

**TENDER SPECIFICATION
NO.BHE/PW/PUR/DHUVG-CVL-GI/525**

FOR

CIVIL WORKS FOR GAS INTERCONNECTION ETC COMPLETE.

FOR

112.45 MW DHUVARAN CCPP - II

AT

**GUJARAT STATE ELECTRICITY CORPORATION LTD (GSECL), DHUVARAN
(DIST- ANAND), GUJARAT**

PART-I: TECHNICAL -BID

VOLUME - I

SPECIAL & GENERAL CONDITIONS OF CONTRACT,NIT,QR

BOOK NO.



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

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@ :- ATTACHED AT THE END

* :- ATTACHED SEPERATELY

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
POWER SECTOR - WESTERN REGION
SHREEMOHINI COMPLEX
345, KINGS WAY - NAGPUR 440 001

TENDER SPECIFICATION NO.BHE/PW/PUR/DHUVG-CVL -GI /525

NAME OF THE WORK : CIVIL WORKS FOR GAS INTERCONNECTION AT 112.45 MW ,DHUVARAN CCPP- II, DIST- ANAND (GUJRAT)

EARNEST MONEY DEPOSIT: RS.1,00,000/- (Rupees One lakhs only) . FOR MORE DETAILS OF EMD, PL REFER SECTION-15 OF THIS TENDER.

OFFERS SHALL BE RECEIVED UPTO 18:00 HOURS OF.....

These Tender Documents containing Part-I Technical Bid and Part-II Price Bid are issued to

M/s

.....

.....

(THESE TENDER DOCUMENTS ARE NOT TRANSFERABLE)

For Bharat Heavy Electricals Limited

SENIOR MANAGER (PUR)

PLACE: NAGPUR

DATE:



BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. 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 their tenders as required in two parts in separate sealed covers prominently super scribed 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 tender notice.

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)

EMD of Rs.1.00 lakh (Rupees One lakhs only) shall be included in the Technical Bid. **EMD shall be paid by bidders only in the manner specified in Section-15 Special Conditions of Contract.** No other mode of payment of EMD shall be acceptable. Provisions under clause no. 1.4 of the General Conditions of Contract shall not be applicable for this tender.

Bidder may opt to deposit "One Time EMD" of Rs. 2.0 lacks with this office (BHEL:PSWR:Nagpur) which will enable them to participate in the present and all the future tender enquiries in respect of Erection and Commissioning services issued from this office. Interested bidders may send their explicit consent for converting the present EMD into an "One Time EMD" in their offer.

Bidders who have already submitted such "One Time EMD" will be exempted from submission of any EMD for this tender. However bidder shall furnish details of the "One Time EMD" in his offer including the Check List furnished herein.

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 super scribed and submitted to Addl. Gen 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:

Contractor should have adequate resources including major T&P at his disposal for this job.

Contractor should have sound financial stability.

Bidder should meet quality requirement regarding workmanship, deployment of personnel, erection tools and necessary inspection, measurement & testing instruments.

All information as called for in various appendices and clauses of tender specification should be furnished in completeness. Please refer the checklist.

The bidder, if any, shall obtain clarification on Tender Specifications, before submitting their offer.

Offers must be submitted without any deviation.

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

PROJECT INFORMATION

THE OWNER M/S GUJARAT STATE ELECTRICITY CORPORATION LTD IS SETTING UP A COMBINED CYCLE POWER PLANT IN THE PREMISES OF GEB, DHUVARAN POWER PLANT. THE PROPOSED SITE IS LOCATED 74KM WEST OF BARODA.

GENERAL CLIMATE:

THE PROPOSED SITE IS VERY CLOSE TO THE SEA. THE CLIMATE IS TROPICAL HOT AND HUMID. THE ATMOSPHERE IS SALINE, CONDUCTIVE TO HEAVY CORROSION AND FUNGUS GROWTH. SO_2 AND/OR SO_3 ARE MILDLY PRESENT IN THE ATMOSPHERE.

METEOROLOGICAL DATA:

MAXIMUM TEMPERATURE:	50° C
MINIMUM TEMPERATURE:	9° C
RELATIVE HUMIDITY MAX:	86%
MIN:	18%
RAINFALL MAX :	1626mm
MIN :	133mm
MONSOON PERIOD :	JUNE TO SEPTEMBER END

APPROACH TO SITE

Dhuvaran CCPP is an existing power plant located at Dhuvaran, Dist-Anand, 70 Kms from Vadodara in the state of Gujarat. The site of the proposed Power Plant is expansion of their existing CCPP.

CHECK LIST		
(VIDE PARA 1.3 OF SECTION-I - GENERAL CONDITIONS OF CONTRACT)		
1	Name of the Bidder with Postal Address for Correspondence	
2	Name of Contact Person with Telephone & Fax No.	Mr./Ms Tel No. Fax No.
3	Nature of the firm	PROPRIETARY / PARTNERSHIP / LIMITED CO.
4	Details of EMD Please Indicate whether 1) One Time EMD or, 2) Only for this Tender	DD No. DD Date..... Name of Bank..... Amount: Rs.....
5	Validity of Offer (BHEL's Requirement: 180 days from Last Date for tender submission)	
6	Mobilization Time (Please refer Section-11 of SCC)	
7	Whether Bidder has visited the project site and acquainted themselves with the local conditions and situations.	YES/NO
8	Whether "Certificate of No-Deviation" Furnished	YES/NO
9	Details of similar jobs executed during the last SEVEN years as in " Appendix-VIII " enclosed	YES/NO
10	Whether copies of previous Work Orders (with detailed BOQ and total order value) and Completion Certificates in support of above furnished	YES/NO
11	Details of Concurrent Jobs Furnished in " Appendix-VII " furnished	YES/NO
12	Headquarter Organization Chart furnished	YES/NO

CHECK LIST		
(VIDE PARA 1.3 OF SECTION-I - GENERAL CONDITIONS OF CONTRACT)		
13	Names & Particulars of Directors/Partners/Proprietor Furnished	YES/NO
14	Proposed Site Organization Chart indicating executives and supervisors furnished	YES/NO
15	Financial Viability furnished as in Annexure-I of GCC	YES/NO
16	Profit & Loss account for the preceding three financial years furnished	YES/NO
17	Copy of Latest Solvency Certificate from Govt. Authority or Certification by Bidder's Banker on Overdraft & BG Limits is Furnished (Certificate shall not be older than six months from the Last Date for offer submission)	YES/NO
18	Latest Income Tax Clearance Certificate or copy of IT Return along with copy of PAN Card is Furnished	YES/NO
19	Monthly Manpower Deployment plan as in ' Appendix-VI ' enclosed	YES/NO
21	Month-wise Erection & Commissioning plan enclosed	YES/NO
22	Analysis of Unit Rate Quoted as in ' Appendix-III ' furnished	YES/NO
23	List of other tools and plants/tackles/ instruments contractor proposes to deploy for the work and special tools and instruments in his possession.	ENCLOSED / NOT ENCLOSED
24	Whether the bidder has left any job unfinished? If so, give reasons.	YES/NO
25	Whether any client has terminated the contractor's work before completion? If so, furnish reasons for the same	YES/NO
26	Whether the bidder has understood all Quality Control & Quality Assurance requirements?	YES/NO
27	Whether the bidder is aware of all safety rules/codes? Whether the list of safety equipments proposed to be employed for this work is enclosed.	YES/NO
28	Whether Power of Attorney in favour of the person making this offer enclosed?	YES/NO
29	Whether all the pages are read, understood and signed and the signed copy of tender book submitted?	YES/NO

Note: strike off 'yes' or 'no' as applicable

Date:

Signature of Bidder

DECLARATION BY BIDDER'S AUTHORIZED REPRESENTATIVE

I, _____, HEREBY CERTIFY THAT ALL THE INFORMATION AND DATA FURNISHED BY ME WITH REGARD TO THE TENDER SPECIFICATION NO. **BHE/PW/PUR/DHUVG-CVL-GI/525** ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I HAVE GONE THROUGH THE SPECIFICATIONS, CONDITIONS AND STIPULATIONS IN DETAIL AND AGREE TO COMPLY WITH THE REQUIREMENTS AND INTENT OF THE SPECIFICATION. I FURTHER CERTIFY THAT I AM DULY AUTHORIZED REPRESENTATIVE OF THE UNDER-MENTIONED TENDERER AND A VALID POWER OF ATTORNEY TO THIS EFFECT IS ALSO ENCLOSED.

AUTHORISED REPRESENTATIVE'S SIGNATURE WITH
NAME AND ADDRESS

DATE:

TENDERER'S NAME AND ADDRESS

CERTIFICATE OF NO DEVIATION

TENDER SPECIFICATION NO.

BHE/PW/PUR/DHUVG-CVL-GI/525

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.

DATE:

SIGNATURE OF BIDDER

**CERTIFICATE OF DECLARATION FOR CONFIRMING
KNOWLEDGE ON SITE CONDITIONS**

WE, M/S -----

HEREBY DECLARE AND CONFIRM THAT WE HAVE VISITED THE OFFICE OF AS REFERRED IN BHEL'S TENDER SPECIFICATION NO. **BHE/PW/PUR/WR-QTR-CVL/524** AND ACQUIRE FULL KNOWLEDGE AND INFORMATION ABOUT THE SITE CONDITIONS & NATURE OF JOB . WE FURTHER CONFIRM THAT THE ABOVE INFORMATION IS TRUE AND CORRECT AND WE SHALL NOT BE ELIGIBLE FOR ANY-ADDITIONAL PAYMENT OF ANY NATURE DUE TO LACK OF KNOWLEDGE OR NON – FAMILIARIZATION OF SITE CONDITIONS.

BIDDERS'NAME AND ADDRESS

SIGNATURE & OFFICIAL SEAL OF
AUTHORISED SIGNATORY

PLACE:

DATE:

SECTION-3
OFFER OF THE BIDDER

To,
SR. MANAGER (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/DHUVG-CVL-GI/525** 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 AS SPECIFIED IN THE TENDER SPECIFICATION. DETAILS OF EMD PAYMENT ARE FURNISHED IN THE CHECK LIST.

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

OR,

WE HAVE ALREADY DEPOSITED ONE TIME EMD OF Rs. 2,00,000/- (RUPEES TWO LACS ONLY), DETAILS OF WHICH ARE FURNISHED IN THE CHECK LIST.

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

PLACE:
DATE:

SIGNATURE OF TENDERER:
ADDRESS:

WITNESSES WITH THEIR ADDRESS

SIGNATURE	NAME	ADDRESS
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1.

2.

SECTION-4

SPECIAL CONDITIONS OF CONTRACT

4.0(A) SCOPE OF WORK

THE SCOPE OF CIVIL WORKS FOR “**GAS INTERCONNECTION**” SHALL INCLUDE SUPPLY OF CONSTRUCTION MATERIALS FOR ALL BUILDINGS, EQUIPMENT AND FACILITIES FOR THE PROJECT INCLUDING GROUND IMPROVEMENT. THE NATURE OF WORK GENERALLY INVOLVE EARTHWORK IN EXCAVATION, DE-WATERING ALL TYPES OF WATER, BACK FILLING AROUND COMPLETED STRUCTURES AND PLINTH FILLING, DISPOSAL OF SURPLUS EARTH, UNDERGROUND & ABOVE GROUND EARTHING SYSTEM, CONCRETING INCLUDING REINFORCEMENT AND FORM WORK, MASONRY WORK , PLASTERING, PAINTING, FABRICATION AND ERECTION OF ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL (I.E. STEEL STAIRCASE, CABLE DUCT SUPPORT, LADDER, WALKWAY, RAILING, CHEQUERED PLATE/GRATING FLOOR, INSERTS, ANCHOR BOLTS ETC.), PAVING, PROVIDING PRE CAST COVERS, TRESTLES, CABLE DUCT, INTERNAL DRAINAGE, FINAL GRADING AND SITE CLEARANCE BEFORE HANDING OVER AND ANY OTHER ITEMS OF WORK REQUIRED FOR COMPLETION OF ALL SYSTEMS UNDER THE SCOPE OF COMPLETE WORK. ETC ARE ALSO TO BE CARRIED OUT UNDER THIS CONTRACT.

THE SCOPE OF BIDDER FOR CIVIL STRUCTURAL AND ARCHITECTURAL WORKS AS DEFINED ABOVE SHALL INCLUDE BUT NOT BE LIMITED THE FOLLOWING BUILDINGS/ AREAS/ SYSTEMS ALONG WITH THEIR FOUNDATIONS, SUPER STRUCTURAL AND FINISHES COMPLETE AND ALSO MAINTENANCE OF ALL THE SYSTEMS DURING THE WARRANTY PERIOD.

4.0.(B) SPECIAL CONDITIONS OF CONTRACT

- 1) DETAILS OF THE ITEMS IN THIS “ SCHEDULE OF QUANTITIES (BOQ) “ SHALL BE READ IN CONJUNCTION WITH THE CORRESPONDING SPECIFICATIONS, DRAWINGS AND OTHER BID DOCUMENTS AND SHALL HAVE PRECEDENCE OVER ANY OTHER DOCUMENT IN CASE OF ANY CONTRADICTION BETWEEN THE TECHNICAL SPECIFICATION AND OTHER DOCUMENTS.
- 2) THE WORK SHALL BE CARRIED OUT AS PER CONSTRUCTION DRAWINGS, SPECIFICATIONS, BOQ AND INSTRUCTION OF THE SITE ENGINEERS. DRAWINGS ENCLOSED WITH THESE DOCUMENTS ARE ONLY INDICATIVE GIVING SOME IDEA OF THE TYPE OF WORK INVOLVED. THE LAYOUT, SIZES AND DETAILS OF THE BUILDING, STRUCTURES AND FOUNDATIONS SHOWN IN TENDER DRAWINGS MAY VARY TO A LARGE EXTENT DURING ACTUAL CONSTRUCTION. FINAL DRAWINGS WILL BE ISSUED PROGRESSIVELY DURING THE EXECUTION OF THE WORK.
- 3) ITEMS OF WORK PROVIDED IN THIS BOQ BUT NOT COVERED IN THE SPECIFICATIONS SHALL BE EXECUTED STRICTLY AS PER INSTRUCTIONS OF THE ENGINEER.
- 4) UNLESS SPECIFICALLY MENTIONED OTHERWISE IN THE CONTRACT, THE BIDDER SHALL QUOTE HIS RATES FOR THE FINISHED ITEMS AND SHALL PROVIDE FOR THE COMPLETE COST TOWARDS FUEL, TOOLS, TACKLE, EQUIPMENT, CONSTRUCTIONAL PLANT , TEMPORARY WORKS, LABOUR MATERIALS, LEVIES , TAXES , TRANSPORT, LAYOUT, REPAIRS, RECTIFICATION, MAINTENANCE TILL HANDING OVER, SUPERVISION, SHOPS, ESTABLISHMENTS, SERVICES , TEMPORARY ROADS, REVENUE EXPENSES, CONTINGENCIES, OVERHEADS, PROFITS AND ALL INCIDENTAL ITEMS NOT SPECIFICALLY MENTIONED BUT REASONABLY IMPLIED AND NECESSARY TO COMPLETE THE WORKS ACCORDING TO THE CONTRACT.

- 5) THE RATE QUOTED SHALL BE INCLUSIVE OF CLEANING THE SITE OF ANY VEGETATIONS, DRESSING AND LEVELING ETC., REQUIRED FOR COMMENCEMENT OF SITE ACTIVITIES. NO SEPARATE PAYMENT WILL BE MADE TOWARDS THE SAME.
- 6) THE RATE SHALL ALSO BE INCLUSIVE OF CARRYING OUT TOPOGRAPHY SURVEY OF SITE TO ESTABLISH LEVELS AND COORDINATES AT SUITABLE INTERVALS, FORM EXISTING GRID LEVELS AND COORDINATES FURNISHED BY THE OWNER, ESTABLISH BENCH MARKS, SETTING OUT THE LOCATION AND LEVELS OF THE PROPOSED STRUCTURES, CONSTRUCTIONS AND MAKING REFERENCES, PILLARS AND OTHER IDENTIFICATION MARKS ETC. NO SEPARATE PAYMENT WILL BE MADE TOWARDS THE SAME.
- 7) RATES SHALL BE QUOTED BOTH IN FIGURES AND IN WORDS IN CLEAR LEGIBLE WRITING. NO OVER WRITING IS ALLOWED. ALL SCORING AND CANCELLATION SHOULD BE COUNTER SIGNED BY THE BIDDER. IN CASE OF ILLEGIBILITY, THE INTERPRETATION OF THE ENGINEER SHALL BE FINAL. ALL ENTRIES SHALL BE IN ENGLISH LANGUAGE.
- 8) ENGINEERS DECISION SHALL BE FINAL AND BINDING ON THE CONTRACTORS REGARDING CLARIFICATION OF ITEMS IN THIS SCHEDULE WITH RESPECT TO THE OTHER SECTION OF THE CONTRACT.
- 9) THE UNLESS OTHERWISE SPECIFIED IN THE SCHEDULE OF ITEMS CEMENT, STRUCTURAL AND REINFORCEMENT STEEL WILL BE ISSUED BY BHEL AT ISSUE RATES SPECIFIED ELSEWHERE IN THIS TENDER DOCUMENT.
- 10) IN CASE OF ANY DISCREPANCY BETWEEN BOQ, RELEVANT DRAWING AND/OR SPECIFICATIONS CLARIFICATION SHALL BE SOUGHT AT TENDER STAGE ITSELF. OTHERWISE IT SHALL BE ASSUMED THAT THE BIDDER HAS QUOTED FOR THE MORE STRINGENT REQUIREMENT.
- 11) **CONTRACTOR SHOULD MOBILIZE A CONCRET MIXER WITH WEIGH BATCHERS FOR MIXING OF CONCRETE AT SITE.**

- 4.0.1 THE WORKS TO BE PERFORMED UNDER THIS CONTRACT CONSIST OF PROVIDING ALL LABOUR, SUPERVISION, MATERIAL, SCAFFOLDING, CONSTRUCTION EQUIPMENTS, TOOLS AND PLANTS, TEMPORARY WORKS, SUPPLIES INCLUDING POL, TRANSPORTATION AND ALL INCIDENTAL ITEMS NOT SHOWN OR SPECIFIED BUT REASONABLY IMPLIED OR NECESSARY FOR THE PROPER COMPLETION OF WORK IN ALL RESPECTS. TESTING OF ALL MATERIALS, CONCRETE, EARTHWORK OTHER ALLIED WORKS, PREPARATION OF BAR BENDING SCHEDULES ON THE BASIS OF CONSTRUCTION DRAWINGS, PREPARATION OF FABRICATION DRAWINGS ETC. ARE INCLUDED ON THE RATES OF ITEMS OF WORK. WORKS SHALL ONLY BE CARRIED OUT WITH APPROVED STRUCTURAL FABRICATION DRAWINGS.
- 4.0.2 SUPPLY, FABRICATION AND ERECTION OF STRUCTURAL STEEL WORK INVOLVING ROLLED SECTION, SECTIONS FABRICATED OUT OF PLATES CHEQUERED/ ELECTRO FORGED GRATING HAND RAILS, PRIMER AND FINAL PAINTING FOR ALL STEEL STRUCTURAL WORKS INCLUDING SUPPLY OF HSFG BOLTS IF ANY, LOW HYDROGEN QUALITY ELECTRODES FOR WELDING, NON DESTRUCTIVE TESTING ETC. COMPLETE AS PER QUALITY PLAN/CUSTOMER REQUIREMENTS.
- 4.0.3 THE AREA OF WORK SHALL BE CLEARED OF ALL VEGETATION, RUBBISH AND OTHER OBJECTIONABLE MATTER AND MATERIALS REMOVE, SHALL BE BURNT OR OTHERWISE DISPOSED OF AS DIRECTED BY THE ENGINEER-IN-CHARGE.

NO SEPARATE PAYMENT FOR THIS OPERATION SHALL BE MADE. THE COST OF ALL THESE OPERATIONS SHALL BE DEEMED TO HAVE BEEN INCLUDED IN THE UNIT RATES RENDERED FOR THE DIFFERENT ITEMS UNDER BILL OF QUANTITIES.

- 4.0.4 ALL THE WORKS AREAS SHALL BE ADEQUATELY FLOOD LIGHTED TO THE SATISFACTION OF THE ENGINEER-IN-CHARGE WHEN THE WORK IS IN PROGRESS DURING THE NIGHT SHIFTS.
- 4.0.5 THE UNIT RATES SHALL INCLUDE ALL MATERIAL EQUIPMENT, FIXTURES, LABOUR CONSTRUCTION PLANT, TEMPORARY WORKS AND EVERYTHING WHETHER OF PERMANENT OR TEMPORARY NATURE NECESSARY FOR THE COMPLETION OF JOB IN ALL RESPECTS.
- 4.0.6 THE UNIT RATES QUOTED FOR VARIOUS ITEMS OF B.O.Q SHALL INCLUDE ALL THE STIPULATIONS MENTIONED IN SECTION C AND TECHNICAL SPECIFICATIONS UNDER SECTION D AND NOTHING EXTRA OVER B.O.Q RATES SHALL BE PAYABLE.
- 4.0.7 DESIGN DRAWINGS SHOWING ENOUGH DETAILS FOR THE CONSTRUCTION AS PER THE SPECIFICATION SHALL BE FURNISHED TO THE CONTRACTOR IN A PHASED MANNER AS FAR AS POSSIBLE.

4.1.0

MATERIALS TO USED FOR THIS PROJECT & WITH RESPECT TO THIS CONTRACT, SPECIFIC TECHNICAL REQUIREMENTS FOR GENERAL CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS AND ALSO FOR THE TECHNICAL SPECIFICATION. CEMENT REQUIRED FOR THIS WORK UNDER THIS CONTRACT HAS TO BE PROCURED FROM THE FOLLOWING MANUFACTURERS

1. ACC
2. L&T
3. AMBUJA CEMENTS

4.1.1

CUSTOMER SHALL PROVIDE LAND OUTSIDE PLANT PREMISES FOR REGULAR DISPOSAL AND ASSOCIATED ACTIVITIES IN RESPECT OF EXCAVATED SURPLUS EARTH, DISMANTLED MATERIALS GENERATED FROM THIS WORK. REFER SECTION-5 FOR FURTHER DETAILS IN THIS REGARD. RATES QUOTED SHALL BE INCLUSIVE OF ABOVE CONDITION.

4.1.2

CNS SOIL FOR BACKFILLING SHOULD BE AS PER SPECIFICATIONS AND FROM APPROVED SOURCE. CONTRACTOR SHALL ARRANGE HIS OWN BORROWPITS FOR CNS SOIL ETC., REQUIRED FOR BACKFILLING. RATES QUOTED SHOULD BE INCLUSIVE OF THIS FACTOR AND ALSO NECESSARY ROYALTY CHARGES LOADING&UNLOADING, TRANSPORT ETC. ONLY BORROW PIT MEASUREMENT OR THE EXCAVATED PIT QUANTITY WILL BE CONSIDERED FOR MEASUREMENT AND NO TRUCK MEASUREMENT SHALL ENTERTAINED.

4.2.0

USE OF READY MIX/ PREMIX CONCRETE:

CONTRACTORS ARE SUPPOSED TO USE CONCRETE, PRODUCED FROM THEIR OWN MIXTURE MACHINE FOR EACH AND EVERY GRADE OF CONCRETE WITH MINIMUM CEMENT CONTENT AS EXPLAINED ELSEWHERE WITH THE APPROVAL OF BHEL. HOWEVER CONTRACTOR SHALL BE PERMITTED TO GO FOR THE USE OF CONVENTIONAL METHOD OF PRODUCING CONCRETE FOR SMALL QTY OF PCC.

THE CONTRACTOR SHALL INSTALL HIS CONCRETE MIXTURE MACHINE, ARRANGE ALL T&P LIKE CONCRETE PUMP, ETC.,

4.2.2

CONCRETE WORK FOR FOUNDATIONS

I. GENERAL

CONCRETE WORK SHALL BE CARRIED OUT AS PER IS:456. MIX DESIGN CONCRETE SHALL BE USED FOR ALL AREAS OTHER THAN LEAN CONCRETE WORK AND PLAIN CEMENT CONCRETE WHERE NOMINAL/VOLUME MIX CAN BE PERMITTED. DESIGN MIX SHALL BE CARRIED OUT AS PER IS: 10262. UNLESS SPECIFIED 20MM AND DOWN AGGREGATES SHALL BE USED FOR ALL STRUCTURAL CONCRETE WORKS. HOWEVER 40MM AND DOWN AGGREGATES MAY ALSO BE USED UNDER SPECIAL CONDITIONS FOR THE MASS CONCRETING IN FOUNDATION.

i. SPECIAL REQUIREMENTS FOR CONCRETING.

COURSE AGGREGATES

SOUND AND DURABLE CRUSHED STONE AGGREGATES SHALL BE USED. ALL AGGREGATES SHALL BE TESTED FOR ALKALI AGGREGATE REACTION. MATERIALS THAT CONTAIN HIGH PERCENTAGE OF REACTIVE SILICA SHALL NOT BE USED. IN EXCEPTIONAL CASE OF HIGH PERCENTAGE OF REACTIVE SILICA CONTENT, AGGREGATES MAY BE ALLOWED WHERE LOW ALKALI CONTENT CEMENT SHALL BE USED. LIME STONE AGGREGATES SHALL NOT GENERALLY BE USED FOR FOUNDATIONS THAT ARE SUBJECTED TO HIGH TEMPERATURE AND REPEATED TEMPERATURE CYCLES (LIKE IN THE CASE OF ALL MACHINE FOUNDATIONS). UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE ENGINEER, THE TESTS SHALL BE CARRIED OUT FOR A TEMPERATURE RANGE FROM 10 DEGREE C. TO 65-DEGREE TEMPERATURE CYCLES.

TEMPERATURE CONTROL OF CONCRETE

THE TEMPERATURE OF FRESH CONCRETE SHALL NOT EXCEED 23 DEGREE C. WHEN PLACED. FOR MAINTAINING THE TEMPERATURE OF 23 DEGREE C. IN THE TOP DECKS OF MACHINE FOUNDATIONS, CRUSHED ICE SHALL BE USED IN MIXING WATER. & THE QUOTED RATES OF RESPECTIVE ITEMS ARE DEEMED TO INCLUDE ALL THESE WORKS.

ADMIXTURE

PLASTICIZER-CUM RETARDER TYPE ADMIXTURE SHALL GENERALLY BE ADDED TO THE CONCRETE FOR PROMOTING WORKABILITY IN ADDITION TO RETARDING SETTING TIME, FOR MASS CONCRETING WORK.

FORM WORK

PLYWOOD FORMWORK SHALL BE USED FOR THE TOP DECKS OF ALL MACHINE FOUNDATIONS AND ALSO FOR COLUMNS OF TG FOUNDATIONS.

SCHEME FOR CONCRETING

WEIGH BATCHING PLANTS SHALL BE MOBILISED FOR ALL MACHINE FOUNDATIONS. CONCRETE PUMP CAN BE MOBILISED FOR STG& GTG RAFT, TG TOP DECK, CHIMNEY BASE. ARRANGEMENTS FOR STAND-BY PLANT AND EQUIPMENTS SHALL ALSO BE MADE.

4.3.0

ALL ARCHITECTURAL ITEMS SHALL BE PURCHASED FROM ONLY THE VENDORS APPROVED BY BHEL/ GSECL /CONSULTANT. LIST OF SUCH APPROVED VENDORS IS APPENDED WITH THESE SPECIFICATIONS. THE LIST MAY UNDERGO REVISIONS FROM TIME TO TIME. THEREFORE, THE CONTRACTOR SHALL ASCERTAIN CURRENCY OF APPROVAL IN RESPECT OF ANY VENDOR FROM WHOM HE IS LIKELY TO SOURCE ANY ITEM.

4.3.1

EXPOSED PARTS OF ALL FOUNDATIONS ARE TO BE GIVEN ONE COAT OF BERGER MAKE OR EQUIVALENT EPILUX 4 CLEAR LACQUER AND TWO COATS OF EPILUX 89 FINISH COAT AFTER COMPLETION OF GROUTING ETC. THE CONTRACTOR SHALL ARRANGE PAINT FOR THE SAME.

4.3.2

CONTRACTOR SHALL TAKE DELIVERY OF CERTAIN STEEL MATERIALS LIKE FOUNDATION BOLTS FOR BOILER, AND OTHER INSERTS FOR TG DECK ETC. SUPPLIED BY BHEL UNITS FROM BHEL SITE STORES IN THE PRESCRIBED PROFORMA. FIXING OF FOUNDATION BOLTS IN IMPORTANT EQUIPMENT FOUNDATIONS LIKE BOILER, INSERTS IN TG DECK ETC SHALL BE DONE BY USING STEEL TEMPLATES EXCLUSIVELY MADE FOR THIS PURPOSE WITHIN THE QUOTED RATE. WOODEN TEMPLATES SHALL NOT BE PERMITTED. BOLT AND INSERTS AFTER FIXING IN POSITION SHALL BE PROPERLY WELDED WITH ADJACENT STEEL/REINFORCEMENT MEMBER TO RETAIN IN CORRECT POSITION AND TO ENSURE ALIGNMENT/VERTICALITY DURING CONCRETING.

4.4 STRUCTURAL WORKS

THE WORK INVOLVES:

4.4.1

SUPPLY OF STRUCTURAL MATERIAL FROM APPROVED MANUFACTURERS AS FURNISHED BELOW:-

FABRICATION AND ERECTION OF STRUCTURAL STEEL INCLUDING ALL INTERFACING WORK AND MISCELLANEOUS WORK. THE NATURE OF WORK SHALL INCLUDE COLUMNS, BEAMS, SPlicing OF STEEL WORKS AS NEEDED, BRACINGS, PURLINS, TRUSSES, SHEETINGS, RUNNERS, SAG RODS, TIES, STRUTS, WALKWAYS, GALLERIES, STAIRS, STEPS, LADDERS, HANDRAILS, FLOOR GRATINGS, CHEQUERED PLATE WORK, M.S. PIPES, EQUIPMENT SUPPORTING PLATFORMS, MISC. PIPE SUPPORTS AND ALL OTHER STRUCTURES REQUIRED FOR SUCCESSFUL COMPLETION OF THE PROJECT.

APPROVED MANUFACTURERS FOR PROCUREMENT OF STEEL ARE:

STEEL: (BOTH REINFORCEMENT & STRUCTURAL STEEL)

- (i) M/S SAIL
- (ii) M/S TISCO

THE MATERIAL SHALL BE PURCHASED DIRECTLY FROM SAIL/TISCO OR ANY AUTHORISED DEALER/STOCKIST OF THE ABOVE MANUFACTURERS AND AVAILABLE BRAND FROM ABOVE CAN BE USED ON PRIOR APPROVAL FROM BHEL CONTRACTOR AS INDICATED ELSEWHERE IN THE TENDER SPECIFICATION SHALL ARRANGE MANUFACTURERS' TEST CERTIFICATE AND OTHER TEST REPORT. EACH LOT OF MATERIAL RECEIVED HAS TO BE TESTED AT BHEL APPROVED LABORATORY INSPITE OF SUBMISSION OF MANUFACTURER'S TEST CERTIFICATES.

FURTHER THE CONTRACTOR CAN PROCURE STEEL FROM ANY OTHER MANUFACTURER APPROVED BY BHEL

4.4.2

SUPPLY, FABRICATION AND ERECTION OF MS PIPES, HANDRAILS AS PER DRAWING AND SPECIFICATIONS.

4.4.3

SUPPLY AND FIXING OF FLOOR GRATINGS, STEPS AS PER SPECIFICATIONS.

4.4.4

SUPPLY OF HIGH TENSILE BOLTS, MILD STEEL BOLTS, NUTS, PLAIN/TAPER AND SPRING WASHERS, ALL ELECTRODES REQUIRED FOR SHOP AND FIELDWORK.

4.4.5

SHOP AND FINAL PAINTING AS PER TECHNICAL SPECIFICATION AFTER PROPERLY CLEANING THE STEEL SURFACES. ALL STEEL STRUCTURALS HAVE TO BE SAND BLASTED PRIOR TO APPLICATION OF PRIMER AND PAINT. WIRE BRUSH, PAINTING BRUSH AND ALL OTHER CONSUMABLES, AND ALL OTHER ARRANGEMENTS INCLUDING THOSE REQUIRED FOR SHOT BLASTING /SAND BLASTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. SURFACE PREPARATION FOR STRUCTURAL WORKS OTHER THAN SAND BLASTING SHALL NOT BE ACCEPTABLE BY BHEL. SURFACE PREPARATION OF STEEL STRUCTURES BY WIRE BRUSH, OTHER MECHANICAL MEANS SPECIFIED ELSEWHERE SHOULD BE SUPERCEDED BY THIS CLAUSE.

4.4.6

GROUTING UNDER STANCHION BASES AS PER SPECIFICATIONS. BASE GROUTING WILL HAVE TO BE DONE ONLY FOR STRUCTURAL WORK CARRIED OUT BY THE CONTRACTOR.

4.4.7 WELDING

WELDING SHALL BE DONE BY THE QUALIFIED WELDERS. WELDER'S TEST TO BE CONDUCTED AT SITE IN PRESENCE OF BHEL/BHEL'S CUSTOMER. PROCESS QUALIFICATION IF REQUIRED SHALL BE ARRANGED BY CONTRACTOR. ALL SAMPLES FOR THE WELDER'S QUALIFICATION TEST SHALL BE ARRANGED BY CONTRACTOR. QUOTED RATE SHALL BE INCLUSIVE OF ALL THE EXPENDITURE TOWARDS TESTING OF WELDERS FOR DESTRUCTIVE AND NON-DESTRUCTIVE TEST, TESTING AND APPROVAL OF WELDERS ETC., COMPLETE. ALL WELDED JOINTS SHALL BE SUBJECT TO THE ACCEPTANCE OF BHEL ENGINEER. ALL THE WELDED JOINTS SHALL BE CLEANED OF SLAG ETC., AND PAINTED WITH PRIMER TO PREVENT CORROSION AT NO EXTRA COST TOWARDS THIS. **FOR THIS, CONTRACTOR SHALL SUPPLY PRIMER, WHICH SHALL BE AS PER THE BHEL SPECIFICATION.**

4.4.8

CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENT INSIDE/OUTSIDE THE PLANT PREMISES FOR STORAGE OF THE STEEL, CEMENT AND OTHER MATERIALS INCLUDING THE BUILDING MATERIALS. SPACE FOR DEVELOPMENT OF SUCH INFRASTRUCTURE FACILITIES SHALL BE PROVIDED BY CUSTOMER/ GSECL AT FREE OF COST. ALSO FOR FABRICATION OF STEEL STRUCTURALS AND REINFORCEMENTS THE NECESSARY AREA OUTSIDE THE PLANT PREMISES WITH ALL NECESSARY INFRASTRUCTURES HAS TO BE ARRANGED BY THE CONTRACTOR. ALL COSTS, DUTIES, LAVIES, TAXES AND INCIDENTAL, CHARGES ETC., HAVE TO BE BORN BY THE CONTRACTOR. REQUISITE FENCING AND OTHER SUITABLE SECURITY ARRANGEMENTS ETC., SHALL BE THE CONTRACTOR'S RESPONSIBILITY. TRANSPORT OF THE WORKED AND FABRICATED ITEMS, ARRANGING GATEPASSES AND OTHER PERMITS ETC., IS ALSO PART OF CONTRACTOR'S RESPONSIBILITY. THE RATES QUOTED SHALL BE INCLUSIVE OF ALL THE ABOVE AND RELATED FACTORS. NO CLAIM WHATSOEVER WILL BE ENTERTAINED BY BHEL IN THIS REGARD. REFER SECTION-5 IN THIS REGARD.

4.4.9 EARTHING SYSTEM

INSTALLATION AND INTERCONNECTION AND TESTING OF ALL THE UNDERGROUND EARTHING CONDUCTORS, RISER CONNECTIONS, EARTH PITS AND EARTH ELECTRODES COVERED UNDER THE SCOPE OF THIS SPECIFICATIONS, AS DETAILED IN THE LAYOUT DRAWINGS, LATEST REVISION OF INDIAN STANDARDS, IEEE CODES, CODES OF PRACTICE AND IE RULES AS LISTED IN THIS SPECIFICATION. INSTALLATION SHALL ALSO INCLUDE NECESSARY EXCAVATION BACKFILLING AND COMPACTION OF EARTH WHERE NECESSARY, WELDING/BRAZING CONNECTIONS OR EQUIVALENT OF UNDERGROUND EARTHING CONDUCTOR JOINTS AND CROSSINGS, RISER CONNECTIONS ETC. ELECTRONIC EARTH PITS ARE TO BE CONNECTED AS AN INDEPENDENT CIRCUIT FROM THAT OF THE GENERAL UNDERGROUND EARTHING SYSTEM.

4.5 GENERAL

4.5.1

THE DETAILED SCOPE OF WORK COVERED IN THESE SPECIFICATIONS IS NOT A COMPREHENSIVE LIST OF THE ITEMS OF WORK INVOLVED. THE DETAILED SCOPE OF WORK MAY VARY CONSIDERABLY DEPENDING ON THE ACTUAL CONSTRUCTION REQUIREMENTS AND AS PER DRAWINGS RELEASED.

4.5.2

THE SCOPE OF WORK WILL ALSO INCLUDE SUCH OTHER RELATED WORKS, IN AND OUTSIDE OF BATTERY LIMIT, ALTHOUGH THEY MAY NOT BE SPECIFICALLY MENTIONED IN THESE PARAGRAPHS AND ALL SUCH INCIDENTAL ITEMS NOT SPECIFIED, BUT REASONABLY IMPLIED AND NECESSARY FOR COMPLETION OF THE JOB AS A WHOLE, AS DESIRED AND AS DIRECTED BY THE ENGINEER.

4.5.3

THE DRAWINGS ENCLOSED WITH THIS TENDER ARE INTENDED TO GIVE THE TENDERER A GENERAL IDEA OF THE TYPE AND EXTENT OF WORK INVOLVED. THE DRAWINGS ARE AS SUCH ONLY INDICATIVE AND NOT TO BE CONSTRUED AS THE EXACT CONSTRUCTION DRAWINGS. THE WORK SHALL BE EXECUTED AS PER THE "AFC" DRAWING (APPROVED FOR CONSTRUCTION) SUPPLIED BY BHEL FROM TIME TO TIME (2 SETS) IN PHASED MANNER.

4.5.4

ALL EQUIPMENTS SHALL BE HANDLED VERY CAREFULLY TO PREVENT ANY DAMAGE OR LOSS. THE MATERIAL FROM THE CONTRACTOR'S STORAGE YARD SHALL BE MOVED TO THE ACTUAL SITE OF ERECTION/ LOCATION AT THE APPROPRIATE TIME AS PER THE DIRECTION OF BHEL ENGINEER SO AS TO AVOID DAMAGE/LOSS OF SUCH MATERIAL, CONGESTION AT SITE.

4.5.5

MATERIALS SHALL BE STACKED NEATLY, PRESERVED AND STORED IN THE CONTRACTOR'S SHED AND WORK AREAS IN AN ORDERLY MANNER.

4.5.6

SHOULD THE CONTRACTOR OR HIS WORKMEN OR SERVANTS BREAK, DEFACE, INJURE OR DESTROY ANY PART OF A BUILDING, ROAD, KERBS, FENCE, ENCLOSURES, WATER PIPES, CABLES, DRAINS, ELECTRIC OR TELEPHONE POSTS OR WIRES, TREES OR ANY OTHER PROPERTY, OR TO ANY PART OF ERECTED EQUIPMENTS AND STORED COMPONENTS ETC., THE CONTRACTOR SHALL MAKE THE SAME GOOD AT HIS OWN EXPENSE OR IN DEFAULT, THE BHEL SITE ENGINEER MAY CAUSE THE SAME TO BE MADE GOOD BY OTHER AGENCY OR BY OTHER MEANS AND DEDUCT THE EXPENSE WITH BHEL OVERHEAD (OF WHICH THE SITE ENGINEER'S DECISION IS FINAL) FROM ANY SUMS THAT MAY BE THEN OR AT ANY TIME THEREAFTER BECOME DUE TO THE CONTRACTOR OR FROM HIS SECURITY DEPOSIT OR ANY OTHER MONEY DUE.

4.5.7

THE WORK HAS TO BE EXECUTED WITH THE CONSTRAINTS LIKE RAIN, INSUFFICIENT SPACE, IMPROPER APPROACH ROADS ETC., AND IN CONJUNCTION WITH NUMEROUS OTHER OPERATIONS AT SITE. THE CONTRACTOR AND HIS PERSONNEL SHALL COOPERATE WITH OTHER PERSONNEL/CONTRACTOR, COORDINATING HIS WORK WITH OTHERS AND PROCEED IN A MANNER THAT SHALL NOT DELAY OR HINDER THE PROGRESS OF WORK AS A WHOLE.

4.5.8

THE CONTRACTOR SHOULD SATISFY BHEL THAT AN ACCIDENT RISK INSURANCE POLICY IN RESPECT OF HIS EMPLOYEES AS PER WORKMEN COMPENSATION ACT, IS TAKEN BEFORE STARTING OF THE WORK AND ALSO SATISFY BHEL THAT THE POLICY IS KEPT IN FORCE TILL THE CONTRACT IS COMPLETED.

4.5.9

RECOVERIES WILL BE MADE FROM CONTRACTOR'S BILLS FOR ANY LIABILITY ACCRUED TO BHEL/ GSECL FOR THE ACCIDENTS AND REFUND OF THE SAME SHALL BE CONSIDERED LATER, AFTER THE CLAIM IS FULLY SETTLED BY INSURANCE AUTHORITIES.

4.6.1

THE CONTRACTOR SHALL SUBMIT SURVEY REPORT/PERFORMANCE REPORT OF THE TOOLS AND PLANTS DEPLOYED BY HIM AND BEING UTILISED ON THE WORK UNDER THE SCOPE. THESE SURVEY REPORTS/PERFORMANCE REPORTS ARE TO BE OBTAINED BY CONTRACTOR FROM THE CUSTOMER OF BHEL/INSURANCE AUTHORITIES AND SUBMITTED TO BHEL AT NO EXTRA COST.

4.6.2

IN CASE, THE CONTRACTOR INCUR ANY ADDITIONAL EXPENDITURE IS/TO IN WORK DURING EXECUTION ARISING OUT OF THE FAULTY EXECUTION OF SUCH WORK, THE SAME SHALL BE BORNE BY THE CONTRACTOR.

4.7 ALSO INCLUDED IN THE SCOPE

UNLESS OTHERWISE SPECIFIED, THE WORK TO BE PROVIDED FOR BY THE CONTRACTOR FOR THE ITEMS AS MENTIONED IN THE "SCHEDULE OF ITEMS" RATE SCHEDULE SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

4.8.0

FURNISHING ALL LABOUR, MATERIALS, SUPERVISORS, CONSTRUCTION PLANTS, EQUIPMENT, SUPPLIES, TRANSPORT TO AND FROM THE SITE, FUEL, ELECTRICITY, COMPRESSED AIR, WATER, TRANSIT AND STORAGE INSURANCE AND ALL OTHER INCIDENTAL ITEMS AND TEMPORARY WORKS NOT SHOWN OR SPECIFIED BUT REASONABLY IMPLIED OR NECESSARY FOR THE PROPER COMPLETION, MAINTENANCE AND HANDING OVER OF THE WORK, EXCEPT IN ACCORDANCE WITH THE STIPULATIONS LAID DOWN IN THE CONTRACT DOCUMENTS AND ADDITIONAL STIPULATIONS AS MAY BE PROVIDED BY THE ENGINEER DURING THE COURSE OF WORKS.

4.8.1

FURNISHING MANUFACTURER'S TEST CERTIFICATES AND LABORATORY REPORT IN RESPECT OF THE PRODUCTS USED OR INTENDED TO BE USED, IF CALLED FOR IN THE SPECIFICATIONS OR IF SO DESIRED BY THE ENGINEER. APPROVAL OF THESE

MANUFACTURER'S TEST CERTIFICATES SHALL BE OBTAINED MANDATORILY FROM BHEL PRIOR TO USE OF RESPECTIVE MATERIALS WHICH OTHERWISE MAY RENDER THESE MATERIALS LIABLE FOR REJECTION.

4.8.2

FURNISHING SAMPLES OF ALL MATERIALS REQUIRED BY THE ENGINEER FOR TESTING/INSPECTION AND APPROVAL FOR USE IN THE WORKS. THE ENGINEER FOR FINAL INCORPORATION IN THE WORKS MAY RETAIN THE SAMPLES.

4.8.3

GIVING ALL NOTICES, PAYING ALL FEES, TAXES ETC. IN ACCORDANCE WITH THE GENERAL & SPECIAL CONDITIONS OF CONTRACT, THOSE ARE REQUIRED FOR ALL WORK.

4.8.4

ARRANGING MANUFACTURER'S SUPERVISION FOR ITEMS OF WORK DONE AS PER MANUFACTURERS' SPECIFICATION WHEN SO SPECIFIED.

4.8.5

CARRYING OUT TOPOGRAPHIC SURVEY OF THE ENTIRE PLOT AND ESTABLISH LEVELS AND CO-ORDINATES AT SUITABLE INTERVALS FROM EXISTING GRID LEVELS AND CO-ORDINATES FURNISHED BY THE OWNER ESTABLISH BENCH MARKS, SETTING OUT THE LOCATION AND LEVELS OF PROPOSED STRUCTURES, CONSTRUCTION AND MARKING OF REFERENCE PILLARS AND OTHER IDENTIFICATION WORKS ETC. THE CONTRACTOR SHALL PROVIDE THE OWNER/BHEL SUCH ASSISTANCE, INSTRUMENTS, MACHINES, LABOUR AND MATERIALS AS ARE NORMALLY REQUIRED FOR EXAMINING, MEASURING AND TESTING ANY WORK AND THE QUALITY, WEIGHT OR QUANTITY OF ANY MATERIAL USED.

4.8.6

PROVIDING ALL INCIDENTAL ITEMS NOT SHOWN OR SPECIFIED BUT REASONABLY IMPLIED OR NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE WORK IN ACCORDANCE WITH CONTRACT.

4.8.7

LIASIONING WITH AND OBTAINING ALL APPLICABLE CLEARANCE FROM CONCERNED AUTHORITY (IN ANY) FOR THE PORTION OF WORK EXECUTED UNDER THESE SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. BHEL WILL PROVIDE ONLY THE TECHNICAL ASSISTANCE LIKE FURNISHING TECHNICAL INFORMATIONS ETC. IN THIS REGARD. ALL STATUTORY FEES PAID IN THIS REGARD SHALL BE RE-IMBURSED ON ACTUALS BY BHEL ON PRODUCTION OF PROOF OF PAYMENT THEREOF. ALL OTHER ARRANGEMENTS AND EXPENSES SHALL BE BORNE BY THE CONTRACTOR.

4.9 **WORK BY OTHERS:**

NO WORK UNDER THIS SPECIFICATION WILL BE PROVIDED BY ANY AGENCY OTHER THAN THE CONTRACTOR UNLESS SPECIFICALLY MENTIONED ELSEWHERE IN THE CONTRACT.

4.10

THE SCOPE OF WORK UNDER THIS CONTRACT IS DEEMED TO BE COMPLETE ONLY WHEN SO CERTIFIED BY THE ENGINEER INCHARGE OF BHEL.

4.11

CONTRACTOR SHALL DISPLAY 'DANGER BOARDS' AS PER INSTRUCTION OF BHEL/CUSTOMER AS PER REQUIREMENT.

4.11.1

CONTRACTOR SHALL NOT BE ALLOWED TO BRING ANY INFLAMMABLE MATERIAL INSIDE THE PLANT. HOWEVER, FOR ABSOLUTE REQUIREMENT OF THESE MATERIALS, CONTRACTOR SHALL HAVE TO TAKE ADVANCE PERMISSION/APPROVAL FROM BHEL/CUSTOMER AND SHALL STORE IN PROPER PLACE FOLLOWING ADEQUATE SAFETY MEASURES AND SHALL PUT BANNER/BOARD DANGER/ INFLAMMABLE /HIGHLY INFLAMMABLE/NO SMOKING' AS PER THE REQUIREMENT OF BHEL/CUSTOMER.

4.11.2

CONTRACTOR SHALL PROVIDE SUFFICIENT QUANTITIES OF FIRE HYDRANT (WATER, SAND) AND FIRE EXTINGUISHERS AT SAFE/ACCESSIBLE DISTANCE WHILE CARRYING OUT HOT WORK. CONTRACTOR SHALL DEPLOY HIS TRAINED PERSONS FOR OPERATION OF SUCH SAFETY EQUIPMENT.

4.11.3 **FIELD QUALITY LAB.**

THE CONTRACTOR HAS TO ESTABLISH A SEPARATE FIELD QUALITY LAB AT SITE OR ARRANGE FROM OUTSIDE WITH ALL REQUISITE INSTRUMENTS AND QUALIFIED ENGINEERS/SUPERVISOR FOR DAY-TO-DAY QUALITY CHECKS OF CONCRETE AND OTHER BUILDING MATERIALS DURING THE PROGRESS OF WORK. ALL QUALITY RECORDS AND LOGSHEETS SHALL BE MAINTAINED AS PER THE REQUIREMENT OF BHEL/BHEL'S CUSTOMER AND AS PER FIELD QUALITY PLAN APPROVED BY BHEL/GSECL/CONSULTANT.

4.12 **FINAL PAINTING**

SURFACE PREPARATION INCLUDING SHOT BLASTING/SAND BLASTING AND FINAL PAINTING ON THE STRUCTURAL STEEL AND OTHER PART OF THE WORK SHALL BE DONE STRICTLY AS PER BHEL'S/ GSECL SPECIFICATION.

4.13 GROUND WATER TABLE:

BIDDER HAS TO ARRANGE SPECIAL DEWATERING SYSTEM I.E" WELL POINT DEWATERING SYSTEM" DURING EXCAVATION AND PARTICULARLY DURING CONCRETE POUR& THE RATE QUOTED FORE CONCRETING IS INCLUSIVE OF THE SAME(NOSAPARATWE PAYMENT WILL BE MADE.)

SECTION-5

SPECIAL CONDITIONS OF CONTRACT

5.0 OBLIGATIONS OF THE CONTRACTOR (TOOLS, TACKLES, MATERIALS, CONSUMABLES ETC.)

5.1

GSECL/BHEL MAY PROVIDE LAND OUTSIDE THE PROJECT FOR CONSTRUCTION OF TEMPORARY LABOUR COLONY AT FREE OF COST ALONG WITH POWER SUPPLY & POTABLE WATER SUPPLY POINT. NECESSARY CHARGES TOWARDS POWER & WATER CONSUMED IN LABOUR COLONY SHALL BE BORNE BY THE SUCCESSFUL BIDDER. CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENT FOR CONSTRUCTION OF LABOUR COLONY INCLUDING LIGHTING, FURTHER DISTRIBUTION OF WATER SUPPLY AND DRAINAGE ETC. COMPLETE. CONTRACTOR SHALL INSTALL CALIBRATED ENERGY METER & WATER METER IN LABOUR COLONY FOR THE POWER CONSUMPTION AT HIS OWN COST.

5.2 TOOLS AND TACKLES

5.2.1

ALL TOOLS AND TACKLES LIKE CONCRETE BATCHING MIXING PLANT OF REQUIRED CAPACITY, TRANSIT MIXER MACHINES, CONCRETE PUMPS, POCLAINS, TIPPERS, ROAD ROLLERS, WELL POINT DEWATERING SYSTEM, VIBRATORS, PLATE VIBRATORS, CRANES OF ADEQUATE CAPACITY FOR UNLOADING, LOADING OF RAW & FABRICATED MATERIALS, PRE-ASSEMBLY ETC TO BE DONE AT CONTRACTOR'S STORAGE CUM FABRICATION YARD OUTSIDE/INSIDE PLANT PREMISES INCLUDING OPERATOR/DRIVER, FUEL, LUBRICANTS, ALL OTHER CONSUMABLES AND REQUIREMENTS HAVE TO BE ARRANGED BY THE CONTRACTOR. BHEL WILL NOT PROVIDE ANY TOOLS AND PLANTS INSIDE/OUTSIDE PLANT PREMISES.

5.2.2

ALL TOOLS AND TACKLES TO BE USED BY THE CONTRACTOR FOR THE WORK SHALL HAVE THE PRIOR APPROVAL OF BHEL ENGINEER IN REGARD TO BRAND, QUALITY AND SPECIFICATION.

5.2.3

CONTRACTOR SHALL PROVIDE ALL THE NECESSARY SCAFFOLDING MATERIALS, TEMPORARY STRUCTURES AND NECESSARY SAFETY DEVICES ETC.

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 WORK IS NOT HAMPERED.

5.2.5

IN THE EVENT OF CONTRACTOR FAILING TO ARRANGE THE REQUIRED TOOLS, PLANTS, MACHINERY, EQUIPMENT, MATERIAL AND NONAVAILABILITY OF THE SAME OWING TO BREAKDOWN, BHEL WILL RESORT TO HIRING OUT THE SAME FROM OUTSIDE AGENCIES OR MAY PROVIDE THEIR EQUIPMENT IF AVAILABLE OR MAY RESORT TO BUYING OF EQUIPMENT/MATERIAL AT THE COST OF CONTRACTOR. FULL COST OF EQUIPMENT/HIRE CHARGES/RENTAL CHARGES ALONGWITH DEPARTMENTAL OVERHEADS @ 30% WILL BE CHARGED TO THE CONTRACTOR.

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 MOVEMENTS OF CRANES AND OTHER EQUIPMENT SHOULD BE SUCH THAT NO DAMAGE/BREAKAGE OCCURS TO THE FOUNDATIONS, EQUIPMENTS, MATERIAL AND MEN. ALL ARRANGEMENTS FOR MOVEMENT OF ALL HIS T&Ps ETC., SHALL BE CONTRACTOR'S RESPONSIBILITY.

5.2.7

FOR FULL WELDING OF STRUCTURES, ONLY WELDING GENERATORS/ WELDING RECTIFORMERS MAY BE ALLOWED FOR USE. THE USE OF WELDING TRANSFORMERS WILL BE SUBJECT TO THE APPROVAL OF BHEL ENGINEER.

5.2.8

CONTRACTOR HAS TO ARRANGE NECESSARY DEWATERING PUMPS, TRANSIT MIXERS, BATCHING PLANTS, CONCRETE PUMPS AND VIBRATORS, CRANES, FABRICATION AND ERECTION TOOLS & PLANTS, ETC.

5.2.9

SINCE THE MAJORITY OF THEIR EQUIPMENTS, T&P HAVE TO BE STATIONED IN THEIR FABRICATION YARD, BATCHING PLANT AREA OUTSIDE THE PLANT, CONTRACTOR SHALL TAKE INTO ACCOUNT ALL FACTORS, IN THE PRICE QUOTED, INCLUDING FREQUENT MOVEMENT OF TOOLS AND PLANTS INSIDE AND OUTSIDE THE PLANT PREMISES.

5.2.10

CONTRACTOR SHALL FURNISH THE PROOF OF OWNING THE MAJOR TOOLS AND PLANTS.

5.3 CONSUMABLES

5.3.1

THE CONTRACTOR SHALL PROVIDE ALL CONSUMABLES REQUIRED FOR CARRYING OUT THE WORK COVERED UNDER THIS SCOPE OF WORK.

5.3.2

ALL CONSUMABLES TO BE PROCURED AND USED FOR THE WORK MAY HAVE TO HAVE PRIOR APPROVAL OF BHEL ENGINEER IN REGARD TO BRAND AND QUALITY SPECIFICATION.

5.4 WELDING ELECTRODES AND GASES

5.4.1

CONTRACTOR AT HIS COST AS APPROVED BY BHEL SHALL ARRANGE ALL THE REQUIRED WELDING ELECTRODES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN APPROVAL OF BHEL, BEFORE PROCUREMENT REGARDING SUPPLIER, TYPE OF ELECTRODES ETC. ON RECEIPT OF THE ELECTRODES AT SITE, IT SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY BHEL REGARDING TYPE OF ELECTRODES, BATCH NUMBER AND DATE OF EXPIRY ETC.

BHEL RESERVES THE RIGHT TO REJECT THE USE OF ANY ELECTRODES AT ANY STAGE, IF FOUND DEFECTIVE BECAUSE OF BAD QUALITY, IMPROPER STORAGE, EXPIRY DATE, UNAPPROVED TYPE OF ELECTRODES ETC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE THE SAME AT HIS COST WITHOUT LOSS OF TIME.

5.4.2

WELDING ELECTRODE STORAGE FACILITY (ROOM) HAVING EXTERNAL HEATING ARRANGEMENT TO CONTROL TEMPERATURE AND HUMIDITY AS PER THE SPECIFICATIONS OF BHEL SHALL BE PROVIDED.

5.4.3

ALL THE REQUIRED GASES LIKE OXYGEN, ACETYLENE, ETC. SHALL BE PROVIDED BY THE CONTRACTOR AT HIS COST.

5.4.4

IF AT ANY TIME DURING THE EXECUTION OF WORK, IT IS NOTICED THAT THE WORK IS SUFFERING ON ACCOUNT OF NONAVAILABILITY OF INPUTS FROM THE CONTRACTOR'S SIDE LIKE ELECTRODES, GASES AND OTHER MATERIALS, TOOLS & PLANTS, THEN, BHEL WILL MAKE ALTERNATE ARRANGEMENTS AND THE NECESSARY COSTS WITH OVERHEADS @ 30% SHALL BE RECOVERED.

5.4.5

MONTHLY CONSUMPTION DETAILS IN RESPECT OF ALL MAJOR CONSUMABLES SHALL BE SUBMITTED TO BHEL.

5.5 FIELD OFFICE, STORES, FABRICATION YARD FOR STRUCTURALS, DISPOSAL AREA FOR EXCAVATED SURPLUS EARTH ETC.

5.5.1 SITE OFFICE & STORES:

THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR FIELD OFFICE, STORE SHED FOR STORING CEMENT & OTHER PROJECT MATERIALS AND SITE STORES FOR STORING SMALL T&Ps, HANDTOOLS, ETC. ONLY THE OPEN SPACE FOR THIS PURPOSE WILL BE PROVIDED BY BHEL/ GSECL FREE OF CHARGE.

5.5.2 MAJOR STORES AND FABRICATION YARD FOR STRUCTURALS

(A)

SPACE WILL BE MADE AVAILABLE OUTSIDE PLANT PREMISES FOR STORAGE OF CONTRACTOR'S MATERIALS LIKE CEMENT, STEEL, T&Ps, CONSUMABLES INCLUDING WELDING ELECTRODES ETC., AND FOR FABRICATION OF STRUCTURALS. CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENT OUTSIDE THE PLANT PREMISES FOR STORAGE OF CEMENT, STEEL, CONSUMABLES AND MAJOR TOOLS AND PLANTS INCLUDING BATCHING PLANTS, OTHER VALUABLE MATERIAL BROUGHT FOR THE WORK. SIMILARLY SPACE FOR STORAGE, FABRICATION, PRE-ASSEMBLY OF STRUCTURALS SHALL BE PROVIDED BY THE CUSTOMER OUTSIDE THE PLANT PREMISES.

THE CONTRACTOR SHALL ARRANGE ALL ASSOCIATED INFRASTRUCTURES LIKE ELECTRICITY, WATER, SECURITY AND FENCING/BOUNDARIES ETC.. ALL ATTENDENT TAXES, DUTIES, LEVIES, AND ALL OTHER INCIDENTALS SHALL BE TO THE CONTRACTOR'S ACCOUNT. ALSO, OBTAINING, AND KEEPING THEM VALID TILL COMPLETION OF WORK, ALL NECESSARY CLEARANCES, PERMITS, LICENSES ETC. AS PER THE LAWS, RULES AND REGULATIONS IN FORCE FROM TIME TO TIME AND ADHERENCE TO THESE SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR'S QUOTED RATES SHALL TAKE IN TO ACCOUNT ALL THESE FACTORS. BHEL WILL NOT ENTERTAIN ANY CLAIM WHATSOEVER FOR COMPENSATION/ RE-IMBURSEMENT OF SUCH EXPENSES EXCEPT FOR THOSE SPECIFICALLY STATED.

(B)

CLOSE STORAGE SHED TO BE USED FOR STORAGE OF CEMENT SHOULD HAVE ADEQUATE CAPACITY AND PROTECTED ENOUGH AGAINST LEAKAGE DURING MONSOON AND DAMPNESS. STORING OF CEMENT AND STEEL SHALL BE DONE FOR THE STANDARD PRACTICE OF CIVIL ENGINEERING AND AS PER THE INSTRUCTION OF BHEL.

CONTRACTOR SHALL PROVIDE TARPAULINS, SLEEPERS AND ANY OTHER MATERIALS / AID REQUIRED FOR STORAGE OF ALL THEIR MATERIALS IN THEIR STORAGE CUM FABRICATION YARD AS WELL AS AT SITE.

5.5.3 AREA FOR DISPOSAL OF EXCAVATED SURPLUS EARTH

AREA FOR DISPOSAL OF EXCAVATED SURPLUS EARTH SHALL BE PROVIDED BY THE CUSTOMER AT FREE OF COST OUTSIDE THE BATTERY LIMIT/PROJECT PREMISES. CONTRACTOR SHALL ARRANGE PROGRESSIVE DISPOSAL OF EXCAVATED SURPLUS EARTH AS ACCUMULATION OF EXCAVATED EARTH SHALL NOT BE PERMITTED. HENCE CONTRACTOR SHALL DISPOSE OFF THE EXCAVATED EARTH GENERATED DURING EXECUTION OF WORK WHILE, IF PERMITTED, KEEPING THE SUFFICIENT QUANTITY OF GOOD EXCAVATED EARTH FOR BACKFILLING. ALSO, LEVELLING, CONSOLIDATION ETC., REQUIRED TO BE DONE ON THE DISPOSED EARTH IN THE SAID AREA SHALL BE PERFORMED BY THE CONTRACTOR. RATES QUOTED SHALL BE INCLUSIVE OF ALL COST FACTORS. BHEL WILL NOT ENTERTAIN ANY CLAIM WHATSOEVER FOR COMPENSATION/ RE-IMBURSEMENT OF SUCH EXPENSES EXCEPT FOR THOSE SPECIFICALLY STATED. THE CONTRACTOR HAS TO PLAN CONCRETE WORK IN SUCH MANNER THAT GOOD EARTH AVAILABLE DURING EXCAVATION CAN BE EFFECTIVELY USED IN BACK FILLING DIRECTLY TO SAVE TIME AND TRANSPORT OUTSIDE.

5.5.4

ON COMPLETION OF WORK, ALL THE TEMPORARY BUILDINGS, STRUCTURES, PIPELINES, CABLES, ETC. SHALL BE DISMANTLED AND LEVELLED AND DEBRIS SHALL BE REMOVED AS PER INSTRUCTIONS OF BHEL BY THE CONTRACTOR AT HIS COST. IN THE EVENT OF HIS FAILURE TO DO SO, THE SAME WILL BE ARRANGED BY BHEL AND EXPENDITURE THEREOF WITH OVERHEADS WILL BE RECOVERED FROM THE CONTRACTOR. THE DECISION OF BHEL ENGINEER IN THIS REGARD IS FINAL.

5.6 AREA LIGHTING

5.6.1

CONTRACTOR SHALL ARRANGE ADEQUATE FLOODLIGHTS, HAND LAMPS AND AREA LIGHTING. PROVISION OF DISTRIBUTION LINES FOR LIGHTING FROM THE SINGLE POINT TO THE REQUIRED PLACE WITH PROPER DISTRIBUTION BOARDS, OBSERVING THE SAFETY RULES LAID DOWN BY THE ELECTRICAL AUTHORITIES OF THE STATE SHALL BE DONE BY THE CONTRACTOR INCLUDING ALL THE MATERIALS LIKE CABLES, FUSES, SWITCH BOARDS ETC.

5.7 CONSTRUCTION POWER & WATER

5.7.1

CONSTRUCTION AND COMMISSIONING POWER AT 11 KV LEVEL WOULD BE MADE AVAILABLE FROM GEB'S GRID WITHIN THE SITE BATTERY LIMITS AT ONLY ONE TERMINAL POINT. THE CONTRACTOR SHALL, AT BILLING INTERVALS SET BY BHEL, REIMBURSE THE COST OF SUCH POWER AT THE RATE OF **Rs. 15/- PER KWH** CONSUMED OR METERED TO BHEL.

ALL NECESSARY CABLES, FUSES, SWITCHES, SWITCHBOARDS, ENERGYMETERS ETC., AND ANY OTHER INSTALLATION AS SPECIFIED BY STATUTORY AUTHORITY IN THIS REGARD FOR FURTHER DRAWAL OF POWER SHALL BE PROVIDED BY THE CONTRACTOR. OBTAINING APPROVALS, PAYMENT OF NECESSARY FEES, DUTIES ETC TOWARDS THE CLEARANCE OF SUCH INSTALLATIONS, POWER CONSUMED PRIOR TO THEIR BEING PUT TO USE OR AS MAY BE SPECIFIED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CHARGES SHALL INCLUDE OTHER TAXES AND INCIDENTAL AS MAY BE APPLICABLE FROM TIME TO TIME/ LEVIED BY THE CUSTOMER. SALES TAXES & DUTIES AS APPLICABLE FOR THE POWER CONSUMED SHALL BE BORNE BY 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.

5.7.3

CONSTRUCYION WATER IN REQUISITE QUANTITY AND QUALITY WOULD BE MADE AVAILABLE WITHIN THE PLANT BATTERY LIMITS AT ONE TERMINAL POINT. THE CONTRACTOR WILL HAVE TO PAY FOR THE WATER CONSUMED AT THE RATE OF **Rs. 2.00 PER M3** TO BHEL.

FURTHER DISTRIBUTION, IF PERMITTED BY THE CUSTOMER, HAS TO BE ARRANGED BY THE CONTRACTOR AT HIS COST. HOWEVER METERING OF THE WATER CONSUMPTION AS MAY BE PRESCRIBED SHALL BE DONE AND RECORD MAINTAINED AS SPECIFIED. ALL HARDWARE INCLUDING METERS ETC. SHALL BE IN THE SCOPE OF CONTRACTOR.

5.7.4

IN CASE OF NON-AVAILABILITY OF CUSTOMER SUPPLIED POWER AND/OR WATER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALTERNATE ARRANGEMENTS. CONTRACTOR SHALL BE ADEQUATELY EQUIPPED TO ARRANGE STANDBY DIESEL WELDING GENERATORS IN THE EVENT OF CONSTRUCTION POWER FAILURE. ESSENTIAL WELDING JOBS SHALL NOT BE STOPPED ON ACCOUNT OF MAIN CONSTRUCTION POWER FAILURE. ALSO, HE SHOULD DEPLOY ADEQUATE WATER TANKERS FOR TRANSPORT OF WATER ON THE OCCASSIONS WHEN CUSTOMER SUPPLIED WATER IS NOT AVAILABLE/ INADEQUATE.

5.7.5

CONTRACTOR HAS TO FORM TEMPORARY APPROACH ROAD FROM MAIN ROAD NEAR WORK SITE FOR TRANSPORTATION OF MATERIALS, CONCRETE ETC. NO SEPARATE PAYMENT SHALL BE MADE FOR THE SAME.

5.8 MATERIAL

5.8.1(A) PROCUREMENT OF MATERIAL AND TESTING:

MATERIAL REQUIRED FOR THE ENTIRE JOB LIKE CEMENT, STEEL (BOTH REINFORCEMENT AND STRUCTURAL), SAND, AGGREGATES, WINDOWS, DOORS, VENTILATORS, ROLLING SHUTTER, SANITARY FIXTURES, PAINTING MATERIAL, ELECTRICAL FITTINGS AND WIRING MATERIAL AND ALL OTHER MATERIAL REQUIRED FOR THE COMPLETION OF ENTIRE SCOPE, HAVE TO BE ARRANGED BY THE CONTRACTOR, EXCEPTING THOSE SPECIFICALLY INDICATED AS BHEL SCOPE OF SUPPLY. BHEL RESERVES THE RIGHT TO REJECT ANY MATERIAL NOT FOUND SATISFACTORY. CONTRACTOR SHALL PRODUCE MANUFACTURER'S TEST CERTIFICATE FOR STEEL (BOTH REINFORCEMENT AND STRUCTURAL) AND CEMENT FOR EVERY BATCH OF MANUFACTURING ALONGWITH EACH CONSIGNMENT BROUGHT TO THE SITE. CEMENT SHALL BE PROCURED FROM FRESH STOCK ONLY. APART FROM THE ABOVE, IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO GET THE TESTING OF CEMENT, STEEL OR ANY OTHER MATERIALS DONE FROM OUTSIDE LABORATORY APPROVED BY GSECL/BHEL TO ASCERTAIN THE QUALITY IF INSISTED BY BHEL/BHEL'S CUSTOMER. RATE QUOTED SHALL BE INCLUSIVE OF ALL SUCH CONTINGENCIES AND NO ADDITIONAL PAYMENT SHALL BE MADE ON THIS ACCOUNT. FOR THIS PURPOSE, SAMPLE SHALL BE COLLECTED AT SITE IN PRESENCE OF BHEL/BHEL CUSTOMER'S REPRESENTATIVE. THE VARIATION IN PRICE OF ALL THE PLANT MATERIALS SUPPLIED BY THE CONTRACTOR SHALL BE SUBJECT TO THE RELEVANT PRICE VARIATION CLAUSE.

5.8.2 FIELD TESTING EQUIPMENTS

APART FROM MAINTAINING QUALITY REQUIREMENT AS ALREADY SPECIFIED IN TENDER, CONTRACTOR SHALL ARRANGE HIS OWN TESTING LABORATORY ALONGWITH CALIBRATED TEST EQUIPMENTS FOR DAY TO DAY WORK AT SITE. SPECIAL TESTING REQUIREMENTS OF TRIAL MIX FOR MIX DESIGN CAN BE TIED UP WITH REPUTED LOCAL TESTING LABORATORY/INSTITUTION. THE ARRANGEMENT TO BE CLEARLY INDICATED PRIOR TO START OF WORK.

5.9 OTHER RESPONSIBILITIES IN GENERAL

5.9.1

CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER USAGE OF THEIR MATERIALS LIKE CEMENT, STEEL, AND AGGREGATES ETC. AS PER STANDARD REQUIREMENT OF IS CODES AND CONTROL THE WASTAGE WITHIN LIMIT. NO COMPENSATION SHALL BE MADE FOR ANY EXCESS CONSUMPTION UNDER ANY CIRCUMSTANCES.

5.9.2

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DELAY IN PROGRESS OF WORK DUE TO DELAY/SHORT SUPPLY OF MATERIAL TO BE PROCURED BY THEM FOR THIS JOB.

5.9.3

RUSTING OF STEEL SHOULD BE AVOIDED TO THE MAXIMUM EXTENT POSSIBLE WITHOUT HAMPERING THE CONTINUITY OF CONSTRUCTION/ERECTION. IN CASE RUSTING OF STEEL OCCURS RENDERING THE SAME UNUSABLE, THE CONTRACTOR SHALL REMAIN RESPONSIBLE TO MAKE GOOD THE LOSS AT HIS OWN COST.

5.9.4

JOINT INSPECTION/CHECKING FOR ROUTINE JOBS SHALL BE DONE JOINTLY BY BHEL/GSECL THEIR CONSULTANT. CONTRACTOR HAS TO ARRANGE FOR NECESSARY PROTOCOLS AND OTHER QUALITY RECORDS AS PER THE PROCEDURE OF BHEL.

5.9.5

AS-BUILT DRAWING: CONTRACTOR SHALL ARRANGE TO INCORPORATE ALL CHANGES, IN AFC DRAWINGS, MADE AS PER THE SITE REQUIREMENT ON COMPLETION OF WORK AND

SUBMIT THE SAME TO BHEL FOR PREPARING FINAL AS-BUILT DRAWING. THIS SHALL FORM PART OF WORK AND RATES QUOTED SHALL BE INCLUSIVE OF THIS.

5.9.6

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

5.9.7

CONTRACTOR WILL DEDUCT THE NECESSARY AMOUNT FROM HIS EMPLOYEES TOWARDS PROVIDENT FUND AND CONTRIBUTE THE EQUAL AMOUNT AS PER GOVERNMENT OF INDIA LABOUR LAWS. THIS AMOUNT WILL BE DEPOSITED REGULARLY TO THE PROVIDENT FUND COMMISSIONER AND GET THE ACCOUNT CODE. CONTRACTOR SHALL SUBMIT THE ABOVE ACCOUNT CODE DULY CERTIFIED BY PF COMMISSIONER TO BHEL PROJECT INCHARGE.

5.9.8

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE GATE PASS FOR ALL HIS EMPLOYEES, T&P ETC. NECESSARY COORDINATION WITH GSECL OFFICIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO FOLLOW ALL THE PROCEDURES LAID DOWN BY GSECL FOR MAKING GATE PASSES.

5.9.9

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

5.9.10

CONTRACTOR SHALL ALSO COMPLY WITH THE PROVISIONS OF ESI ACT IN VOGUE AND SUBMIT EVIDENCE THEREOF TO BHEL SITE INCHARGE. ALSO ALL OTHER EMPLOYEES BENEFITS TO BE BORNE BY THE CONTRACTOR AS PER THE LABOUR LAWS. CONTRACTOR SHALL PRODUCE NECESSARY CERTIFICATES TOWARDS THEIR COMPLIANCE WITH SUCH STATUTES AND PAYMENT OF ALL STATUTORY DUES.

5.9.11

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

5.9.12

WHERE PERMITTED, BY GSECL/BHEL, TO WORK BEYOND NORMAL WORKING HOURS, THE CONTRACTOR SHALL ARRANGE NECESSARY GATE PASSES.

5.9.13

CONTRACTOR SHALL DRAW MONTHLY COMPLETION PROGRAMME ALONGWITH THE BHEL ENGINEER FOR VARIOUS ACTIVITIES. CONTRACTOR TO ARRANGE ALL THE INPUTS LIKE CEMENT, REINFORCEMENT STEEL, STRUCTURAL STEEL, AND ALL OTHER MATERIALS FOR COMPLETION OF THE PROJECT UNDER THIS CONTRCAT IN TOTALITY, PREPARATION OF DETAILED FABRICATION DRAWING BASED ON ENGG. DRAWING ISSUED FROM BHEL –PED HYDERABAD, FABRICATION & ERECTION OF STRUCTURAL STEEL, CONSTRUCTION WATER, CONSTRUCTION POWER ETC. THE ENTIRE WORK HAS TO BE COMPLETED IN WITHIN CONTRAC SCHEDULE AS PER SECTION 11.

5.10 TAXES ,DUTIES, LEVIS

5.10.0

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

5.10.1

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

However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses. **(i.e. Rates quoted by bidder shall be inclusive of all taxes and duties except service tax & VAT/WCT)**

5.10.2 Service Tax & Cess on Service Tax

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

5.10.3 VAT (Sales Tax /WCT)

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

5.10.4 Modalities of Tax Incidence on BHEL

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

5.10.5 New Taxes/Levies

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

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

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

5.11.1

A) OCTROI DUTY:

CONTRACTOR SHALL BE RESPONSIBLE TO PAY OCTROI AND OTHER DUTIES FOR THEIR SUPPLIED MATERIALS LIKE CEMENT, STEEL AND OTHER BUILDING MATERIALS TO BE BROUGHT FOR THIS JOB. RATE QUOTED SHALL BE INCLUSIVE OF THIS.

B) INSURANCE:

THE CONTRACTOR HAS TO ARRANGE ON HIS OWN, INSURANCE FOR ALL MATERIALS LIKE CEMENT, REINFORCEMENT & STRUCTURAL STEEL AND OTHER BOUGHT OUT ITEMS , AND FOR THEIR ALL T & P AND OTHER FIXED ASSETS WHICH THEY MAY HAVE TO ACQUIRE AND DEPLOY AT SITE. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE FOR ACCIDENT RISK POLICY/WORKMEN COMPENSATION POLICY. THE CONTRACTOR HAS TO ARRANGE ON HIS OWN INSURANCE FOR THEIR SUPPLIED MATERIALS LIKE CEMENT, STEEL AND OTHER VALUABLE BUILDING MATERIALS DURING ITS TRANSPORT, STORAGE, TILL IT GOES TO THE PERMANENT WORK.

SECTION-6

SPECIAL CONDITIONS OF CONTRACT

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

6.1 SUPERVISORY STAFF AND LABOUR

6.1.1

The contractor shall supply all the skilled/unskilled labour, gas cutters, riggers, sarongs, erectors, carpenters, fitters and electricians, masons, plumbers etc. BHEL reserves the right to decide on the suitability of the workers and other personnel who will be employed by the contractor. 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.

6.1.2

It is the responsibility of the contractor to engage his workmen in shifts and or on overtime basis for achieving the target 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 targets will be final and binding on the contractor.

6.1.3

Contractor shall employ only qualified and experienced engineers/supervisors for this job. They shall have professional approach in executing the work having adequate knowledge and experience in the fields. Contractor shall give an organisation chart indicating the staffing pattern.

6.1.4

The contractor shall engage all the unskilled, skilled and specially skilled labourer including brick masons, carpenters, plumbers, electricians, fabricators and fitters etc. and supervisory staff. Only trained and competent personnel with previous experience in the job shall be employed. However, BHEL reserves the right to decide on the suitability of the workers and other personnel who will be employed by the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time, if they found him unsuitable. The contractor shall be bound to follow the instruction of BHEL.

6.2 INDUSTRIAL RELATIONS AND LABOUR LAWS

6.2.1

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. Contractor has to ensure minimum wages payment to their labours as per the rule of the state and they have to produce documentary evidence to that effect to BHEL.

6.2.2

Contractor shall provide the names and details of Engineer/ Supervisors at the time of mobilization to BHEL as per the proposed organization chart.

6.2.3

In case at any time the contractor is not in a position to deploy the required Engineers/Supervisors due to any reason, BHEL shall have the option to deploy their Engineers/supervisors. The expenditure incurred with overheads on this account will be recovered from the contractor's bills.

6.2.4

The contractor's supervisory staff shall execute the work in the most substantial and workmanlike 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.

6.2.5

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 and in general, see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other contractors of BHEL or BHEL's Client.

6.2.6

Contractor will deduct the necessary amount from his employees towards provident fund and contribute the equal amount as per Government of India rules. This amount will be deposited regularly to the Provident Fund Commissioner and an account code obtained. Contractor shall submit the above account code duly certified by PF Commissioner to BHEL project in-charge. Also all other employees' benefits are to be borne by the contractor as per statutory laws.

6.2.7

The contractor shall obtain independent Labour License under the Contract Labour (regulation and abolition) Act from the concerned authorities based on the certificate (form-V) issued by the principal employer/customer.

6.2.8

The contractor shall pay for all taxes, fees, license charges, local body clearance, duties, tools, royalty, commissions and other charges, Gate passes which may be leviable on account of his operation in executing the contract. In case BHEL is forced to make any such payments, BHEL shall have the right to recover the same from Contractor's bills.

6.3 SITE ORGANISATION

The contractor shall provide adequate staffing in the following areas in addition to the staffing requirements of execution as instructed/informed by BHEL:

- **Overall Planning, Monitoring & Control**
- Materials Management
- Quality Control and Quality Assurance
- Safety, Fire & Security
- Industrial Relations and fulfillment of Labour Laws and other statutory obligations.

SECTION-7
SPECIAL CONDITIONS OF CONTRACT

7.0 OBLIGATIONS OF BHEL

8.0 FACILITIES PROVIDED BY BHEL

7.1.1 SPACE FOR CONTRACTOR'S SITE OFFICE & STORES:

Space for construction of site office and stores for contractor will be provided by BHEL's customer free of charge within the project area on As Is Where Is basis. Contractor shall develop the land to suit his requirement and hand over after completion of work in clean and debris free condition to the satisfaction of BHEL/Client.

7.1.2 CONSTRUCTION POWER AND WATER

Construction Power: As specified in section-5

Water for Construction: As specified in section –5.

7.2 TOOLS & PLANTS

BHEL will **NOT** provide any Tools & Plants for this work.

7.3 CONSUMABLES AND MATERIALS

BHEL will **NOT** provide any Consumables and Materials for this work.

7.4 CRANES: NO CRANES OF ANY SIZE & CAPACITY SHALL BE PROVIDED BY BHEL WITH RESPECT TO THIS CONTRACT.

7.5

BHEL WILL PROGRESSIVELY ISSUE TWO COPIES OF ALL THE APPROVED DRAWINGS REQUIRED FOR CONSTRUCTION. CONTRACTOR SHALL PRESERVE THESE DRAWINGS AND RETURN THE SAME AFTER COMPLETION OF WORK. CONTRACTOR SHALL ALSO RETURN SUPERSEDED DRAWINGS, IF ANY, ON RECEIPT OF THE LATEST REVISED DRAWING.

SECTION-8

SPECIAL CONDITIONS OF CONTRACT

8.0 Inspection / Quality Assurance / Quality Control / Statutory Inspection

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

8.2 Preparation of quality assurance log sheets and protocols with 's engineers, welding logs and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification.

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

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

All the important measurements like pre-assembly records, foundation levels, equipment alignment, etc shall be recorded in the daily logbook with sketches based on BHEL drawings indicating readings/ measurements taken and signed by BHEL contractor's representatives.

Welding details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc shall be documented in welding log as per BHEL engineer's instructions.

8.4 All the electrical/mechanical measuring and monitoring devices/ gauges, feeler gauges, height gauges, dial gauges, micrometers, precision levels, spirit levels, water level micrometers surface plates, straight edges, vernier calipers and all other measuring instruments shall be provided by the contractor for checking, leveling, alignment, centering etc Of the erected equipments at various stages.

The instruments/gauges/tools etc provided should be of brand, quality and accuracy, specified by BHEL engineer and should have necessary calibration and other certificates as per the requirements of BHEL engineer.

8.5 In the course of erection, it may be necessary to re-check or counter check or finally check the work with instruments recently calibrated,

recalibrated or of inspection grade gauge/tools or special measuring instruments. Such instruments whenever necessary will be provided by BHEL on specific authorization by BHEL engineer.

8.6 The instruments mentioned in clause 8.5 shall be drawn by the contractor from BHEL stores on the specific authorization and use the same on the specific job for the purpose of inspection/ rechecking/counter checking/ finally checking of the work and shall be returned to BHEL stores immediately on completion of the inspection.

8.7 Total quality is the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide for the services of quality assurance engineer.

8.8 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 removed from working. Contractor shall arrange for the alternate welders immediately.

8.9 All the welders shall carry identity cards as per the pro forma prescribed by BHEL only welders duly authorized by BHEL shall be engaged on the work.

8.10 Contractor shall ensure speedy alignment and welding of all equipments erected by him soon after placement. Also all alignments, welding, NDT tests required for stage inspection shall be completed as per the quality assurance procedures.

8.11 Stage Inspection By FES/QA Engineers

Apart from day-to-day inspection by BHEL engineers and GSECL engineers, stage inspection of equipments at various stages of erection and commissioning by teams of engineers from field engineering services /field quality assurance groups of BHEL's manufacturing units and commissioning engineers from technical services of BHEL may also be conducted. Contractor shall arrange all labour, tools and tackles etc, for such stage inspections within their quoted rate.

8.11.1 Any modifications suggested by FES / FQA engineers team shall be carried out. Claims of contractor, if any, shall be dealt as per clause 13.1 to 13.8.

8.11.2 Any minor rectification or minor repairs of defective work found at during stage inspection shall be rectified free of cost, by the contractor.

8.11.3 Any major rectification or major repair/major rework of defective work, found out during stage inspection as per clause 8.11, but not attributable to contractor shall also be carried out. Claims of contractor, if any, shall be governed as per clause 13.1 to 13.8.

8.12 Statutory Inspection

8.12.1 During the statutory inspection, contractor shall provide all the manpower assistance as per the requirement within their quoted rate. However, all other arrangements for visiting of statutory authorities at site including fee etc shall be borne by BHEL also refer section 5 in this regard.

8.13.0 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 MMD (measuring and monitoring devices). The MMD shall have test/calibration certificates from authorized/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 MMD so that work does not suffer when the particular equipment/ instrument is sent for re-calibration. Also if any MMD is 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 i.e. Repeat the readings taken by that instrument, failing which BHEL may deploy MMD s and retake the readings at contractor's cost.

Section-9

Special Conditions

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 endeavor of BHEL and all its subcontractors to meet and implement the requirements by following the guidelines issued under Environmental, Occupational Health and Safety Management (EHS) manual a copy of which will be available with the BHEL Site-in-charge.

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

9.0 Responsibility Of The Contractor In Respect Of Safety Of Men, Equipment, Material And Environment.

9.1 The Contractor Shall

9.1.1

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

9.1.2

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

9.1.3

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

9.1.4

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

9.1.5

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

- | | |
|--------------------|---|
| Name of Contractor | |
| i. | Name of Contractor Site-in-charge & Telephone number |
| ii. | Job Description in short |
| iii. | Date of start of job |
| iv. | Date of expected completion |
| v. | Name of BHEL Site-in-charge. |
| vi. | Abide by the rules and regulations existing during the contract period as applicable for the contractors at the Project premises. |

9.1.6

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

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

9.2.1.2

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

9.2.1.3

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

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

9.2.1.4

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

9.2.1.5

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

9.2.1.6

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

9.2.1.7

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

9.2.1.8

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

9.2.1.9

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

9.2.1.10

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

9.2.1.11

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

9.2.1.12

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

9.2.1.13

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

9.2.1.14

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

9.2.1.15

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

9.2.1.16

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

9.2.1.17

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

9.2.1.18

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

9.2.1.19

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

9.2.1.20

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

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

9.2.1.21

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

9.2.1.22

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

9.2.1.23

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

9.2.1.24

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from

payments due to the contractor after notifying the contractor suitably and giving him opportunity to present his case.

9.2.1.25

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

9.2.1.26

Emergency Response

9.2.1.26.1

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 neighboring
- 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.

9.2.1.26.2

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 aiders shall be included in the emergency response team. Contractor employees and workmen are encouraged to participate in first aid training programmes whenever organized by BHEL.

9.2.2 OCCUPATIONAL HEALTH

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

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

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

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

- Issue of approved Personnel Protective Equipment
- Verification that the 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 fail good house keeping and if there is an imminent risk of pollution

9.2.4 ENVIRONMENT MANAGEMENT

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

9.2.4.2 WASTE MANAGEMENT

- 9.2.4.3.1 The objective of waste management is to ensure the safe and responsible disposal of waste, ensuring that it is correctly disposed of and being able to audit the process to ensure compliance.
- 9.2.4.3.2 Chemical wastes if any shall be collected separately and disposed of to BHEL designated refuse yard as per BHEL 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 who are well conversant with the safety and environment regulations of the Project. The electricians to be deployed on the job should have wireman license.

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

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

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

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

9.5.0 **REPORTING**

9.5.1 The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorised 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 PPEs
- 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-ordinator shall visit and inspect work sites daily. All unsafe acts, unsafe conditions that have imminent potential for causing harm/injury/damage will be immediately corrected. He shall maintain a daily logbook giving details of unsafe acts or conditions observed and the corrective action taken and recommendations for preventing recurrence. Adequacy of corrective actions will be verified

The contractor shall take remedial measures as per the findings of each inspection

Besides the above, the contractor shall be required to carry out the following inspections

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

9.7 **NON COMPLIANCE:-**

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

Sl. No.	Safety	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 Slings 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&Ps	500/-
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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 utilized for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

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

9.9 Memorandum of Understanding

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

Memorandum of Understanding

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 authorized representative of M/s-----

Name :

Place & Date:

9.10 COMPREHENSIVE LIST OF NATIONAL STANDARDS FOR REFERENCE AND USE WHEREVER APPLICABLE IN THE EXECUTION OF CIVIL, ERECTION AND COMMISSIONING CONTRACTS

IS No	YEAR	Amd up to	DESCRIPTION
IS 10204	1982		PORTABLE FIRE EXTINGUISHERS MECHANICAL FOAM TYPE
IS 10245	1994		SPECIFICATION FOR BREATHING APPARATUS
IS 10291	1982		SAFETY CODE FOR DRESS DRIVERS IN CIVIL ENGINEERING WORKS
IS 10658	1983		HIGHER CAPACITY DRY POWDER FIRE EXTINGUISHERS (TROLLEY MOUNTED)
IS 10662	1992		COLOUR TELEVISION
IS 10667	1983		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF FOOT AND LEG
IS 11037	1984		ELECTRONIC FAN REGULATORS
IS 11057	1984		INDUSTRIAL SAFETY NETS
IS 11451	1998		RECOMMENDATION FOR SAFETY AND HEALTH REQUIREMENT RELATING TO OCCUPATION EXPOSURE TO ASBESTOS
IS 1169	1967		PEDESTAL FANS
IS 1179	1967		SPECIFICATION FOR EQUIPMENT FOR EYE AND FACE PROTECTION DURING WELDING
IS 11833	1986		DRY POWDER FIRE EXTINGUISHERS FOR METAL FIRES
IS 11972	1987		CODE OF PRACTICE FOR SAFETY PRECAUTION TO BE TAKEN WHEN ENTERING A SEWAGE SYSTEM
IS 1287	1986		ELECTRIC TOASTER
IS 13063	1991		STRUCTURAL SAFETY OF BUILDINGS ON SHALLOW FOUNDATIONS ON ROCKS
IS 13385	1992		SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE WHEEL MOUNTED WATER TYPE (GAS CARTRIDGES)
IS 13386	1992		SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE MECHANICAL FOAM TYPE
IS 13415	1992		CODE OF SAFETY FOR PROTECTIVE BARRIERS IN AND AROUND BUILDINGS
IS 13416	1992		RECOMMENDATIONS FOR PREVENTIVE MEASURES AGAINST HAZARDS AT WORKING PLACE PART 1 TO PART 5
IS 13430	1992		CODE OF PRACTICE FOR SAFETY DURING ADDITIONAL CONSTRUCTION AND ALTERATION TO EXISTING BUILDINGS

IS 13849	1993		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CONSTANT PRESSURE)
IS 1446	1985		CLASSIFICATION OF DANGEROUS GOODS (FIRST REVISION)
IS 1476	1979		REFRIGERATORS
IS 1641	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): GENERAL PRINCIPLES OF FIRE GRADING AND CLASSIFICATION
IS 1642	1989		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS- DETAILS OF CONSTRUCTION
IS 1643	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): EXPOSURE HAZARD
IS 1646	1997		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): ELECTRICAL INSTALLATIONS
IS 1904	1986		CODE OF PRACTICE FOR DESIGN AND CONSTRUCTION OF FOUNDATIONS IN SOIL
IS 1905	1987		STRUCTURAL SAFETY OF BUILDINGS MASONARY WALLS
IS 2082	1985		ELECTRICAL GEYSERS
IS 2171	1985		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CARTRIDGE)
IS 2309	1989		PRACTICE FOR THE PROTECTION OF BUILDINGS AND ALLIED BUILDINGS AGAINST LIGHTENING
IS 2312	1967		EXHAUST FANS
IS 2361	1994		SPECIFICATION FOR BUILDING GRIPS – FIRST REVISION
IS 2418	1977		TUBULAR FLUORSCENT LAMPS IS 2418 (FT-1)
IS 2750	1964		STEEL SCAFFOLDINGS
IS 2762	1964		SAFE WORKING LOADS IN KGS FOR WIRE ROPE SLINGS
IS 2878	1986		FIRE EXTINGUISHERS CARBON DIOXIDE TYPE (PORTABLE AND TROLLEY MOUNTED)
IS 2925	1984		SPECIFICATION FOR INDUSTRIAL SAFETY HELMETS
IS 3016	1982		CODE OF PRACTICE FOR FIRE PRECAUTIONS IN WELDING AND CUTTING OPERATIONS- FIRST REVISION
IS 3315	1974		DESERT COOLERS
IS 3521	1989		INDUSTRIAL SAFETY BELTS AND HARNESS
IS 368	1983		IMMERSION WATER HEATERS
IS 3696	1991		SAFETY CODE OF SCAFFOLDS AND LADDERS PART 1 TO 2
IS 3737	1996		LEATHER SAFETY BOOTS FOR WORKERS IN HEAVY METAL INDUSTRIES

IS 374	1979		CEILING FANS INCLUDING REGULATORS
IS 3764	1992		EXCAVATION WORK – CODE OF SAFETY
IS 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 HOT BITUMINOUS MATERIALS
IS 5983	1980		SPECIFICATION FOR EYE PROTECTORS – FIRST REVISION
IS 6234	1986		PORTABLE FIRE EXTINGUISHERS WATER TYPE (STORED PRESSURE)
IS 692	1994		CRITERIA FOR SAFETY AND DESIGN OF STRUCTURES SUBJECTED TO UNDERGROUND BLASTS
IS 6994	1973		SPECIFICATION FOR SAFETY GLOVES

IS 7155	1986		CODE OF RECOMMENDED PRACTICE FOR CONVEYOR SAFETY (PART 1 TO 8)
IS 7205	1974		SAFETY CODE FOR ERECTION OF STRUCTURAL STEEL WORK
IS 7293	1974		SAFETY CODE FOR WORKING WITH CONSTRUCTION MACHINERY
IS 7323	1994		GUIDELINES FOR OPERATIONS OF RESERVOIRS
IS 7812	1975		CODE OF SAFETY FOR MERCURY
IS 7969	1975		SAFETY CODE FOR HANDLING AND STORAGE OF BUILDING MATERIALS
IS 8089	1976		CODE OF SAFE PRACTICE FOR LAYOUT OF OUTSIDE FACILITIES IN AN INDUSTRIAL PLANT
IS 8091	1976		CODE OF PRACTICE FOR INDUSTRIAL PLANT LAYOUT
IS 8095	1976		ACCIDENTS PREVENTION TAGS
IS 818	1968	1997	CODE OF PRACTICE FOR SAFETY AND HEALTH REQUIREMENTS IN ELECTRIC AND GAS WELDING, AND CUTTING OPERATIONS
IS 8448	1989		AUTOMATIC LINE VOLTAGE CORRECTOR (STABILISER)
IS 8519	1977		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR BODY PROTECTION
IS 8520	1977		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR EYE, FACE AND EAR PROTECTION
IS 875	1987		STRUCTURAL SAFETY OF BUILDING: LOADING STANDARD PART 1 TO 5
IS 8807	1978		GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF ARMS AND HANDS
IS 8978	1985		INSTANTANEOUS WATER HEATERS
IS 8989	1978		SAFETY CODE FOR ERECTION OF CONCRETE FRAMED STRUCTURES
IS 940	1989		PORTABLE FIRE EXTINGUISHERS WATER TYPE (GAS CARTRIDGE)
IS 9457	1980		SAFETY COLOURS AND SIGNS
IS 9679	1980		CODE OF SAFETY FOR WORK ENVIRONMENTAL MONITORING
IS 9706	1997		CODE OF PRACTICE FOR THE CONSTRUCTION OF AERIAL RPEWAYS FOR THE TRANSPORTATION OF MATERIAL
IS 9759	1981		GUIDELINES FOR DEWATERING DURING CONSTRUCTION
IS 9815	1989		SERVO MOTOR OPERATED LINE VOLTAGE CORRECTOR (SERVO STABILISER)
IS 9944	1992		RECOMMENDATIONS ON SAFE WORKING LOAD FOR NATURAL AND MAN-MADE FIBRE ROPE SLINGS
IS 996	1979		SINGLE PHASE ELECTRIC MOTORS
ISO 3873	1977		SAFETY HELMET

SECTION-10

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 tenderers, 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 contract 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. Evaluation of offer will be done by BHEL on Total Price of the Rate Schedule.

10.8

Bank Guarantees to be furnished by the Contractor towards Security Deposit and Performance 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 case.

SECTION-11

SPECIAL CONDITIONS

11.0

TIME SCHEDULE - MOBILISATION - PROGRESS AND MONITORING, COMPLETION, ADVANCE, PRICE VARIATION, SALES TAX, WCT ETC.

11.1 INITIAL MOBILIZATION AND CONTRACT PERIOD

11.1.1 INITIAL MOBILIZATION

CONTRACTOR HAS TO MOBILISE THEIR MATERIALS, RESOURCES AND WORK FORCE SO AS TO START THE WORK **WITHIN 7 DAYS OF FAX/TELEGRAPHIC INTIMATION OF AWARD OF WORK**. FURTHER MOBILIZATION OF FRESH RESOURCES AND AUGMENTATION OF EXISTING RESOURCES SHALL BE DONE IN CONSULTATION WITH BHEL IN ALL THE AREAS IN SUCH A MANNER THAT THE ENTIRE WORK IS COMPLETED **WITHIN THE CONTRACT PERIOD**.

11.1.2 CONTRACT PERIOD AND SCHEDULE FOR COMPLETION

THE ENTIRE WORK UNDER THE SCOPE OF THIS CONTRACTN SHALL BE COMPLETED WITHIN **TWO MONTHS** FROM THE DATE OF START OF EXCAVATION.

11.1.2 GRACE PERIOD

Grace period of **ONE MONTH** beyond the contract period of two month is provided for this contract. However, all milestone events as per actual requirement of project schedule shall have to be achieved by the contractor without taking recourse to the Grace Period.

11.2 Progress Monitoring, Contract Extension and Over Run

11.2.1 Progress Monitoring

Progress will be reviewed periodically (daily / weekly / monthly) including month end review vis-a-vis the plans drawn as above. The contractor shall submit periodical progress reports, and other reports / information including manpower, consumables etc as desired by BHEL.

11.2.2 Ascertaining and Establishing the Reasons for Shortfall

The onus probandi that the causes leading to extension of the contract period is not due to any reasons attributable to the contractor is on him (the contractor). Review of the performance as stated vide Clause 11.2.1 above will be made considering the availability of components to be erected and other inputs / constraints over which the contractor has no control. The programme will be reviewed area-wise and the following facts will be recorded in case of shortfall at the end of every month:

11.2.2.1

A) Work specified in this tender not achieved owing to non-availability of fronts.

B) Work specified in this tender not achieved owing to non-availability of materials.

11.2.2.2 Work specified in this tender not achieved owing to non-availability of tools and plants, manpower and consumables by the contractor or any other reason attributable to the contractor.

11.2.2.3 Work specified in this tender not achieved due to any other reasons not attributable to the contractor.

11.3 Contract Extension

11.3.1

If the completion of work as detailed in these specification gets delayed beyond the end of contract period and grace period then depending on the balance work left out, BHEL at its discretion may extend the contract.

11.3.2

A joint programme shall be drawn for the work to be completed during the extended contract period. Review of the program and record of shortfall as describe vide clause 11.2.2 shall be done during the extended period. The overrun charges will be paid in proportion to the achievement of the respective month vis-à-vis the plan for the month (for assessing the performance, the agreed plan shall be reduced by shortfall attributable to the BHEL). BHEL may disallow contractor's claim for over run charges, if the monthly programme as mentioned here not made by him.

11.3.3

The part of extension attributable to the contractor, if any, in total contract extension shall be exhausted first i.e. immediately after end of grace period. This shall be followed by the extension on account of force majeure conditions, if any, and lastly on account of BHEL.

11.4 Overrun Compensation

Not applicable to this contract

11.5 Price Variation

Agreed price/rate shall remain firm through out the contract period including grace period and extended period thereof. No price variation/adjustment shall be applicable for this contract and clause No.2.15 of General Conditions of Contract shall not be applicable.

11.6 Interest Bearing Recoverable Advance

Interest bearing (rate of interest will be 1% per annum more than bank interest rate, 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).

11.7 Definition of Work Completion

The contractor's scope of work under these specifications will deem to have been completed in all respect, only when all the activities are completed satisfactorily and so certified by BHEL site in charge. The decision of BHEL in this regard shall be final and binding on the contractor.

11.8 SECURED ADVANCE

No Secured advance is payable under this contract.

11.9 SPLITTING OF WORK

BHEL reserves the right to split up the work and award to more than one agency in case contractor fails to provide adequate resources, manpower etc. to achieve the desired progress of work

11.10) QUANTITY VARIATION

The quantity of items in BOM is approximate based on estimate and may vary. The payment of these items will be made as per actual qty at site with quoted unit rate. The quoted rates will be valid for any Quantity Variation of each item.

11.11 Liquidated damages (L D)

L D shall be applicable as per General Terms & Conditions (GCC) of contract.

11.12 EXTRA WORK

Rate for Extra work if any required to be executed at site shall be worked out on the following basis.

- Rate shall be derived from the similar nature of item from existing Schedule of Item rates.
- If no similar items are available in existing Schedule, the same shall be worked out as per Analysis of rates of CPWD- 1997 Edition by applying current rate of materials & labour obtained from authentic sources or Finished rate of CPWD (Delhi Schedule of Rate) – 1997 edition plus applicable PVC.

SECTION-12

SPECIAL CONDITIONS SPECIAL CONDITIONS OF CONTRACT

12.0 TERMS OF PAYMENT

12.0.1

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.

12.0.2

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

12.0.3

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

The 5% thus remaining shall 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.

12.0.4

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

12.0.5

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

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

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

12.1. **PROGRESSIVE PAYMENT**

THE ACCEPTED ITEM RATES WILL BE PAID BY BHEL PROGRESSIVELY AGAINST MONTHLY RUNNING ACCOUNT BILLS AS PER THE PERCENTAGE BREAK UP AND STAGE OF COMPLETION OF ITEM OF WORK AS UNDER:

12.1.1 CIVIL WORK S.

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

12.1.1.2 STRUCTURAL WORK

100% OF ITEM RATE ON PRORATA BASIS IN FOLLOWING STAGES:

- (a) 95% OF ITEM RATE ON PRORATA BASIS ON SATISFACTORY COMPLETION AGAINST RA BILL.
- (b) 5% OF ITEM RATE ON PRORATA BASIS ON COMPLETION/CLEARANCE OF ALL PENDING POINTS AND HANDING OVER.

SECTION-13

SPECIAL CONDITIONS OF CONTRACT

13.0 DETAILS TO BE FURNISHED BY THE BIDDERS

Apart from other details called for in the tender document under the various other provisions, the following details shall be submitted by the tenderers along with their offers (Technical Bid). Please also refer the checklist furnished in the beginning of the Tender Specification.

13.1

Contractor shall submit his HQ and Site organization charts.

13.2

Contractor shall submit tentative month-wise plan to match the Completion Schedule as in Section-11 of Special Conditions of Contract.

13.3

Contractor shall furnish the list of major tools and plants owned by them as well as T&P deployment plan for this work.

13.4

Contractor shall furnish the names of engineers, supervisors, and other specialized staff working with him for more than two years.

13.5

Contractor shall furnish month-wise deployment plan of manpower.

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 CONDITIONS OF CONTRACT

15.0 Earnest Money Deposit (EMD) & Security Deposit (SD)

15.1 Earnest Money Deposit:

15.1.1 Earnest Money is to be paid by each tenderer to ensure that the tenderer does not refuse to execute the work after it is awarded to him. **The Earnest Money Deposit shall be Rs. 1,00,000/- (Rupees One Lakhs Only).**

One time EMD will be Rs. 2 lakhs.

EMD is to be collected in cash (as permissible under Income Tax Act), Pay order or Demand Draft only. **DD SHOULD BE MADE IN FAVOR OF—‘BHARAT HEAVY ELECTRICALS LIMITED’**

15.1.2 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.

15.1.3 EMD shall not carry any interest.

15.1.4 In the case of unsuccessful bidders, the Earnest Money will be refunded to them after acceptance of tender by successful bidder.

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:

Value of Work	Rate of SD
Up to Rs. 10 lakhs	10%
Above Rs. 10 lakhs up to Rs.50 lakhs	1 lakh + 7.5% of the amount exceeding Rs. 10 lakhs.
Above Rs. 50 lakhs	Rs 4 lakhs + 5% of the amount exceeding Rs. 50 lakhs

The Security Deposit shall be collected before start of the work by the contractor.

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 favor of BHEL.
- iii) Local cheques of scheduled banks, subject to realization.

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 favor of BHEL and discharged on the back).

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.

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.

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 collected by DD/Bank Guarantee before start of the work and the balance 50% may be recovered from the running bills.

EMD of the successful tenderer may be converted and adjusted against the security deposit or specific request by the contractor.

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 favor 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

LIST OF TENDER DRAWINGS

SR.NO.	TITLE OF DRAWING	DRAWING NO.	NO. OF COPIES.
01	GAS INTERCONNECTION RCC DETAILS	1-35142-03370	01
02	FDN DETAILS	4-38142-00331	01

NOTE:

1. THESE DRAWINGS ARE THE PROPERTY OF BHEL AND SHOULD NOT BE MADE USE OF BY THE CONTRACTOR EXCEPT FOR THE PURPOSE OF IMPLEMENTING THIS CONTRACT. ALL THESE DRAWINGS SHOULD BE RETURNED TO BHE DULY SIGNED AS PROOF OF ACKNOWLEDGEMENT/SEEN THE DRAWING.
2. THESE DRAWINGS ARE ISSUED ONLY FOR TENDERING PURPOSE AND FOR THE INFORMATION OF BIDDER TO ASSESS THE WORK. THE EXECUTION OF WORK SHALL HOWEVER BE AS PER THE LATEST DRAWINGS RELESAED FOR CONSTRUCTION THAT WILL BE MADE AVAILABLE DURING EXECUTION, WITHOUT ANY ADDITIONAL FINANCIAL IMPLICATION.
3. THE INTERPRETATION OF BHEL ENGINEER REGARDING THE DETAILS SHOWN IN THE DRAWINGS SHALL BE FINAL, CONCLUSIVE AND BINDING.

APPENDIX-II

LIST OF TOOL AND PLANTS TO BE PROVIDED BHEL

BHEL WILL NOT PROVIDE TOOLS & TACKLES , MATERIAL, CONSUMABLES ETC .

APPENDIX-III
ANALYSIS OF UNIT RATE QUOTED

SL. NO.	DESCRIPTION	% OF UNIT RATE QUOTED	REMARKS (IF ANY)
01	SITE FACILITIES VIZ., ELECTRICITY, WATER, WORKSHOP AND OTHER INFRASTRUCTURE		
02	CEMENT, STEEL, STRUCTURES, AND ALL MATERIALS		
03	SALARY & WAGES		
04	CONSUMABLES		
05	DEPRECIATION & MAINTENANCE FOR T&P AND OTHER ITEMS		
06	ESTABLISHMENT & ADMINISTRATION EXPENSES OF SITE		
07	RETRENCHMENT BENEFIT		
08	OVERHEADS		
09	PROFIT		

DATE:

SIGNATURE OF THE TENDERER

Appendix – IV

LIST OF TOOLS AND PLANTS TO BE DEPLOYED FOR CIVIL & STR. WORKS:

SR.NO.	DESCRIPTION	QTY	REMARKS
01	Concrete mixers with weigh batchers	01 no.	As per site requirement.
02	DG SET	01 No.	As per site requirement
03	JCB	01	As per site requirement
04	Tippers/Trucks	01	As per site requirement
07	Well point dewatering system	01 set	As per site requirement (As the water table is just at an average depth of 01Metre from Existing Ground level.)
08	Dewatering Pumps (electrically operated 10HP-50HP/diesel operated as stand by)	01 Nos.	
09	Tractor & trolleys		AS PER REQUIREMNET
10	VIBRATORS		As per site requirement
11	Shuttering materials for rafts		AS PER REQUIREMENT
12	High Lift Curing pumps	01 No.	
13	THEODOLITE OF 1SEC ACCURACY	01	As required.

Appendix -V

Civil Laboratory: The Contractor should establish his own civil laboratory or testing to be arranged outside from approved lab.

Sr.no.	Description of equipment	QTY	Remarks
01	Cube Testing Machine	01Nos.	
02	Cube moulds (15cm)	30Nos.	
03	Sieve sets for Coarse & fine aggregates		As required per relevant IS code.
04	Electrical oven	01Set	
05	Measuring jars for various capacity		As required
06	Weights		As required
07	Physical balance	01Nos.	
08	Slump Testing Cone	02Nos.	
09	Welding bend test machine	01Nos.	
10	Cement testing equipment	01 set	

11	Ultrasonic machine	01Nos.	
12	Proctor Density test equipment	01Nos.	
13	Impact test, Crushing strength & Absorption test machine, flaky index testing equipment for coarse aggregate.	Each 01 nos.	
14	Other misc. items/equipments.		

APENDIX-VI
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	SO ON	
01	RESIDENT ENGINEER												
02	ENGINEERS												
03	SUPERVISORS												
04	MATERIALS MANAGEMENT SUPERVISORS												
05	SAFETY ENGINEER												
06	WELDER												
07	PLUMBERS												
08	CARPENTERS												
09	BAR BENDERS												
10	TRUCK/TRAILER DRIVERS, CONCRETE MIXTURE OPERATORS												
11	SAFETY ENGINEER												
12	STORE KEEPERS												
13	ELECTRICIANS												
14	SEMISKILLED/ UNSKILLED WORKERS												
15	MASONS												
SO ON													
	MONTH WISE TOTAL												

SIGNATURE OF TENDERER

DATE:

**APPENDIX-VII
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	ANTICIPA- TED COMPLN. DATE	REMARKS

DATE

SIGNATURE OF THE TENDERER

APPENDIX–VIII

DETAILS OF SIMILAR WORK DONE DURING THE LAST SEVEN YEARS

SL.NO.	FULL POSTAL ADDRESS OF CLIENT & NAME OF OFFICER IN CHARGE	DESCRIPTION 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								
6								

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

APPENDIX-IX

FORMAT FOR DEPLOYMENT PLAN FOR MAJOR TOOLS AND PLANTS FOR CIVIL & STRUCTURAL EQUIPMENTS & AS GIVEN IN APPENDIX-V

*** USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

SN	DESCRIPTION T&P	QUANTITY OF DEPLOYMENT IN THE MONTH					
		1	2	3	4	5	6 AND SO ON
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							

APPENDIX- X

FORMAT FOR ESTABLISHMENT OF CIVIL LABORATORY AS GIVEN IN APPENDIX-VI

- **USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

	LSIT OF EQUIPMENT	QUANTITY OF DEPLOYMENT IN THE MONTH					
01		1	2	3	4	5	6..... and so on
02							
03							
04							
05							
06							
07							
08							
09							
10							