AND BINDING.

4.3.2.5
ALL WELDED JOINTS SHOULD BE PAINTED WITH ANTICORROSIVE PAINT IMMEDIATELY ON COMPLETION OF WELDING SUPPLY OF PAINT FOR THIS IS CONTRACTOR'S SCOPE.

4.4 LINING AND INSULATION WORKS

4.4.1
ALL INSULATION AND REFRACTORY MATERIALS INCLUDING IRON COMPONENTS AND OUTER SHEET CASING MATERIALS, CLADDING SHEETS ETC REQUIRED WILL BE SUPPLIED BY BHEL AND THE SAME HAVE TO BE ERECTED/ APPLIED AS PER THE DRAWINGS AND SPECIFICATIONS OF BHEL BY THE CONTRACTOR.

4.4.2
THE CONTRACTOR SHALL PROVIDE THE REQUIRED QUANTITY OF WIRE, NAILS, AND PLANKS FOR FORMWORK AND OTHER MATERIALS FOR SHUTTERING AND CURING WORKS.

4.4.3
CONTRACTOR SHALL OBSERVE ALL PRECAUTION FOR LAYING, CURING ETC OF POURABLE INSULATION. THE CONTRACTOR AT HIS OWN COST SHALL REDO ANY DEFECTIVE WORKS FOUND.

4.4.4
WOOL INSULATION IS RECEIVED AT SITE AS LOOSE BONDED MATTRESSES IN STANDARD SIZES. THESE ARE TO BE DRESSED/CUT TO SUITE THE EQUIPMENTS. MULTIPLE LAYERS OF WOOL HAVE TO BE APPLIED AS DIRECTED AND AS PER DRAWINGS AND SPECIFICATIONS FOR ALL EQUIPMENTS/ SYSTEMS COVERED UNDER THE SCOPE OF WORK.

4.4.5
CUTTING & DRESSING OF INSULATION BRICKS TO SUIT THE SITE AREA OF APPLICATION IS INCIDENTAL TO WORK.

4.4.6
REMOVABLE TYPE OF INSULATION HAS TO BE PROVIDED FOR VALVES FITTINGS, EXPANSION JOINTS ETC AS PER DRAWING OR AS DIRECTED BUY BHEL ENGINEER.

4.4.7
THE CLADDING AND OUTER CASING ARE ALUMINIUM SHEETS. ALL RELEVANT SPECIFICATIONS AND PROCEDURES WITH REGARDS TO BEADING, SEALING ETC FOR ALUNIMIUM SHEETS HAVE TO BE ADHERED TO.

4.4.8
CLADDING/OUTER CASING SHALL BE FIXED EXPEDITIOUSLY, SO AS TO AVOID DAMAGE TO THE INSULATION FROM THE WEATHER.

4.4.9
THE OVERLAPPING SURFACE OF OUTER CASING/CLADDING SHEET SHALL BE COATED WITH SEALING COMPOUND, WHICH WILL BE SUPPLIED BY BHEL FREE OF COST.

4.4.10
TO TAKE CARE OF BIMETAL CORROSION DUE TO VARIETY OF METALS IN CONTACT OF EACH OTHER VIZ RETAINER TO SUPPORT, SUPPORT TO OUTER CASING/CLADDING, CLADDING-TO-CLADDING ETC, SUITABLE PAINTS SPECIFIED BY BHEL, TO BE APPLIED AND/OR NEOPRENE RUBBER PACKING/STRIPS OR ANY OTHER INSERT MAY HAVE TO BE FIXED AS REQUIRED.

4.4.11
THE CONTRACTOR SHOULD ENSURE THAT THE FINISHED WORK CONFORMS TO THE DIMENSION AND TOLERANCE GIVEN IN THE DRAWINGS.

4.4.12
THE CONTRACTOR SHALL LEAVE CERTAIN GAPS AND OPENINGS WHILE DOING THE WORK AS PER THE INSTRUCTIONS OF BHEL ENGINEER TO FACILITATE INSPECTION BY BOILER INSPECTOR OR DURING COMMISSIONING TO FIX GAUGES, FITTINGS, INSTRUMENTS ETC.

THESE GAPS WILL HAVE TO BE FINISHED AS PER DRAWINGS AT LATER DATE BY THE CONTRACTOR AT HIS COST.

CONTRACTOR SHALL CUT OPEN WORKS IN NEEDED AS PER BHEL ENGINEER'S INSTRUCTIONS DURING COMMISSIONING FOR INSPECTION, CHECKING AND MAKE GOOD THE WORKS AFTER INSPECTION IS OVER WITHOUT ANY EXTRA PAYMENT.

4.4.13
A LOG BOOK SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE CLEARANCE OF THE AREA FOR APPLICATION OF REFRACTORY AND INSULATION. WHERE THE CONTRACTOR DOSE THE WORK ON HIS OWN ACCORD WITHOUT PRIOR PERMISSION. THE WORK SHOULD BE RE-DONE, AT HIS OWN COST, WHERE NECESSITATED.

4.4.14
WASTAGE ALLOWANCE FOR THE MATERIAL ISSUED ARE ENVISAGED AS FOLLOWS:

A	POURABLE & CASTABLE INSULATION	-	2%
B	INSULATION BRICKS AND MOTOR	-	2%
C	WOOL MATTRESSES	-	2%
D	CLADDING SHEETS	-	2%

THE WASTAGE ALLOWANCE WILL BE APPLICABLE ON THE NET ISSUED QUANTITY i.e. TOTAL QUANTITY ISSUED REDUCED BY THE QUANTITY RETURNED TO STORES AS UNUSED/FRESH ITEM. CONTRACTOR SHALL RECONCILE THE MATERIAL ISSUES PERIODICALLY AS PRESCRIBED BY BHEL SITE. PAYMENT FOR THE DONE WILL BE REGULATED AS PER PROVISION OF SECTION – 12.

4.4.16
THE FOLLOWING WORKS ARE ALSO INCLUDED IN THE SCOPE OF THIS CONTRACT.

(i) CUTTING OF CLADDING SHEETS AS PER THE PROFILE OF THE EQUIPMENT AND PAINTING ON INNER SURFACE TWO COATS OF BITUMINOUS PAINT. PAINT WILL BE SUPPLIED BY BHEL.

(ii) CUTTING OF THE WOOL MATTRESSES TO THE REQUIRED SHAPE AND APPLICATION OF FINISHING CEMENT OF REQUIRED THICKNESS WHEREVER REQUIRED.

4.4.17
INSULATION WORK OF TEMPORARY PIPING FOR ALKALI BOIL OUT, STEAM BLOWING AND CHEMICAL CLEANING HAS TO BE CARRIED OUT AT SITE. THE SAME HAVE TO BE REMOVED AND RETURNED TO THE BHEL STORES AFTER THE COMPLETION OF ACTIVITY. RATES QUOTED FOR APPLICATION OF WOOL FOR BOILER AND AUXILIARIES WILL BE APPLICABLE FOR THIS WORK ALSO. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF TEMPORARY INSULATION AND RETURN OF THE SAME TO BHEL STORES/YARD.

4.4.18
IN CERTAIN INSTANCES, CO-ORDINATED/PHASED APPLICATION OF CASTABLE REFRACTORY/ INSULATION ON PRESSURE PARTS ETC MAY BE NECESSITATED IN CONSIDERATION OF SEQUENCE OF ACTIVITIES OF OTHER ERECTION AGENCIES. CONTRACTOR SHALL DO SUCH PHASED WORK AS MAY BE DIRECTED BY BHEL.

4.4.19
PRIOR TO APPLICATION OF REFRACTORY BITUMINOUS PAINTING ON THE PRESSURE PARTS AND OTHER AREA IS UNDER CONTRACTOR SCOPE. ONLY THE BITUMINOUS PAINT WILL BE SUPPLIED BY BHEL FREE OF COST. NO SEPARATE PAYMENT WILL BE MADE FOR APPLICATION OF PAINT.

4.4.20
WELDING OF FIXING, SUPPORTING AND RETAINING COMPONENTS ETC IS IN THE SCOPE OF WORK.

4.5 EXCLUSIONS

FOLLOWING JOBS ARE SPECIALLY EXCLUDED FROM THE CONTRACTOR'S SCOPE UNDER THIS TENDER SPECIFICATION.

1. APPLICATION OF SPRAY INSULATION ON STEAM TURBINE & ITS CONTROL CUM STOP VALVES

2. WELDING OF ALL COMPONENTS FORMING ATTACHMENT BY WELDING DIRECTLY WITH PRESSURE PARTS OF BOILER AND HIGH PESSURE PIPING. HOWEVER, THIS EXCLUSION DOES NOT COVER TG PIPING AND OTHER TG AUXILIARIES AND EQUIPMENTS/VESSELS ETC.

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

a) CLIENT/ BHEL WILL PROVIDE, FREE OF CHARGE, ONLY THE OPEN LAND FOR THE PURPOSE OF LABOUR CAMP. DEVELOPMENT OF THE LAND AND COSTRUCTION OF LABOUR COLONY, WITH ARRANGEMENTS OF LIGHTING, DRINKING WATER AND SANITATION ETC ARE IN CONTRACTOR'S SCOPE.

b) ELECTRICITY FOR LABUOR COLONY: CONTRACTOR SHALL MAKE COMPLETE ARRANGEMENT ON HIS OWN FOR DRAWING AND FURTHER DISTRIBUTION CONFORMING TO THE STATUTORY & SAFETY REQUIREMENTS.

c) FOR DRINKING WATER CONTRACTOR HAS TO MAKE HIS OWN ARRANGEMENT INCLUDING DIGGING OF BORE -WELL IF REQUIRED.

d) 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

5.2.1
THE CONTRACTOR IS REQUIRED TO PROVIDE ALL NECESSARY TOOLS AND PLANTS INCLUDING LIFTING AND TRANSPORTING EQUIPMENTS, MEASURING INSTRUMENTS, HANDLING EQUIPMENTS ETC FOR COMPLETE SCOPE OF WORK**.** BHEL WILL NOT PROVIDE ANY TOOLS & PLANTS ETC FOR THIS WORK.

5.2.2
WHEREVER CALLED FOR, TOOLS AND TACKLES TO BE USED FOR THE WORK SHALL HAVE THE PRIOR APPROVAL OF BHEL ENGINEER IN REGARD TO THEIR SPEFCIFICATIONS & SUITABILITY.

5.2.3 SCAFFOLDING MATERIALS
(A) THE CONTRACTOR SHALL PROVIDE ALL THE NECESSARY SCAFFOLDING MATERIALS, TEMPORARY STRUCTURES AND NECESSARY SAFETY DEVICES ETC, DURING ALL STAGES TILL COMPLETION OF WORK. SCAFFOLDING MATERIALS (MS PIPES, GRATINGS ETC) SHALL BE OF LIGHT WEIGHT CONSTRUCTION. CONTRACTOR SHALL ARRANGE STEEL PIPES & CLAMPS WITH ACCESSORIES LIKE BASE PLATE ATTACHMENT, FIXING PINS, STRUTS ETC FOR SCAFFOLDING REQUIRED FOR THIS WORK. IT IS TO BE SPECIFICALLY NOTED THAT NO WOOD OR ANY SUCH OTHER INFLAMMABLE MATERIAL WILL BE PERMITTED TO BE USED FOR ABOVE APPLICATIONS. ANY SUCH USE ON EACH OCCASSION SHALL INVITE LEVY OF PENALTY AS DEEMED FIT BY BHEL ENGINEER.

(B) (i) CONTRACTOR SHALL DEPLOY A MINIMUM OF 4000 NOS OF SCAFFOLDING MS PIPES (SIZE NOMINAL BORE – 40 mm, LENGTH : 6M EACH) IN EACH UNIT WITH NECESSARY CLAMPS (AT LEAST ONE PAIR OF CLAMPS PER PIPE i.e. 8000 Nos. OF CLAMPS PER UNIT) AND FITTINGS.

(ii) IN EACH UNIT THESE SHOULD BE DEPLOYED OVER A PERIOD OF 2 MONTHS FROM THE START OF WORK OUT OF WHICH 1500 PIPES WITH ASSOCIATED CLAMPS AND OTHER FITTINGS/ FASTENERS SHALL BE DEPLOYED WITHIN THE FIRST MONTH SINCE START OF WORK. THE WORK OF UNIT#2 IS EXPECTED TO START WITH A PHASE SHIFT OF 3 MONTHS AND SIMILAR INDUCTION SCHEDULE AS ABOVE SHALL BE APPLICABLE WITH RESPECT TO START OF WORK IN UNIT#2.

(iii) BHEL WILL IMPOSE PENALTY FOR ANY SHORTFALL IN QUANTITY, OF PIPE AND ASSOCIATED PAIR OF CLAMPS, FROM THE END OF MONTH IN WHICH THE SPECIFIED QUANTITY IS SCHEDULED TO BE FULLY INDUCTED IN RESPECTIVE UNIT. THE RECOVERY WILL CONTINUE TILL THE SHORTFALL IS MADE GOOD. THIS PROVISION WILL BE APPLICABLE TILL THE COMPLETION OF WORK. **PENALTY WILL BE IMPOSED AT THE RATE OF Rs.15/- PER PIPE AND ASSOCIATED PAIR OF CLAMPS PER MONTH ON PRO-RATA BASIS.**

(iv) IN CASE ADDITIONAL INDUCTION OF SCAFFOLDING PIPES WITH ASSOCIATED PAIR OF CLAMPS IS NECESSITATED OVER AND ABOVE THE TOTAL QUANTITY SPECIFIED FOR BOTH UNITS PUT TOGETHER THEN, BHEL WILL MAKE ADDITIONAL PAYMENT @ Rs 15/ PER PIPE WITH ASSOCIATED PAIR OF CLAMPS PER MONTH OF INDUCTION. ANY SUCH ADDITIONAL INDUCTION SHALL BE DONE BASED ON WRITTEN INSTRUCTIONS FROM BHEL. SIMILARLY THESE SHOULD BE DEMOBILIZED ON WRITTEN ADVICE FROM BHEL.

(C) WHEN ADDITIONAL INDUCTION OF SCAFFOLDING PIPES AND CLAMPS IS REQUIRED DURING EXTENDED PERIOD OF CONTRACT, FOLLOWING METHOD SHALL BE APPLICABLE:

(i) DURING EXTENSION ATTRIBUTABLE TO THE CONTRACTOR NO ADDITIONAL PAYMENT WILL BE MADE.

(ii) DURING EXTENSION ATTRIBUTABLE TO BHEL ADDITIONAL PAYMENT WILL BE MADE AS STIPULATED AT B(iv) ABOVE.

(D) FOR WORKING IN OVERHEAD POSITION AT HIGH ELEVATIONS CONTRACTOR SHALL ARRANGE NON-COMBUSTIBLE LIGHT-WEIGHT AND STURDY PLATFORM MATERIALS.

5.2.4
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 ALTERNATE ARRANGEMENTS EXPEDITIOUSLY SO THAT THE PROGRESS OF THE WORK IS NOT HAMPERED.

5.2.5
IN THE EVENT OF CONTRACTOR FAILING TO ARRANGE THE REQUIRED TOOLS, PLANTS, MACHINERY, AND NON- AVAILABILITY OF THE SAME OWING TO BREAKDOWN, BHEL WILL MAKE THE ALTERNATE ARRANGEMENT AT COST AND RISK OF THE CONTRACTOR. THIS IS OVER AND ABOVE THE IMPOSITION OF PENALTY AS PROVIDED ELSEWHERE IN THESE SPECIFICATIONS.

5.2.6
THE T&P TO BE ARRANGED BY THE CONTRACTOR SHALL BE IN PROPER WORKING CONDITION. THE OPERATION SHALL NOT LEAD TO UNSAFE CONDITIONS. THE MOVEMENT OF CRANES AND OTHER EQUIPMENT SHOULD BE SUCH THAT NO DAMAGE/ BREAKAGE OCCURS TO THE EXISTING FOUNDATIONS, EQUIPMENT, MATERIAL AND MEN.

5.2.7
THE CONTRACTOR AT HIS COST WILL CARRY OUT PERIODICAL TESTING OF LIFTING EQUIPMENTS, WHERE CALLED FOR, OTHERWISE, BHEL WILL ARRANGE FOR THE SAME AND THE ACTUAL COST WITH BHEL'S OVERHEAD CHARGES WILL BE RECOVERED FROM THE CONTRACTOR'S BILLS.

5.3.0 CONSUMABLES

5.3.1
THE CONTRACTOR SHALL PROVIDE ALL CONSUMABLES INCLUDING PAINT FOR APPLICATION ON WELD JOINTS REQUIRED FOR CARRYING OUT THE WORK COVERED UNDER THIS SCOPE OF WORK EXCEPTING THOSE WHICH ARE SPECIFICALLY INDICATED AS BHEL SUPPLY.

5.3.2
ALL CONSUMABLES, TO BE USED FOR THE WORK SHALL, WHEREVER SPECIFIED, HAVE PRIOR APPROVAL OF BHEL ENGINEER IN REGARD TO QUALITY SPECIFICATIONS.

5.4.0 ELECTRODES AND GASES

5.4.1
ALL WELDING ELECTRODES TO BE SUPPLIED BY THE CONTRACTOR AND SHALL BE OF RECOMMENDED SPECIFICATIONS OF BHEL.

5.4.2
THE CONTRACTOR AT HIS COST SHALL PROVIDE ALL THE REQUIRED GASES LIKE OXYGEN, ACETYLENE ETC.

5.4.3
SUFFICIENT QUANTITY OF PLATES AND TEST PIECES AS REQUIRED FOR QUALIFICATION OF WELDERS SHALL BE ARRANGED BY THE CONTRACTOR AND ALL EXPENSES IN CONDUCTING THE TEST SHALL BE BORNE BY THE CONTRACTOR.

5.4.4
ALL SMALL FIXTURES, CLAMPS, JIGS ETC REQUIRED SHALL BE FABRICATED BY THE CONTRACTOR AT SITE AS PER INSTRUCTIONS OF BHEL ENGINEER. THE MATERIAL REQUIRED FOR THE ABOVE TO BE ARRANGED BY THE CONTRACTOR.

5.5.0 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.

5.6.0 AREA LIGHTING

5.6.1
CONTRACTOR SHALL ARRANGE ADEQUATE FLOODLIGHTS, HAND LAMPS AND AREA LIGHTING. PROVISION OF DISTRIBUTION LINES FOR BOTH ELECTRICAL POWER AND WATER FROM THE CENTRAL POINTS TO THE REQUIRED PLACE WITH PROPER DISTRIBUTION BOARDS, OBSERVING THE SAFETY RULES LAID DOWN BY THE ELECTRICAL INSPECTORATE OF THE STATE SHALL BE DONE BY THE CONTRACTOR. ALL THE MATERIALS LIKE CABLES, FUSES, SWITCHBOARDS, ELCBs ETC FOR THIS PURPOSE SHALL BE ARRANGED BY THE CONTRACTOR.

5.6.2
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.

5.6.3
ON COMPLETION OF WORK, ALL HIS TEMPORARY INSTALLATIONS LIKE BUILDINGS, STRUCTURES, PIPELINES, CABLES ETC SHALL BE DISMANTLED AND GROUND LEVELLED AND THE CONTRACTOR AT HIS COST SHALL REMOVE DEBRIS AS PER INSTRUCTIONS OF BHEL. IN THE EVENT OF HIS FAILURE TO DO SO, THE EXPENDITURE TOWARDS THE CLEARANCE OF THE SAME WILL BE RECOVERED FROM THE CONTRACTOR. THE DECISION OF BHEL ENGINEER IN THIS REGARD IS FINAL.

5.7.0 CONSTRUCTION POWER & WATER

5.7.1
CONSTRUCTION POWER (THREE PHASE, 415V / 440V, 200 AMPS, 4-WIRE) WILL BE PROVIDED FREE OF CHARGE AT ONE POINT NEAR THE SITE APPROXIMATELY 500 METER FROM ERECTION SITE, HOWEVER ALL TAXES, DUTIES, LEVIES, CHARGES ETC SHALL ALSO 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. INSTALLATION AND MAINTENANCE OF THIS SHALL BE DONE BY LICENSED AND EXPERIENCED ELECTRICIAN.

5.7.3

THE CONTRACTOR AT HIS OWN COST SHALL ARRANGE WATER FOR CONSTRUCTION PURPOSE AS WELL AS DRINKING WATER. CUSTOMER/ BHEL SHALL NOT PROVIDE ANY FACILITY IN THIS REGARD.

5.7.4

CONTRACTOR SHALL BE WELL EQUIPPED WITH BACK-UP ARRANGEMENT TO TACKLE SITUATIONS ARISING DUE TO FAILURE OF CUSTOMER SUPPLIED POWER, SO AS TO ENSURE CONTINUITY AND COMPLETION OF CRITICAL PROCESSES AND ACTIVITIES 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.

5.8.0 INDUSTRIAL RELATIONS AND LABOUR LAWS

5.8.1

AN INDUSTRIAL RELATIONS SUPERVISOR SHALL COORDINATE FOR THE IMPLEMENTATION OF LOCAL LABOUR LAWS, MAINTENANCE OF RECORDS AS REQUIRED BY CONTRACT LABOUR (REGULATION AND ABOLITION) ACT AND ALSO COORDINATE WITH THE LOCAL LABOUR AUTHORITIES.

5.8.2

THE CONTRACTOR IN THE EVENT OF HIS ENGAGING 10 OR MORE WORKMEN, WILL OBTAIN INDEPENDENT LICENSE UNDER THE CONTRACT LABOUR (REGULATIONS AND ABOLITION) ACT 1970 FROM THE CONCERNED AUTHORITIES BASED ON THE CERTIFICATE (FORM-V) ISSUED BY THE PRINCIPAL EMPLOYER/CUSTOMER.

5.8.3

CONTRACTOR SHALL ADHERE TO THE RELEVENT LAW & PROCEDURES WITH REGARD TO DEDUCTIONS TOWARDS PROVIDENT FUND IN RESPECT OF ALL THE EMPLOYEER AND LABOUR ENGAGED FOR THIS WORK. NECESSARY DETAILS SHALL BE FURNISHED TO BHEL SITE IN-CHARGE.

5.9.0 TAXES, DUTIES, LEVIES

5.9.1

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

5.9.2

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.

5.9.3 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 and

remittance record of such tax immediately after depositing the tax with concerned authorities. 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.

5.9.4 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.

5.9.5 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.

5.9.6 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

if at any time during the execution of work, it is noticed that the work is suffering on account of non-availability of consumables, tools and plants etc, from the contractor's side then BHEL will make alternate arrangements. The necessary costs with overheads of 30% will be recovered from the bills of the contractor.

SECTION-6

SPECIAL CONDITIONS OF CONTRACT

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

6.1

THE CONTRACTOR SHALL DEPLOY ALL THE SKILLED/SEMISKILLED/ UNSKILLED LABOUR INCLUDING HIGHLY SKILLED WORKMEN. 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 RELAENVAT 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 /CUSTOMER.

6.6 INDUSTRIAL RELATIONS AND LABOUR LAWS

AN INDUSTRIAL RELATIONS SUPERVISOR SHALL COORDINATE FOR THE IMPLEMENTATION OF LOCAL LABOUR LAWS, MAINTENANCE OF RECORDS AS REQUIRED BY CONTRACT LABOUR (REGULATION AND ABOLITION) ACT AND ALSO COORDINATE WITH THE LOCAL LABOUR AUTHORITIES AND ANY OTHER SUCH AUTHORITIES UNDER WHOM THIS WORK FALLS.

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 ORGANIZATION

THE CONTRACTOR SHALL DEPLOY ADEQUATE LABOURERS AND SUPERVISORY STAFF IN ALL THE KEY AREAS OF WORK COVERED UNDER THESE SPECIFICATIONS.

CONTRACTOR SHALL FURNISH AN ORGANIZATION CHART INDICATING THE STAFFING PATTERN FOR THE KEY FUNCTIONS. CONTRACTOR SHALL PROVIDE THE NAMES AND DETAILS OF ENGINEER/ SUPERVISORS AT THE TIME OF MOBILIZATION TO BHEL AS PER THE PROPOSED ORGANIZATION CHART.

SECTION-7

SPECIAL CONDITIONS OF CONTRACT

7.0 OBLIGATIONS OF BHEL

7.1 FACILITIES PROVIDED BY BHEL

7.1.1 SPACE FOR FIELD OFFICE

REFER SECTION-5 IN THIS REGARD.

7.1.2 CONSTRUCTION WATER

REFER SECTION-5 IN THIS REGARD.

7.1.3 CONSTRUCTION POWER

REFER SECTION-5 IN THIS REGARD.

7.1.4 OTHER MATERIALS AND CONSUMABLES:

BHEL SHALL NOT PROVIDE ANY MATERIAL/CONSUMABLES EXCEPT THOSE SPECIFICALLY MENTIONED IN THIS TENDER SPECIFICATION.

7.2 EQUIPMENTS – TOOLS & PLANTS

BHEL IS NOT PROVIDING ANY TOOLS AND PLANTS FOR THIS WORK.

SECTION-8

SPECIAL CONDITIONS OF CONTRACT

8.0 INSPECTIONS/QUALITY ASSURANCE / STATUTORY INSPECTION

8.1
VARIOUS INSPECTION/ QUALITY ASSURANCE PROCEDURES/METHODS AT VARIOUS STAGES OF ERECTION AND COMMISSIONING WILL BE AS PER BHEL/CUSTOMER QUALITY ASSURANCE PLANS /CODES /IBR AND OTHER STATUTORY PROVISIONS AND AS PER BHEL ENGINEER'S INSTRUCTIONS.

8.2
FILLING UP OF QUALITY ASSURANCE LOG SHEETS AND MAKING PROTOCOLS WITH CUSTOMER'S ENGINEERS, WELDING LOGS AND OTHER QUALITY ASSURANCE DOCUMENTATION AS PER BHEL ENGINEER'S INSTRUCTIONS, IS WITHIN THE SCOPE OF WORK / SPECIFICATION.

8.3
REQUIRED INSPECTION AND MEASUREMENT AND TESTING INSTRUMENTS SHALL HAVE VALID CALIBRATION.

8.4
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 ENSURE DEPLOYMENT OF QUALITY ASSURANCE ENGINEER.

8.5
THE WELDER'S PERFORMANCE WILL BE REVIEWED FROM TIME TO TIME AS PER THE BHEL STANDARDS AND ANY WELDER NOT PERFORMING TO THE STANDARDS SET BY BHEL WILL BE DISCONTINUED FROM THE WORK. CONTRACTOR SHALL ARRANGE FOR THE ALTERNATE WELDERS IMMEDIATELY.

8.6
ALL THE WELDERS SHALL CARRY IDENTITY CARDS AS PER THE PROFORMA PRESCRIBED BY BHEL ONLY WELDERS DULY AUTHORISED BY BHEL / BOILER INSPECTOR / CUSTOMER / CONSULTANT SHALL BE ENGAGED ON THE WORK.

8.7
ALL NDT REQUIREMENTS SHALL BE MET. THE PRICE QUOTED SHALL BE INCLUSIVE OF COST THESE REQUIREMENTS

8.8 STAGE INSPECTION BY FES/QA ENGINEERS

IN ADDITION TO THE REGULAR INSPECTION BY BHEL / CUSTOMER AT SITE, TEAM OF ENGINEERS FROM BHEL'S FIELD ENGINEERING SERVICES, QUALITY ASSURANCE, TECHNICAL SERVICES ETC, MAY INSPECT THE ON GOING WORK AT VARIOUS STAGES OF WORK AS PER BHEL'S PROCEDURES/STANDARDS. CONTRACTOR SHALL ARRANGE ALL LABOUR, TOOLS AND TACKLES, CONSUMABLES ETC, FOR SUCH STAGE INSPECTIONS AS INCIDENTAL TO THE WORK.

8.9
ANY MODIFICATIONS SUGGESTED BY FES AND QA ENGINEERS TEAM SHALL BE CARRIED OUT. CLAIMS OF CONTRACTOR, IF ANY, SHALL BE DEALT AS PER CLAUSE 13.1 TO 13.8.

8.10 STATUTORY INSPECTION - BOILER INSPECTION/ ELECTRICAL INSPECTION ETC

8.10.1
WHEREAPPLICABLE, THE SCOPE INCLUDES GETTING THE APPROVALS FROM THE STATUTORY AUTHORITIES. THIS INCLUDES ARRANGING FOR INSPECTION VISITS OF STATUTORY AUTHORITIES PERIODICALLY AS PER BHEL ENGINEER'S INSTRUCTIONS, SUBMITTING DOCUMENTS, ETC, AND FOLLOWING UP THE MATTER WITH THEM.

8.10.2
WHEREVER APPLICABLE, ALL FEES/ PAYMENTS ARISING ON ACCOUNT OF TESTING, INSPECTION, CALIBRATION, AND QUALIFICATION OF CONTRACTOR'S MEN (e.g. WELDERS), T&P (e.g. LIFTING TACKLES), MEASURING INSTRUMENTS ETC, SHALL BE BORNE BY THE CONTRACTOR HIMSELF. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL OF STATUTORY AUTHORITIES, WHEREVER APPLICABLE. ANY COST ARISING FROM THIS SHALL BE CONTRACTOR'S ACCOUNT. HOWEVER, BHEL SHALL PAY ALL OTHER FEES (FEES FOR VISITS, INSPECTION FEES, HYDRAULIC TEST FEES, LIGHT UP INSPECTION FEES, REGISTRATION FEES ETC). IN CASE THESE INSPECTIONS HAVE TO BE REPEATED DUE TO DEFAULT/FAULT OF THE CONTRACTOR AND FEES HAVE TO BE

PAID AGAIN, THE CONTRACTOR SHALL HAVE TO BEAR THE CHARGES.THESE WOULD BE DEDUCTED FROM HIS BILLS.

8.10.3
IT IS THE RESPONSIBILITY OF CONTRACTOR TO GET HIS ELECTRICAL INSTALLATIONS INSPECTED, CLEARED FROM APPROPRIATE AUTHORITIES AND IN MANNER PRESCRIBED BY THEM. ALL CHARGES IN THIS REGARD ARE TO BE BORNE BY THE CONTRACTOR.

8.11.0
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 IMTES (INSTRUMENT MEASURING AND TEST EQUIPMENT). THE IMTES SHALL HAVE TEST/ CALIBRATION CERTIFICATES FROM AUTHORISED / GOVERNMENT APPROVED / ACCREDITED AGENCIES TRACEABLE TO NATIONAL/ INTERNATIONAL STANDARDS. RETESTING/ RECALIBRATION 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 IMTES SO THAT WORK DOES NOT SUFFER WHEN THE PARTICULAR EQUIPMENT/INSTRUMENT IS SENT FOR CALIBRATION. ALSO IF ANY IMTES 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 IMTES AND RETAKE THE READINGS AT CONTRACTOR'S COST.

SECTION-9

SPECIAL CONDITIONS OF CONTRACT

Safety, Occupational Health and Environmental Management

Introduction:-

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 authorised 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 sign board giving the following information and display it near the work site:
Name of Contractor
Name of Contractor Site-in-charge & Telephone number
Job Description in short
Date of start of job
Date of expected completion
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.

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

9.2.1.2 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 PPE of standard ISI make as may be prescribed

9.2.1.3 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 authorised BHEL official who shall have the right to ban the use of any item found to be unsafe

9.2.1.4 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.

9.2.1.5 The contractor shall not use any hand lamp energised 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.

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

9.2.1.7 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 authorised BHEL official at the site.

9.2.1.8 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.

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

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

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

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

9.2.1.13 Only authorised persons holding relevant license will drive and operate site plant and equipments eg cranes, dumpers, excavators, transport vehicles etc.

9.2.1.14 Only authorised personnel are allowed to repair, commission electrical equipments.

9.2.1.15 Gas cylinders shall be handled and stored as per Gas Cylinder Rules and relevant safe working practices

9.2.1.16 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.

9.2.1.17 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.

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

9.2.1.19 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

9.2.1.20 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.

9.2.1.21 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.

9.2.1.22 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.

9.2.1.23 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.

9.2.1.24 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 authorised 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.

9.2.1.25 **Emergency Response**

9.2.1.15.1 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.

9.2.1.15.2 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 aid personnel shall be included in the emergency response team. Contractor employees and workmen are encouraged to participate in first aid training programmes whenever organised 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 focussed

- Issue of approved Personnel Protective Equipment
- Verification that the PPEs 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 fails 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 minimisation. 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 advise

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 that 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 and 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 Co-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.

SN	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.	Violation of Safety Norm	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 Slinging 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/-
14.	Accident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
15.	Fatal Accident/Accidents Resulting in total loss in Earning Capacity	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 recognise 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

BHEL, PSWR 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 authorised representative of M/s----------

Name :

Place & Date:

9.10.1 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 SEWARAGE SYSTEM
IS 1287	1986		ELECTRIC TOASTER
IS 13063	1991		STRUCTURAL SAFETY OF BUILDINGS ON SHALLOW FOUNDATIONS ON ROCKS

IS No.	YEAR	Amd. upto	Description
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 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 FLUORS CENT 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 No.	YEAR	Amd. upto	Description
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 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 No.	YEAR	Amd. upto	Description
IS 7969	1975		SAFETY CODE FOR HANDLING AND STORAGE OF BUILDING MATERIALS
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 CUTT ING 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 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

SPECIAL CONDITIONS OF CONTRACT

10.0 DRAWINGS AND DOCUMENTS

10.1
The detailed drawings, specifications available with BHEL engineers will also form part of this tender specification. Revision of drawings/documents may take place due to various considerations as is normal in such large project. Work will have to be carried out as per revised drawings/ documents. These documents will be made available to the contractor during execution of work at site.

10.2
One set of necessary drawings/documents to carry out the erection work will be furnished to the contractor by BHEL on loan that 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.

10.6
In case of any conflict between general instructions to tenderness, general conditions of contract contained in sections 1 & 2 respectively and special conditions of contract contained in sections 4 to 15 and appendices, provisions contained in special conditions of con t in sections 4 to 15 and appendices shall prevail.

10.7
In case of discrepancy between quoted item rate and corresponding amount in the rate schedule, the **quoted item rates shall be reckoned as correct and amount recalculated**. Quoted item rates shall also prevail for arriving at the total price quoted for offer evaluation. Offers will evaluated on the total amount for the entire Rate Schedule and the work will be awarded without splitting the scope.

10.8
Bank Guarantees to be furnished by the contractor towards Security Deposit and Performa nce Guarantee (last 5% payment against workmanship warranty/defect liability) shall have a claim period of six months over and above the validity period required for the respective cases. BG for advance payment shall be kept valid for a period of two more months beyond the recovery period of the advance with interest thereof.

SECTION-11

SPECIAL CONDITIONS OF CONTRACT

TIME SCHEDULE - MOBILISATION - PROGRESS AND MONITORING - COMPLETION ETC

11.1
CONTRACTOR HAS TO MOBILISE IN **TWO WEEKS** HIS RESOURCES AND WORK FORCE IN SUCH A MANNER THAT THE ENTIRE WORK OF APPLICATION OF THERMAL INSULATION ETC AS DETAILED IN THESE SPECIFICATIONS IS COMPLETED SATISFACTORILY IN ALL RESPECTS SO AS TO MEET THE FOLLOWING MAJOR MILESTONE SCHEDULES:

SN	ACTIVITY	TENTATIVE COMPLETION SCHEDULE UNIT # 1
01	BOILER HYDRAULIC TEST (DRAINABLE)	MAR '07
02	BOILER LIGHT-UP & ALKALI BOIL OUT	JUL '07
03	COMPLETION OF STEAM BLOWING OF BOILER AND PIPING	AUG '07
04	SYNCHRONISATION	SEP '07
05	TRIAL OPERATION AND FACILITIES COMPLN	DEC '07

THE COMPLETION SCHEDULE OF UNIT#2 WILL NORMALLY HAVE A PHASE SHIFT OF 3 MONTHS OVER THE SCHEDULE OF UNIT#1 INDICATED ABOVE

11.2 CONTRACT PEROID

THE TOTAL CONTRACT PERIOD FOR COMPLETION OF ENTIRE WORK SHALL BE **TWELVE (12)** MONTHS FROM THE START OF WORK.

DATE OF FIRST APPLICATION OF INSULATION MATTRESS / POURABLE INSULATION / CASTABLE INSULATION / FIXING OF ATTACHMENTS ON THE ANY EQUIMENT SHALL BE RECKONED AS THE START OF CONTRACT PERIOD. PREPARATORY WORKS LIKE INSTALLATION OF SCAFFOLDING, PRE-ASSEMBLY OF HOOKS, STRAIGHTENING/ ROLLING OF CLADDING ETC WILL NOT BE COUNTED FOR THIS PURPOSE.

THE CONTRACTOR SHOULD REACH SITE AND ESTABLISH HIS SITE OFFICE AND MOBILISE TO COMMENCE THE WORK AS PER DIRECTIONS OF BHEL ENGINEER.

11.3
IN ORDER TO MEET THE ABOVE SCHEDULE AND ANY OTHER INTERMEDIET TARGETS SET, TO MEET CUSTOMER REQUIREMENTS, CONTRACTOR SHALL ARRANGE ALL THE NECESSARY RESOURCES IN CONSULTATION WITH BHEL.

11.2 GRACE PEROID

GRACE PERIOD OF TWO (2) MONTHS BEYOND THE CONTRACT PERIOD MAY BE GRANTED AT THE DISCRETION OF BHEL.

11.3
SUBJECT TO AVAILABILITY OF MATERIALS AND OTHER INPUTS IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CARRY OUT ERECTION WORK TO ACHIEVE MONTHLY OUTPUT PLANNED AND TO KEEP UP THE SCHEDULES.

11.4
CONTRACTOR SHALL ARRANGE HIS RESOURCES TO SUIT THE PEAK ERECTION ACTIVITIES AS ALSO TO ACHIEVE MONTHLY PROGRAMMES AND TARGETS. WHEREVER REQUIRED, RESOURCES HAVE TO BE AUGMENTED AND WORK IN MORE THAN ONE SHIFT MAY HAVE TO BE DONE.

11.5 PROGRESS AND MONITORING OF WORK

115.1
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL THE RELEVANT INFORMATION ON A REGULAR BASIS REGARDING ERECTION PROGRESS, WELDING PROGRESS, LABOUR AVAILABILITY, EQUIPMENTS DEPLOYED AND THEIR AVAILABILITY FOR USE, CONSUMPTION OF ELECTRODES, GASES, DOWN TIME OF MAJOR EQUIPMENT ETC.

11.6.
ANY OTHER INFORMATION REQUIRED FOR DECISION MAKING, PLANNING AND ACTION TAKING, THE CONTRACTOR SHOULD FURNISH THE SAME.

11.7
THE WORK UNDER THE SCOPE OF CONTRACTOR IS DEEMED TO BE COMPLETED IN ALL RESPECTS, ONLY WHEN ALL THE WORK IS COMPLETED SATISFACTORILY AND SO CERTIFIED BY BHEL ENGINEER. THE DECISION OF BHEL IN THIS REGARD SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

11.8 PRICE VARIATION

The agreed rates shall remain firm throughout the Contract Period, Grace Period and Extensions if any. Clause no. 2.15 of general conditions of contract shall not be applicable to this contract.

11.9 OVERRUN CHARGES

11.9.1
IF THE COMPLETION OF WORK AS DETAILED IN THESE SPECIFICATIONS GETS DELAYED BEYOND THE CONTRACT PERIOD OF TWELVE MONTHS PLUS TWO MONTHS GRACE PERIOD FOR REASONS OTHER THAN THOSE ATTRIBUTABLE TO THE CONTRACTOR OR FORCE MAJEURE CONDITIONS, THE CONTRACTOR WILL BE COMPENSATED BY PAYMENT OF OVER RUN CHARGES AT THE RATE OF Rs. 40,000/- (RUPEES FORTY THOUSAND ONLY) PER MONTH.

11.9.2
ASCERTAINING AND ESTABLISHING THAT THE CONTRACTOR IS NOT RESPONSIBLE FOR DELAY IN EXECUTING THE WORK:

AS THE ONUS PROBANDI THAT THE CAUSES LEADING TO EXTENSION IN THE CONTRACT PERIOD IS NOT DUE TO ANY REASON ATTRIBUTABLE TO THE CONTRACTOR IS ON HIM, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO BHEL A PROGRAMME FOR DOING THE WORK FOR THE PERIOD FROM 25TH OF THAT MONTH TO 24TH OF THE SUCCEEDING MONTH INDICATING THE WORK FRONT, THE TONNAGE AND THE NATURE OF WORK. THE PROGRAMME WILL BE DISCUSSED TAKING VIEW OF THE RELEVENT ASPECTS OF EXECUTION OF THE WORK AND FINALISED AND JOINTLY SIGNED BY BHEL AND CONTRACTOR. A REVIEW OF THE PERFORMANCE AT THE END OF EVERY MONTH WILL BE DONE AND THE FOLLOWING FACTS WILL BE RECORDED IN CASE OF SHORTFALL:

(A) PROGRAMMED QUANTITIES NOT ACHIEVED OWING TO NON-AVAILABILITY OF FRONTS.

(B) PROGRAMMED QUANTITIES NOT ACHIEVED OWING TO NON-AVAILABILITY OF MATERIALS.

(C) PROGRAMMED QUANTITIES NOT ACHIEVED OWING TO NON-AVAILABILITY OF TOOLS AND PLANTS, MANPOWER AND CONSUMABLES FROM THE CONTRACTOR'S END.

(D) PROGRAMMED QUANTITIES NOT ACHIEVED OWING TO REASONS NOT ATTRIBUTABLE TO THE CONTRACTOR.

11.9.3
PAYMENT OF OVERRUN CHARGES WILL BE DECIDED BASED ON THE MONTHLY ANALYSIS OF PROGRAMMES AND AFTER ATTRIBUTING THE DELAYS IF ANY, TO CONTRACTOR/BHEL AS MAY BE APPLICABLE. CONTRACTOR TO MAINTAIN PROPER PROGRESS AND DEPLOY ADEQUATE RESOURCES THROUGHOUT THE CONTRACT PERIOD PLUS GRACE PERIOD AND ALSO IN EXTENDED PERIOD OF CONTRACT WHETHER DELAY IS ON HIS ACCOUNT OR NOT.

11.10 QUANTITY VARIATION.

QUANTITIES INDICATED IN THIS TENDER DOCUMENT ARE ONLY APPROXIMATE AND LIKELY TO VARY FOR ACTUAL EXCUTION OF WORK. THE ACCEPTED ITEM RATES SHALL REMAIN FIRM FOR ANY UPWARD OR DOWNWARD VARIATION IN ITEM QUANTITIES OR TOTAL QUANTITY. PAYMENT WILL BE MADE FOR THE ACTUAL QUANTITY EXECUTED AT THE ACCEPTED ITEM RATES.

11.11 INTEREST BEARING RECOVERABLE ADVANCE

Interest bearing (@ 13.5% per annum interest on monthly reducing balance basis) recoverable advance limited to 5% of the contract value may be paid by BHEL at its discretion depending on the merit of the case against receipt & acceptance of bank guarantee from the contractor for the amount sought. This Bank Guarantee (BG) shall be valid at least for one year or the recovery duration. In case recovery of dues does not get completed within the aforesaid BG validity period, the Contractor must renew the validity of BG or submit fresh BG for the outstanding amount and remaining recovery period. BHEL is entitled to make recovery of the entire outstanding amount in case the Contractor fails to comply with the BG requirement as above.

Recovery of dues will be made minimum @ 10% of the admitted gross running bill amount from the first applicable running bill onwards till entire due (principal plus interest) is recovered. In the event sufficient time duration is not left for recovery @10%, the rate of recovery shall be suitably enhanced so that entire due is recovered within the contract period (including extensions granted or foreclosure if any).

SECTION-12

SPECIAL CONDITIONS OF CONTRACT

12.0 TERMS OF PAYMENT

12.1.1
The contractor shall submit his monthly on account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas from the 25th of previous calendar month to 24th of the current month.

12.1.2
Clause 2.6 of general conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.

12.1.3
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 be on account of workmanship guarantee of work executed. The same will be released after completion of the guarantee period of **12 months** from the date of completion of entire work as certified by BHEL.
However, this amount may be released earlier (including before completion of work) subject to receipt and acceptance of bank guarantee of equal amount in BHEL's prescribed format and the BG shall be kept valid till completion of such guarantee period and an additional six months claim period. This is also subject to the condition that the contractor has started the work and also furnished/remitted the initial Security Deposit as per contract.

12.1.4
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.

12.1.5
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.

12.2 PAYMENT FOR WORK COMPLETED

12.2.1
THE CONTRACTOR SHOULD SUBMIT HIS ON ACCOUNT BILLS WITH ALL THE DETAILS REQUIRED BY BHEL ON 26TH OF EVERY MONTH COVERING PROGRESS OF WORK IN ALL RESPECTS AND AREAS UPTO 24TH DAY OF THE SAME MONTH.

12.2.2
ON RECEIPT OF THE BILL, JOINT MEASUREMENT AND CHECKING OF THE WORK DONE WILL BE CARRIED OUT BY THE CONCERNED BHEL ENGINEER AS PER CLAUSE 2.6 OF GENERAL CONDITIONS OF THE CONTRACT AND BREAK-UP GIVEN VIDE CLA USE 12.3. IT SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

12.2.3
FOR MONTHLY ON ACCOUNT BILLS, THE QUANTITY OF POURABLE INSULATION, MINERAL WOOL AND OUTER CASING/ CLADDING APPLIED SHALL BE ASSESSED ON THE BASIS OF ESTIMATED AREA OF APPLICATION. HOWEVER, FINAL MEASUREMENTS FOR THESE ITEMS SHALL BE ON THE BASIS OF NET ISSUED QUANTITY REDUCED BY WASTAGE ALLOWANCE AS PROVIDED VIDE SECTION-4.

12.2.4
WEIGHT OF THE WATER ADDED FOR MIXING OF THE POURABLE AND CASTABLE INSULATION IS NOT PAYABLE. SIMILARLY NO PAYMENT WILL BE MADE FOR APPLICATION OF PAINTS, INCLUDING BITUMINOUS PAINT BIMETAL CORROSION PREVENTIVE PAINT, AND PRESERVATION PAINTS.

12.2.5
TOTAL WEIGHTS AND QUANTITIES OF VARIOUS ITEMS/SCHEMES OF WORK INDICATED IN VARIOUS APPENDICES AND THE RATE SCHEDULE ARE APPROXIMATE. THESE ARE SUBJECT TO VARIATION AS PER THE FINAL DESIGN AND LAYOUT. THE VARIATION COULD BE IN INDIVIDUAL PRODUCT GROUP, MAIN ASSEMBLIES, OR GROUP/ ITEM OF WORK, THE RELATIVE OR OVERALL PROPORTION OF VARIOUS ITEMS OF WORK. NO CLAIM FOR ADDITIONAL PAYMENT OR REVISION IN ITEM RATES SHALL BE ENTERTAINED DUE TO ANY KIND OF VARIATION.

12.3
FOR THE CARRYING OUT THE WORK DEFINED IN THESE SPECIFICATIONS THE PAYMENT FOR THE WORK DONE WILL BE RELEASED PRORATA IN FOLLOWING STAGES AND % BREAK-UP OF CONTRACT RATES

12.3.1
95% OF THE CONTRACT RATE ON PRORATA BASIS WILL BE PAID ON COMPLETION OF APPLICATION/ INSTALLTION WORK AS PER BHEL'S DRAWINGS AND SPECIFICATIONS.

12.3.2
FURTHER 5% OF THE CONTRACT RATE WILL BE PAID ON COMPLETION OF THE FOLLOWING EVENTS FOR THE QUANTITY OF WORK ALREADY EXECUTED.

	EVENT	**PERCENTAGE PAYABLE**
12.3.2.1	BOILER LIGHT UP	1%
12.3.2.2	STEAM BLOWING	1%
12.3.2.3	SYNCHRONISATION	1%
12.3.2.4	TRIAL OPERATION	1%
12.3.2.5	COMPLETION OF WORK IN ALL RESPECT	1%

SECTION –13

SPECIAL CONDITIONS OF CONTRACT

13.0 EXTRA CHARGES FOR RECTIFICATION AND MODIFICATION

13.1
IF EXTRA WORKS (REQUIRING LESS THAN 40 MANHOURS) FOR MODIFICATION, REWORK, REVAMPING, IN BRIEF, ANY WORK DONE TO CHANGE THE STATE EXISTING TO A STAGE DESIRED AND ALSO FABRICATION, ALL OR ANY, ARE NEEDED DUE TO ANY CHANGE IN OR DEVIATION FROM THE DRAWINGS AND DESIGN OF EQUIPMENT, OPERATION/ MAINTENANCE REQUIREMENTS, MISMATCHING, TRANSIT DAMAGES AND OTHER ALLIED WORKS WHICH ARE NOT VERY SPECIFICALLY INDICATED IN THE DRAWINGS, BUT ARE FOUND ESSENTIAL FOR SATISFACTORY COMPLETION OF THE WORK, ARE DONE, NO EXTRA CHARGES WILL BE PAID. THE TENDERERS ARE REQUESTED TO TAKE THIS ASPECT INTO ACCOUNT AND THE QUOTED RATE SHOULD INCLUDE ALL SUCH CONTINGENCIES.

13.2
IT MAY ALSO BE NOTED THAT IF ANY SUCH SAID EXTRA WORKS ARISE ON ACCOUNT OF THE CONTRACTOR'S FAULT IT WILL HAVE TO BE CARRIED OUT BY THE CONTRACTOR FREE OF COST. UNDER SUCH CIRCUMSTANCES, ANY MATERIAL AND CONSUMABLE REQUIRED FOR THIS PURPOSE WILL ALSO HAVE TO BE ARRANGED BY THE CONTRACTOR AT HIS COST.

13.3
HOWEVER, BHEL MAY CONSIDER FOR PAYMENT AS EXTRA, FOR SUCH OF THOSE WORKS DETAILED IN CLAUSE 13.1 THAT REQUIRES MORE THAN 40 MANHOURS AND SUCH PAYMENT WILL BE REGULATED BY THE TERMS, CONDITIONS AND STIPULATIONS CONTAINED IN THE CLAUSES 13.4 TO13.8 AND / OR 14.2.1 TO 14.2.10 AS THE CASE MAY BE. IT MAY BE SPECIFICALLY NOTED THAT THE DECISION OF BHEL AS TO WHETHER SUCH PAYMENT IS DUE SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

13.4
BHEL MAY, AT THEIR ABSOLUTE DISCRETION, CONSIDER FOR PAYMENT AS EXTRA ON MANDAY BASIS AS FOUND BY THEM AS JUSTIFIABLE FOR SUCH OF THOSE WORKS SPECIFIED IN CLAUSE 13.1 WHICH REQUIRE MAJOR MODIFICATION/ REPAIR/ REWORKS/ RECTIFICATION ETC. IT MAY ALSO BE NOTED THAT ONLY THOSE WORKS WHICH ARE IDENTIFIED AS MAJOR AND WARRANT EXTRA PAYMENT AND CERTIFIED AS SUCH BY THE PROJECT MANAGER AND ACCEPTED BY THE DESIGNERS AND/OR COMPETENT AUTHORITY OF BHEL, WILL BE CONSIDERED FOR EXTRA PAYMENT.

13.5
FOR EXTRA WORKS ARISING OUT OF TRANSIT, STORAGE AND ERECTION DAMAGES, PAYMENT, IF FOUND DUE, WILL BE REGULATED BY CLAUSES 14.2.1 TO 14.2.10.

13.6
ALL THE EXTRA WORK SHOULD BE CARRIED OUT BY A SEPARATELY IDENTIFIABLE GANG, WITHOUT AFFECTING ROUTINE ACTIVITIES. DAILY LOG SHEETS IN THE PROFORMA PRESCRIBED BY BHEL SHOULD BE MAINTAINED AND SHALL BE SIGNED BY THE CONTRACTOR'S REPRESENTATIVE AND BHEL ENGINEER. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED/ENTERTAINED IN THE ABSENCE OF THE SAID SUPPORTING DOCUMENTS IE. DAILY LOG SHEETS. IT MAY, HOWEVER BE NOTED THAT SIGNING OF LOG SHEETS BY BHEL ENGINEER DOES NOT MEAN THE ACCEPTANCE OF SUCH WORKS AS EXTRA WORKS. ALL ADMISSIBLE CLAIMS SHALL BE SUBMITTED TO BHEL

13.7
BHEL RETAINS THE RIGHT TO AWARD OR NOT TO AWARD ANY OF THE MAJOR REPAIR/REWORK/MODIFICATION/RECTIFICATION/FABRICATION WORKS UNDER CLAUSES 13.1 TO 13.6 TO THE CONTRACTOR, AT THEIR DISCRETION WITHOUT ASSIGNING ANY REASON FOR THE SAME.

13.8
AFTER ELIGIBILITY OF EXTRA WORKS IS ESTABLISHED AND FINALLY ACCEPTED BY BHEL ENGINEER/DESIGNER, PAYMENT WILL BE RELEASED ON COMPETENT AUTHORITY'S APPROVAL AT THE FOLLOWING RATE.

EXTRA CHARGES

SINGLE AVERAGE MANDAY RATE, INCLUDING OVERTIME IF ANY, AND OTHER SITE EXPENSES AND INCIDENTALS, INCLUDING CONSUMABLES, TOOLS AND TACKLES, FOR CARRYING OUT ANY MAJOR REWORK/ REPAIRS/ RECTIFICATION/ MODIFICATION/ FABRICATION OF 8 HOURS AS MAY ARISE DURING THE COURSE OF ERECTION. (REFER CLAUSES 13.1 TO 13.8 AND 14.2.1 TO 14.2.10)

RS. 320/- (Rs. THREE HUNDRED AND TWENTY ONLY)

NO PAYMENT WILL BE MADE IF AN ITEM OF WORK LASTS LESS THAN 40 MANHOURS.

SECTION-14

SPECIAL CONDITIONS OF CONTRACT

14.0 Insurance

14.1 Marine, Storage cum Erection (MCE) Insurance and Repairing Damages

14.1.1
BHEL/client has an MCE insurance cover, inter-alia, for all the permanent project equipments/components supplied by BHEL under scope of this work by way of a transit and storage cum erection policy covering liability against damages/ losses etc.

14.2 Reporting Damages and Carrying out Repairs

14.2.1
Checking all components/equipments at siding/site and reporting to transporter and /or insurance authorities of any damages/losses will be done by BHEL.

14.2.2
Contractor shall render all help to BHEL in inspection including handling, re-stacking etc, assessing and preparing estimates for repairs of components damaged during transit, storage and erection, commissioning and preparing estimates for fabrication of materials lost/damaged during transit, storage and erection. Contractor shall help BHEL to furnish all the data required by railways, insurance company or their surveyors.

14.2.3
Contractor shall report to BHEL in writing any damages to equipments/ components on receipt, storing, and during drawl of the materials from stores, in transit to site and unloading at place of work and during erection and commissioning. The above report shall be as prescribed by BHEL site management. Any consequential loss arising out of non-compliance of this stipulation will be borne by contractor.

14.2.4
Contractor shall carry out fabrication of any material lost/damaged as per instructions from BHEL engineer.

14.2.5
BHEL, however, retains the right to award or not to award to the contractor any of the rectification/rework/repairs of damages and also fabrication of components.

14.2.6
All the repairs/rectification/rework of damages and fabrication of materials lost, if any, shall be carried out by a separately identifiable gang for certification of man-hours. Daily log sheets should be maintained for each work separately and should be signed by contractor's representative and BHEL engineer. Signing of log sheets does not necessarily mean the acceptance of these as extra works.

14.2.7
All rectification, repairs, rework and fabrication of components lost, which are minor and incidental to erection work (consuming not more than 100 man-hours on each occasion) shall be treated as part of work without any extra cost.

14.2.8
Insurance cover under this policy will generally be as per clauses 2.10.1 to 2.10.4 of General Conditions of Contract unless and otherwise specified differently in the Special Conditions.

14.2.9
In case the loss/damage is not attributable to the contractor, Payments of all extra works on account of repair / rectification / reworks of damages and fabrication of materials lost will be as per provisions of Section-13 of SCC.

14.2.10
In case the repairs/rectification/rework and fabrication of materials lost, the work has been done by more than one agency including the contractor, the payment towards extra charges will be on pro-rata basis and the decision of BHEL in this regard is final and binding on the contractor.

14.2.11
In case of theft / damage / loss of materials due to **repeated/continued instances of negligence/failure** attributable to the contractor, the expenses incurred on account of repair/ replacement of such components including BHEL's overhead expenses as applicable (presently @ 30%) in excess of the amount realized from the underwriters, if any, shall be recovered from the contractor. Recovery will be limited to Normal Deductible Franchise (DF)/Excess as per applicable Insurance (TAC) tariff guidelines for every incidence of loss/damage.

14.2.12
In case any insurance claim does not become tenable due to **willful** negligence/ damage/loss attributable to the contractor, the total cost of repair/replacement including BHEL overhead expenses shall be recovered from the contractor.

14.3 Insurance by the Contractor and Indemnification of BHEL

14.3.1
BHEL has taken third party liability insurance, indicating in the proposal for such insurance that sub-contractors will be taking part in the erection work detailed in this tender specification. However, the bidder has to bear any expenses/consequences over and above the amount that may be reimbursed to BHEL by such coverage of third party liability insurance taken by BHEL.

Such additional liability will be to cover and indemnify BHEL and its customer of all liabilities which may come up and cause harm/damage to other contractors/customer/BHEL properties/ personnel or all or anybody rendering service to BHEL/ customer or is connected with BHEL/ customer's work in any manner whatsoever. The bidders' specific attention is also invited to clause 2.10 of General Conditions of Contract.

14.3.2
Contractor shall obtain suitable statutory as well as non-statutory insurance policies for all the properties belonging to him and also for his personnel deployed at project for execution of the contract work.

SECTION-15

Special Condition of Contract

15.0 Earnest Money Deposit & Security Deposit

15.1 EARNEST MONEY DEPOSIT :

EARNEST MONEY DEPOSIT FOR THIS TENDER WILL BE Rs. 2,00,000/- (RUPEES TWO LACS ONLY).

ONE TIME EMD WILL ALSO BE Rs. 2 LACS.

EMD SHALL BE DEPOSITED IN CASH (AS PERMISSIBLE UNDER INCOME TAX ACT), PAY ORDER OR DEMAND DRAFT (PAYABLE AT NAGPUR IN FAVOUR OF 'BHARAT HEAVY ELECTRICALS LIMITED') ONLY. **NO OTHER FORM OF EMD REMITTENCE SHALL BE ACCEPTABLE TO BHEL.**

15.1.1 EMD BY THE TENDERER WILL BE FORFEITED AS PER TENDER DOCUMENTS IF

I) AFTER OPENING THE TENDER, THE TENDERER REVOKES HIS TENDER WITHIN THE VALIDITY PERIOD OR INCREASES HIS EARLIER QUOTED RATES.

II) THE TENDERER DOES NOT COMMENCE THE WORK WITHIN THE PERIOD AS PER LOI / CONTRACT. IN CASE THE LOI / CONTRACT IS SILENT IN THIS REGARD THEN WITHIN 15 DAYS AFTER AWARD OF CONTRACT.

15.1.2 EMD SHALL NOT CARRY ANY INTEREST.

15.2 SECURITY DEPOSIT

15.2.1 SECURITY DEPOSIT SHOULD BE COLLECTED FROM THE SUCCESSFUL TENDERER. THE RATE OF SECURITY DEPOSIT WILL BE AS BELOW:

SN	Contract Value	Security Deposit Amount
1	Up to Rs. 10 lakhs	10% of Contract Value
2	Above Rs. 10 lakhs upto Rs.50 lakhs	1 lakh + 7.5% of the Contract Value exceeding Rs. 10 lakhs.
3	Above Rs. 50 lakhs	Rs 4 lakhs + 5% of the Contract Value exceeding Rs. 50 lakhs.

THE SECURITY DEPOSIT SHALL BE REMITTED <u>BEFORE START OF THE WORK</u> BY THE CONTRACTOR IN THE MANNER SPECIFIED AS FOLLOWS.

15.2.2 SECURITY DEPOSIT MAY BE FURNISHED IN ANY ONE OF THE FOLLOWING FORMS

I) CASH (AS PERMISSIBLE UNDER THE INCOME TAX ACT)

II) PAY ORDER, DEMAND DRAFT IN FAVOUR OF BHEL.

III) LOCAL CHEQUES OF SCHEDULED BANKS, SUBJECT TO REALIZATION.

IV) SECURITIES AVAILABLE FROM POST OFFICES SUCH AS NATIONAL SAVINGS CERTIFICATES, KISAN VIKAS PATRAS ETC.
(CERTIFICATES SHOULD BE HELD IN THE NAME OF CONTRACTOR FURNISHING THE SECURITY AND DULY PLEDGED IN FAVOUR OF BHEL AND DISCHARGED ON THE BACK).

V) BANK GUARANTEE FROM SCHEDULED BANKS / PUBLIC FINANCIAL INSTITUTIONS AS DEFINED IN THE COMPANIES ACT SUBJECT TO A **MAXIMUM OF 50%** OF THE TOTAL SECURITY DEPOSIT VALUE. THE BALANCE 50% HAS TO BE REMITTED EITHER BY CASH OR IN THE OTHER FORM OF SECURITY. THE BANK GUARANTEE FORMAT SHOULD HAVE THE APPROVAL OF BHEL.

VI) FIXED DEPOSIT RECEIPT ISSUED BY SCHEDULED BANKS / PUBLIC FINANCIAL INSTITUTIONS AS DEFINED IN THE COMPANIES ACT. THE FDR SHOULD BE IN THE NAME OF THE CONTRACTOR, A/C BHEL, DULY DISCHARGED ON THE BACK.

VII) SECURITY DEPOSIT CAN ALSO BE RECOVERED AT THE RATE OF 10% FROM THE RUNNING BILLS. HOWEVER IN SUCH CASES AT LEAST 50% OF THE SECURITY DEPOSIT SHOULD BE REMITTED (EITHER BY CASH/DD OR **BG FOR MAXIMUM 50%** OF TOTAL SD) BEFORE START OF THE WORK AND THE BALANCE 50% MAY BE RECOVERED FROM THE RUNNING BILLS.

VIII) EMD OF THE SUCCESSFUL TENDERER, EXCEPTING THOSE WHO HAVE REMITTED ONE TIME EMD, SHALL BE CONVERTED AND ADJUSTED AGAINST THE SECURITY DEPOSIT OR SPECIFIC REQUEST BY THE CONTRACTOR.

IX) THE SECURITY DEPOSIT SHALL NOT CARRY ANY INTEREST.

NOTE: ACCEPTANCE OF SECURITY DEPOSIT AGAINST SL. NO. (IV) AND (VI) ABOVE WILL BE SUBJECT TO HYPOTHECATION OR ENDORSEMENT ON THE DOCUMENTS IN FAVOUR OF BHEL. HOWEVER, BHEL WILL NOT BE LIABLE OR RESPONSIBLE IN ANY MANNER FOR THE COLLECTION OF INTEREST OR RENEWAL OF THE DOCUMENTS OR IN ANY OTHER MATTER CONNECTED THEREWITH.

15.2.3 SECURITY DEPOSIT SHALL NOT BE REFUNDED TO THE CONTRACTOR EXCEPT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.

APPENDIX– I

MAJOR TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR.

A : TOOLS & PLANTS

SL NO	DESCRIPTION	CAPACITY	MINIMUM QUANTITY
01	MOBILE CRANE	8/10 MT	01
02	TRUCK	9 MT	02 Nos.
03	ELECTRIC WINCH	UPTO 3 MT	01 NO PER UNIT
04	HAND WINCH	>= 1 MT	02 NOS PER UNIT
05	WELDING GENERATOR	K 320	REQUIRED NOS.
06	SCAFFOLDING MATERIALS	ADEQUATE	REFER SECTION-5 SPECIAL CONDITIONS OF CONTRACT IN THIS REGARD
07	ELECTRODE DRYING BACKING OVEN		01
08	PORTABLE BACKING OVEN		04
09	ALU. SHEET CLAD PROFILE MAKING MACHINE		REQUIRED NOS
10	HAND TOOLS, CUTTING TOOLS GRINDING MACHINES ETC		REQUIRED NOS
11	NIBBLING MACHINE		REQUIRED NOS
12	SHEARING MACHINE		REQUIRED NOS
13	WATER PUMP (ADEQUATE CAPACITY TO LIFT UPTO BOILER TOP)		01
14	VARIPUS TYPE OF LIFTING DEVICES LIKE PULLEY BLOCKS, CHAIN PULLEY BLOCKS , ETC		REQUIRED NOS
15	FIRE EXTINGUISHERS		REQUIRED NOS
16	FIRE RETARDANT TARPAULING		REQUIRED NOS

B : MEASURING AND MONITORING DEVICES (MMD)

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

APPENDIX-II

ANALYSIS OF UNIT RATE QUOTED

SL.NO.	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%	

DATE: SIGNATURE OF THE TENDERER

APPENDIX- III

FORMAT FOR MONTH- WISE MANPOWER DEPLOYMENT PLAN

(CATEGORY-WISE NUMBERS TO BE INDICATED FOR EACH MONTH)

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

DATE: **SIGNATURE OF TENDERER**

APPENDIX–IV

FORMAT FOR DEPLOYMENT PLAN FOR MAJOR TOOLS AND PLANTS

SL. NO.	**DESCRIPTION & CAPACITY OF T&P**	**MONTHS**													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	MOBILE CRANE - 8/10 T CAP														
02	TRUCK – 9 T CAP														
03	ELECTRIC WINCH– 3 T														
04	HAND WINCH – 1 T														
05	WELDING GENERATOR – K320														
06	SCAFFOLDING MATERIALS														
07	ELECTRODE DRYING BACKING OVEN														
08	PORTABLE BACKING OVEN														
09	WATER LIFTING PUMP														
10															

SIGNATURE OF THE TENDERER

DATE:

APPENDIX-V

CONCURRENT COMMITMENTS

SN	FULL POSTAL ADRESS 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	ANTICIP A-TED COMPLN . DATE	REMARKS

SIGNATURE OF THE TENDERER

APPENDIX–VI

DETAILS OF SIMILAR WORK DONE DURING THE LAST SEVEN YEARS

SN	FULL POSTAL ADDRESS OF CLIENT & NAME OF OFFICER IN CHARGE	DESCRIP-TION OF WORK	VALUE OF CONTRACT	DATE OF AWARD OF WORK	DATE OF COMMENCEMENT OF WORK	ACTUAL COMPLETION TIME (MONTHS)	DATE OF ACTUAL COMPLETION OF WORK	REMARKS
1								
2								
3								
4								
5								

BIDDERS SHALL ENCLOSE COPIES OF DETAILED WORK ORDER (GIVING BILL OF QUANTITIES AND SCOPE OF WORK) AND COMPLETION CERTIFICATE IN SUPPORT OF THIS STATEMENT.

DATE

SIGNATURE OF TENDERER WITH SEAL