

# **TENDER SPECIFICATION**

## **No BHE/PW/PUR/RILNG-MMS/565**

### **FOR**

THE WORK OF RECEIPT OF MATERIALS, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION AND HANDING OVER OF CIVIL STRUCTURAL AND RE-INFORCEMENT MATERIALS, COMPONENTS OF HRSG & AUXILIARIES, GAS TURBINE & AUX, GT GENERATOR & AUX, STEAM TURBINE & AUXILIARIES, TURBO-GENERATOR & AUXILIARIES, CONTROLS AND INSTRUMENTATION OF HRSG & TG PACKAGES, ELECTRICAL PACKAGES INCLUDING GENERATOR TRANSFORMERS AND OTHER TRANSFORMERS, DG SET, HP & LP PIPING, REFRACTORY & INSULATION, PEM BOIs ETC AND ANY OTHER PROJECT MATERIALS, BHEL'S T & P AND COMPONENTS & EQUIPMENTS OF VARIOUS OTHER ITEMS AND PROVIDING SERVICES FOR MATERIALS MANAGEMENT FOR 1x 345.6 MW COMBINED CYCLE CAPTIVE POWER PROJECT

AT

### **RELIANCE INDUSTRIES LIMITED**

P.O. NAGOTHANE, TALUKA ROHA ,

DISTT. RAIGAD, PIN : 402125

MAHARASHTRA STATE,

PART:I - TECHNICAL BID

BOOK NO.



### **BHARAT HEAVY ELECTRICALS LIMITED**

(A GOVERNMENT OF INDIA UNDERTAKING)

POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345, KINGSWAY - NAGPUR 440 001

# CONTENTS

Page no 1 OF 2

| SN   | DESCRIPTION  | SECTION/<br>APPENDIX NO. | NO. OF<br>PAGES |
|------|--|--------------------------|-----------------|
| 01   | TENDER SPECIFICATION ISSUE DETAILS   | --                       | 1               |
| 02   | PROCEDURE FOR SUBMISSION OF SEALED TENDER  | --                       | 2               |
| 03   | PROJECT INFORMATION  | --                       | 1               |
| 04   | CHECK LIST   | --                       | 1               |
| 05   | DECLARATION BY BIDDER'S AUTHORISED SIGNATORY   | --                       | 1               |
| 06   | CERTIFICATE OF NO DEVIATION  | --                       | 1               |
| 07   | CERTIFICATE CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS                               | --                       | 1               |
| 08   | NIT and GENERAL CONDITIONS OF CONTRACT   | SECTION-1 & 2            | \$              |
| 09   | OFFER OF CONTRACTOR  | SECTION-3                | 1               |
| ---- | <b>SPECIAL CONDITIONS OF CONTRACT:</b>   | -----                    | -----           |
| 10   | SCOPE OF WORK  | SECTION -4               | 09              |
| 11   | OBLIGATIONS OF THE CONTRACTOR (TOOLS AND TACKLES, CONSUMABLES, INFRASTRUCTURES ETC.) | SECTION -5               | 03              |
| 12   | OBLIGATIONS OF THE CONTRACTOR (EMPLOYMENT OF SUPERVISORY STAFF AND WORKMEN)          | SECTION -6               | 01              |
| 13   | OBLIGATIONS OF BHEL  | SECTION -7               | 02              |
| 14   | INSPECTION, QUALITY ASSURANCE, QUALITY CONTROL AND STATUTORY INSPECTION              | SECTION -8               | 01              |
| 15   | SAFETY, OCCUPATIONAL HEALTH AND ENVIRONMENTAL MANAGEMENT                             | SECTION -9               | 13              |
| 16   | DRAWINGS AND DOCUMENTS   | SECTION -10              | 01              |
| 18   | TIME SCHEDULE, QUANTITY VARIATION, PRICE VARIATION ETC                               | SECTION -11              | 03              |
| 19   | TERMS OF PAYMENT   | SECTION -12              | 02              |
| 20   | EXTRA CHARGES FOR MODIFICATION & RECTIFICATION                                       | SECTION -13              | 01              |
| 21   | INSURANCE  | SECTION -14              | 02              |
| 22   | EARNEST MONEY DEPOSIT AND SECURITY DEPOSIT   | SECTION-15               | 02              |
| 23   | RATE SCHEDULE (PART-II: PRICE BID)   | -----                    | @               |

# CONTENTS

Page no 2 OF 2

|   | APPENDICES   |               |    |
|---|--|---------------|----|
| 1 | LIST OF MAJOR T&P TO BE PROVIDED BY BHEL<br>ONSHARING BASIS          | APPENDIX-I    | 01 |
| 2 | LIST OF MAJOR T& P TO BE DEPLOYED BY CONTRACTOR                      | APPENDIX-II   | 01 |
| 3 | LIST OF SIMILAR JOBS COMPLETED BY BIDDER IN LAST<br>SEVEN YEARS      | APPENDIX-III  | 01 |
| 4 | DETAILS OF BIDDER'S CURRENT COMMITMENTS                              | APPENDIX-IV   | 01 |
| 5 | MONTHWISE MANPOWER DEPLOYMENT PLAN (Material<br>Handling)            | APPENDIX-V    | 01 |
| 6 | MONTHWISE MANPOWER DEPLOYMENT PLAN (Material<br>Management Services) | APPENDIX-VI   | 01 |
| 7 | MAJOR T&P DEPLOYMENT PLAN  | APPENDIX-VII  | 01 |
| 8 | ANALYSIS OF UNIT RATES QUOTED  | APPENDIX-VIII | 01 |

## LEGEND:

\$: Included in Tender Specifications Part-I. Hosted in BHEL web page ([www.bhel.com](http://www.bhel.com)) as file titled "**NIT+GCC-565**".

@: Issued as separate hard copy booklet 'Tender Specifications Part-II (Price Bid)'. Hosted in BHEL web page ([www.bhel.com](http://www.bhel.com)) as file titled "**PRICE BID-565**"

## **Note:**

Rest of the tender documents are included in Tender Specifications Part-I. Hosted in BHEL web page ([www.bhel.com](http://www.bhel.com)) as file titled "**TECH BID-565**"

# **BHARAT HEAVY ELECTRICALS LIMITED**

*(A GOVERNMENT OF INDIA UNDERTAKING)*

POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345, KINGSWAY - NAGPUR 440 001

## **TENDER SPECIFICATION NO. BHE/PW/PUR/RILNG-MMS/565**

**NAME OF THE WORK:** THE WORK OF RECEIPT OF MATERIALS, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION AND HANDING OVER OF CIVIL STRUCTURAL AND REINFORCEMENT MATERIALS, COMPONENTS OF HRSG & AUXILIARIES, GAS TURBINE & AUX, GT GENERATOR & AUX, STEAM TURBINE & AUXILIARIES, TURBO-GENERATOR & AUXILIARIES, CONTROLS AND INSTRUMENTATION OF HRSG & TG PACKAGES, ELECTRICAL PACKAGES INCLUDING GENERATOR TRANSFORMERS AND OTHER TRANSFORMERS, DG SET, HP & LP PIPING, REFRACTORY & INSULATION, PEM BOIs ETC AND ANY OTHER PROJECT MATERIALS, BHEL'S T & P AND COMPONENTS & EQUIPMENTS OF VARIOUS OTHER ITEMS AND PROVIDING SERVICES FOR MATERIALS MANAGEMENT FOR 1x 345.6 MW COMBINED CYCLE CAPTIVE POWER PROJECT

AT

### **RELIANCE INDUSTRIES LIMITED**

P.O. NAGOTHANE, TALUKA : ROHA ,

DISTT. RAIGAD, PIN : 402125

MAHARASHTRA STATE,

**EARNEST MONEY DEPOSIT: Rs. 2,00,000.00 (Rs. TWO LAKH ONLY) BY A/c PAYEE DEMAND DRAFT DRAWN IN FAVOUR OF 'BHARAT HEAVY ELECTRICALS LIMITED' PAYABLE AT NAGPUR**

LAST DATE AND TIME FOR

SUBMISSION OF OFFERS: PLEASE REFER NOTICE INVITING TENDER IN WEB PAGE ([www.bhel.com](http://www.bhel.com)) FOR LATEST UPDATES.

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING **PART-I** TECHNICAL BID AND **PART- II** PRICE BID, ARE ISSUED TO:

M/s .....

.....

(THESE TENDER SPECIFICATION DOCUMENTS ARE **NOT TRANSFERABLE**)

FOR BHARAT HEAVY ELECTRICALS LIMITED,

DGM (PURCHASE)

PLACE: NAGPUR

## **BHARAT HEAVY ELECTRICALS LIMITED**

*(A Government of India Undertaking)*  
POWER SECTOR - WESTERN REGION  
345, KINGSWAY - NAGPUR 440 001

### **PROCEDURE FOR SUBMISSION OF SEALED TENDERS**

The bidder must submit his tender as required in two parts in separate sealed covers prominently superscribed as 'Part-I Technical Bid' and 'Part-II Price Bid' and also indicating on each of the covers the tender specification number and due date and time as mentioned in the Notice Inviting Tender.

#### **Part-I (Technical Bid) cover-I:**

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

#### **EARNEST MONEY DEPOSIT (EMD)**

EMD shall be included in the Technical Bid. **EMD shall be paid by bidders only in the form of account payee Demand Draft payable at Nagpur in favour of Bharat Heavy Electricals Limited.** No other mode of payment of EMD shall be acceptable. Provisions under clause no. 1.4 of the General Conditions of the Contract shall stand withdrawn for this tender.

Bidder may opt to deposit "One Time EMD" of Rs. 2.0 lacs with this office (BHEL: PSWR: Nagpur), which will enable them to participate in all the future tender enquiries in respect of Erection and Commissioning services issued from this office. Interested bidders may clearly send their consent for converting the present EMD into a "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) ALONGWITH REQUISITE EMD AS INDICATED EARLIER AND THIS SEALED COVER SHALL BE SUPERSCRIBED AND SUBMITTED TO ADDL. GENERAL MANAGER (PURCHASE) AT THE ABOVE MENTIONED ADDRESS ON OR BEFORE THE DUE DATE AS INDICATED.

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

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

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

2. CONTRACTOR SHOULD HAVE SOUND FINANCIAL STABILITY.
3. TENDERER SHOULD MEET QUALITY REQUIREMENT REGARDING WORKMANSHIP, DEPLOYMENT OF PERSONNEL, ERECTION TOOLS AND NECESSARY INSPECTION, MEASUREMENT & TESTING INSTRUMENTS.
4. BIDDER SHALL MEET ALL THE QUALIFYING REQUIREMENTS AS MENTIONED IN THE NOTICE INVITING TENDER.
5. ALL INFORMATION AS CALLED FOR IN VARIOUS APPENDICES AND CLAUSES OF TENDER SPECIFICATION, SHOULD BE FURNISHED. PLEASE REFER THE CHECKLIST. THE DETAILS SO FURNISHED BY TENDERER SHOULD BE COMPLETE IN ALL RESPECTS AND AS PER FORMATS SPECIFIED IN TENDER SPECIFICATION.
6. OFFERS RECEIVED WITH ANY DEVIATION OR WITHOUT RELEVANT INFORMATION AS DESCRIBED ABOVE ARE LIABLE TO BE REJECTED. PRICE BIDS RECEIVED IN THE FORM OTHER THAN SPECIFIED IN PART-II (PRICE BID) ARE LIABLE TO BE REJECTED.
7. **TENDERER SHALL NOTE THAT THEIR OFFER WILL BE CONSIDERED SUBJECT TO THE APPROVAL OF BHEL'S CUSTOMER.**

## PROJECT INFORMATION

### INTRODUCTION

M/s. RELIANCE INDUSTRIES LIMITED, as Owner proposes to set up a Combined Cycle Captive Power Plant, at Nagothane in the state of Maharashtra, India based on Natural gas from KG Basin as feedstock. A Combined Cycle Power Plant (CCPP) is to be installed to meet the Steam & Power requirements.

The Power Plant comprising of Steam & Power generation, Emergency Power supply system along with associated facilities.

### SITE LOCATION

The site is located Near National Highway NH-17, which connects Panvel to Goa. The nearest railway station is Nagothane. The nearest port is Jawaharlal Nehru Port Trust, Navi Mumbai, which is approx. 70 Km from the site. The nearest airport is at Mumbai, which is approx. 100 Km.

### CLIMATIC CONDITIONS

|                                      |   |   |
|--------------------------------------|---|---|
| a) Maximum temperature               | : | 43.0 Deg Celsius  |
| b) Minimum temperature               | : | 9.4 Deg Celsius   |
| c) Average temperature               |   | 33.0 Deg Celsius  |
| d) Average Mean Dry bulb temperature | : | 35.0°C(For CCPP performance)  |
| e) Average Mean Wet bulb temperature | : | 29.0°C<br><br>(For CCPP performance)<br><br>(For Cooling Tower performance) |
| c) Maximum Relative Humidity         | : | 96% at 28 deg C   |
| d) Minimum Relative Humidity         | : | 15% at 24 deg C   |
| e) Average Relative Humidity         |   | 60% at 35 deg C   |
| e) Total Annual rainfall             | : | 3512 mm   |
| f) Seismic Zone                      | : | IV as per IS 1893-2005(Part IV)   |
| g) Height above MSL                  | : | 9.0 M   |
| h) Wind speed                        | : | 8 km/hr (Normal)& Maximum as per IS code                                    |

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

## CHECK LIST

(VIDE PARA 1.3 OF SECTION-I OF GENERAL CONDITIONS OF CONTRACT)

|    |   |   |    |
|----|---|---|----|
| 1  | NAME OF THE TENDERER WITH ADDRESS   |   |    |
| 2  | NATURE OF THE FIRM  | Proprietary Firm / Partnership Firm / Limited Company |    |
| 3  | EMD DETAILS (Rs. 2.00 LACS BY DD ONLY OR ONE TIME EMD)  |   |    |
| 4  | VALIDITY OF OFFER (REQUIRED 6 MONTHS FROM DUE DATE)   |   |    |
| 5  | MOBILIZATION TIME (NOT EXCEEDING TWO WEEKS FROM FAX LOI)  |   |    |
| 6  | WHETHER <b>NO DEVIATION CERTIFICATE</b> FURNISHED   | YES   | NO |
| 7  | BIDDER HAS VISITED THE PROJECT SITE AND ACQUAINTED WITH THE SITE CONDITIONS                               | YES   | NO |
| 8  | DETAILS OF CONCURRENT JOBS ARE FURNISHED (AS PER APPENDIX-III)  | YES   | NO |
| 9  | HEAD QUARTER'S ORGANISATION IS FURNISHED  | YES   | NO |
| 10 | PROPOSED SITE ORGANISATION IS FURNISHED   | YES   | NO |
| 11 | FINANCIAL STATUS OF THE COMPANY (ANNEXURE 'A' OF GCC) IS FURNISHED  | YES   | NO |
| 12 | PROFIT & LOSS ACCOUNT FOR PRECEDING THREE YEARS IS FURNISHED  | YES   | NO |
| 13 | LATEST SOLVENCY CERTIFICATE FROM THE BANKER IS FURNISHED  | YES   | NO |
| 14 | LATEST INCOME TAX CLEARANCE CERTIFICATE OR COPY OF PAN CARD ACCOMPANIED BY 'IT RETURN' COPY IS FURNISHED  | YES   | NO |
| 15 | MANPOWER DEPLOYMENT PLAN (APPENDIX-IV) IS FURNISHED   | YES   | NO |
| 16 | MONTHWISE DEPLOYMENT PLAN FOR MAJOR T&P (APPENDIX-V) IS FURNISHED   | YES   | NO |
| 17 | ANALYSIS OF UNIT RATES QUOTED (APPENDIX -VI) IS FURNISHED   | YES   | NO |
| 18 | POWER OF ATTORNEY ENCLOSED IN FAVOUR OF PERSON MAKING OFFER.  | YES   | NO |
| 19 | DETAILS OF SIMILAR WORK DONE IN LAST SEVEN YEARS AS PER APPENDIX – II AND SUPPORTING DOUCMENTS FURNISHED. | YES   | NO |
| 20 | BIDDER HAS FAMILIARIZED HIMSELF WITH ALL RELEVANT LOCAL LAWS & CONDITIONS.                                | YES   | NO |
| 21 | WHETHER ALL THE PAGES OF THE TENDER DOCUMENTS ARE READ, UNDERSTOOD AND SIGNED                             | YES   | NO |

NOTE: STRIKE OFF **YES** OR **NO**, AS APPLICABLE

DATE:

SIGNATURE OF TENDERER



## DECLARATION BY BIDDER'S AUTHORIZED SIGNATORY

I, \_\_\_\_\_, HEREBY CERTIFY THAT ALL THE INFORMATION AND DATA FURNISHED BY ME WITH REGARD TO THIS TENDER SPECIFICATION No. **BHE/PW/PUR/RILNG-MMS/565** 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 AUTHORISED REPRESENTATIVE OF THE UNDERMENTIONED BIDDER AND A VALID POWER OF ATTORNEY TO THIS EFFECT IS ALSO ENCLOSED.**

DATE:

SIGNATURE OF AUTHORIZED SIGNATORY WITH SEAL

## **CERTIFICATE OF NO DEVIATION**

**REFERENCE: TENDER SPECIFICATION No. BHE/PW/PUR/RILNG-MMS/565**

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

**HEREBY CERTIFY THAT IN OUR OFFER I/WE HAVE NEITHER SET ANY TERMS AND CONDITIONS NOR THERE ANY DEVIATION TAKEN FROM THE CONDITIONS OF CONTRACT, EITHER TECHNICAL OR COMMERCIAL, AND I/WE AGREE TO ALL THE TERMS AND CONDITIONS MENTIONED IN THE TENDER SPECIFICATION UNDER REFERENCE ABOVE INCLUDING NOTICE INVITING TENDER, ALL ASSOCIATED CLARIFICATIONS AND AMENDMENTS.**

DATE:

SIGNATURE OF THE TENDERER

**CERTIFICATE CONFIRMING  
KNOWLEDGE ABOUT SITE CONDITIONS**

We, M/s .....

hereby declare and confirm that we have visited the project site as referred in BHEL's Tender Specification No. BHE/PW/PUR/RILNG-MMS/565 and acquired full knowledge and information about the site conditions. 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.

BIDDER'S NAME AND ADDRESS : .....

SIGNATURE & OFFICIAL SEAL OF  
AUTHORISED SIGNATORY

PLACE:

DATE:

## SECTION-3

### OFFER OF THE CONTRACTOR

To,  
THE Dy. GENERAL MANAGER (PURCHASE)  
BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR - WESTERN REGION  
SHREEMOHINI COMPLEX  
345, KINGSWAY  
NAGPUR- 440 001

DEAR SIR,

I/WE HEREBY OFFER TO CARRY OUT THE WORK DETAILED IN TENDER SPECIFICATION NO.BHE/PW/PUR/RILNG-MMS/565 ISSUED BY BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR-WESTERN REGION, NAGPUR, IN ACCORDANCE WITH THE TERMS AND CONDITIONS THEREOF.

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

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

I/WE HAVE DEPOSITED / FORWARDED HERewith THE EARNEST MONEY DEPOSIT FOR A SUM OF RS. 1,50,000/- (RUPEES ONE LAKH FIFTY THOUSAND ONLY) DETAILS OF EMD PAYMENT ARE FURNISHED IN THE CHECK LIST.

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

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

PLACE:  
DATE :

SIGNATURE OF BIDDER:  
ADDRESS:

WITNESSES WITH THEIR ADDRESS

| SIGNATURE | NAME | ADDRESS |
|-----------|------|---------|
| 1.        |      |         |
| 2.        |      |         |

## **SECTION-4**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **SCOPE OF WORK**

##### **4.1 BROAD SCOPE OF WORK**

THE SCOPE OF WORK OF THIS TENDER SPECIFICATION OF MATERIAL HANDLING AND MATERIALS MANAGEMENT SERVICES FOR 1X345.6 MW COMBINED CYCLE POWER PROJECT, AT RIL NAGOTHANE SHALL BROADLY BE AS UNDER:

- UNLOADING OF CIVIL STRUCTURAL AND RE-INFORCEMENT STEEL ETC
- UNLOADING OF ALL TYPES OF HEAVY CONSIGNMENTS AND/OR OD CONSIGNMENTS (e.g., HRSG DRUMS, GAS TURBINE, GT & ST GENERATORS, GENERATOR TRANSFORMERS ETC) DIRECTLY FROM TRAILORS/WAGONS BY SUITABLE CRANE OR BY JACK AND SLEEPER METHOD (ALL TO BE ARRANGED BY THE CONTRACTOR), INCLUDING LEVELLING OF THE UNLOADING AREA AND ATTENDANT WORK.
- RECEIPT OF MATERIALS DISPATCHED BY ROAD TRANSPORT ON DOOR DELIVERY BASIS AT THE BHEL STORES AND UNLOADING THEREOF.
- COLLECTION OF MATERIALS DISPATCHED BY ROAD TRANSPORT/ RAIL ON GODOWN DELIVERY BASIS FROM TRANSPORTERS'/RAILWAY GODOWNS, LOADING AT TRANSPORTERS/ RAILWAY GODOWN, LOCAL TRANSPORT UP TO BHEL STORES/ STORAGE YARD AND UNLOADING THEREOF.
- PRELIMINARY VERIFICATION OF MATERIALS AT THE TIME OF UNLOADING FROM ROAD TRANSPORT VEHICLE OR WHILE RECEIVING CONSIGNMENTS FROM RAILWAY/ TRASPORTERS' GODOWN - AS THE CASE MAY BE, REPORTING IMMEDIATELY THE DISCREPANCIES LIKE DAMAGES AND SHORTAGES NOTICED.
- DETAILED VERIFICATION OF MATERIALS WITH REFERENCE TO PACKING LIST AND LOADING ADVICE SLIP AFTER UNPACKING OF BOXES & CRATES; REPACKING, WHERE CALLED FOR, AFTER DETAILED VERIFICATION; PREPARATION OF RECEIPT INSPECTION REPORTS.
- STACKING AND STORING AT BHEL OPEN STORAGE YARD/ COVERED STORES/ CLOSED & SEMI-CLOSED SHEDS, SUBMISSION OF STACKING/STORING RECORDS.
- PRESERVATION OF THE MATERIALS IN ACCORDANCE WITH BHEL'S PRESERVATION MANUAL AND/OR AS PER BHEL'S INSTRUCTIONS.
- GENERAL CLEANING, GRASS CUTTING AND UPKEEP OF STORAGE YARD, COVERED AND SEMI-CLOSED STORES SHEDS WITHIN THE QUOTED RATES FOR UNLOADING, VERIFICATION AND STACKING.
- PROVIDING MATERIALS MANAGEMENT SERVICES (REFER CLAUSE NO. 4.12.).

- REHANDLING AND RESTACKING OF MATERIALS AS AND WHEN CALLED FOR BY BHEL. THIS ALSO INCLUDES EXCESS/REDUNDANT/ SCRAP MATERIALS RETURNED TO STORES BY BHEL'S CONSTRUCTION & ERECTION CONTRACTORS.
- HANDLING AND LOADING OF OUTGOING MATERIALS THOSE ARE TO BE SENT TO OTHER DESTINATIONS.

**SCOPE OF WORK IS FURTHER DETAILED IN VARIOUS CLAUSES HEREAFTER.**

**4.2 MAJOR PACKAGES TO BE HANDLED ARE AS UNDER:**

1. CIVIL STRUCTURALS SUCH AS PLATES OF VARIOUS THICKNESSES, ROLLED SECTIONS ETC AND RE-INFORCEMENT STEELS AS BHEL SUPPLIES (UNLOADING OF CEMENT AND OTHER ITEMS IN THE SCOPE OF CIVIL AGENCY ARE NOT IN THIS SCOPE OF WORK)
2. HRSG AND ITS AUXILIARIES INCLUDING STEEL STACK. MODULES OF HRSG ARE EXPECTED TO BE ABOUT 23 M LONG
3. GAS TURBINE – GENERATOR SET AND ITS AUXILIARIES, ASSOCIATED EQUIPMENTS ETC INCLUDING BOIs
4. STEAM TURBINE – GENERATOR SET AND ITS AUXILIARIES INCLUDING PUMPS, HEAT EXCHANGERS, CONDENSER ETC
5. DG SET AND ITS ACCESSORIES AND AUXILIARIES
6. HRSG & AUXILIARIES PACKAGE CONTROLS & INSTRUMENTATION AND ACCESSORIES AND CABLES, TRAYS ETC
7. GT-GTG & AUX PACKAGE CONTROLS AND INSTRUMENTATION AND ACCESSORIES
8. ST-TG & AUX PACKAGE CONTROLS AND INSTRUMENTATION AND ACCESSORIES
9. GENERATOR TRANSFORMER PACKAGE, STATION TRANSFORMER, UNIT AUXILIARY TRANSFORMER AND OTHER TRANSFORMER PACKAGES WITH AUXILIARIES
10. STATION C&I PACKAGE
11. COMPLETE ELECTRICAL PACKAGE INCLUDING BUS DUCTS, CABLING, PANELS, SWITCH GEARS, LIGHTING, MOTORS ETC
12. GENERATOR PROTECTION RELAY PANELS AND AUXILIARIES
13. POWER CYCLE AND TG CYCLE PIPINGS, LP PIPINGS, TANKS, VESSELS ETC.
14. THERMAL INSULATION PACKAGE INCLUDING REFRACTORY
15. OTHER BHEL SUPPLIED (MANUFACTURED/BOUGHT OUT ITEMS) PACKAGES
16. CONSTRUCTION EQUIPMENTS OF BHEL AND OTHER ITEMS RECEIVED FROM OTHER SITES/LOCATIONS.

SOME OF THE MAJOR HEAVY / OD CONSIGNMENTS ARE:

| SL.NO. | DESCRIPTION                             | APPROX WT |
|--------|---|-----------|
| 01     | BOILER DRUM                             |           |
|        | A) HP DRUM                              | 170 MT    |
|        | B) IP DRUM                              | 30 MT     |
|        | C) LP DRUM                              | 25 MT     |
| 02     | ROTOR FOR THE TG                        | 37 MT     |
| 03     | ROTOR FOR THE GTG                       | 45 MT     |
| 04     | GENERATOR TRANSFORMER                   | 250 MT    |
| 05     | STEAM TURBINE(COMBINED HP-IP(K) MODULE) | 113 MT    |

THE WEIGHT INDICATED ABOVE ARE ONLY THE TENTATIVE INDICATION AND SHOULD IN NO WAY BECOME A BASIS FOR ANY CLAIM ON ACCOUNT OF ANY VARIATION IN ACTUAL WEIGHT. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS INCLUDING ALL T & P SUCH AS CRANE/ SLEEPERS ETC TO UNLOAD THESE AT THE LOCATIONS/ ON RESPECTIVE FOUNDATIONS AS INSTRUCTED BY BHEL ENGINEER.

#### **SPECIFIC EXCLUSIONS:**

UNLOADING OF FOLLOWING EQUIPMENTS ARE SPECIFICALLY EXCLUDED FROM THE SCOPE OF WORK:

1. GAS TURBINE
2. GENERATOR FOR GAS TURBINE
3. GENERATOR FOR STEAM TURBINE

#### **4.3**

THE INTENT OF SPECIFICATION IS TO PROVIDE MATERIAL HANDLING AND MATERIALS MANAGEMENT SERVICES ACCORDING TO THE MOST MODERN AND PROVEN TECHNIQUES AND CODES. THE OMISSION OF SPECIFIC REFERENCE TO ANY METHOD, EQUIPMENT OR MATERIALS NECESSARY FOR PROPER AND EFFICIENT UNLOADING, TRANSPORTATION, VERIFICATION, STACKING & PRESERVATION ETC SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF PROVIDING SUCH FACILITIES TO COMPLETE THE WORK WITHOUT ANY EXTRA COMPENSATION.

#### **4.4**

THE WORK SHALL BE EXECUTED UNDER USUAL CONDITIONS AFFECTING MAJOR THERMAL POWER PROJECTS IN AN EXISTING POWER PLANT AND IN CONJUNCTION WITH NUMEROUS OTHER OPERATIONS AT SITE. THE CONTRACTOR AND HIS PERSONNEL SHALL COOPERATE WITH PERSONNEL OF CUSTOMER'S CONTRACTORS, 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**

ALL THE WORK SHALL BE CARRIED OUT AS PER THE INSTRUCTIONS OF BHEL ENGINEER. BHEL ENGINEER'S DECISION REGARDING CORRECTNESS OF THE WORK AND METHOD OF WORKING SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

#### **4.6**

THE CONTRACTOR SHALL PERFORM ALL REQUIRED SERVICES WHICH MAY NOT BE SPECIFIED HEREIN BUT NEVERTHELESS REQUIRED FOR THE COMPLETION OF WORK WITHIN QUOTED RATES.

#### **4.7**

ALL NECESSARY CERTIFICATES AND LICENSES REQUIRED TO CARRY OUT THIS WORK ARE TO BE ARRANGED BY THE CONTRACTOR EXPEDITIOUSLY.

#### **4.8**

ALL CRANES, TRANSPORT EQUIPMENTS, HANDLING EQUIPMENT, TOOLS, TACKLES, FIXTURES, EQUIPMENT, MANPOWER, SUPERVISORS/ENGINEERS, CONSUMABLES (EXCLUDING THOSE INDICATED AS BHEL SCOPE), ETC REQUIRED FOR THIS SCOPE OF WORK SHALL BE PROVIDED BY THE CONTRACTOR.

#### 4.9

ALL EXPENDITURE INCLUDING TAXES AND INCIDENTALS IN THIS CONNECTION WILL HAVE TO BE BORNE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED IN THE RELEVANT CLAUSES ELSEWHERE IN THESE SPECIFICATIONS. THE CONTRACTOR'S QUOTED RATES SHALL INCLUDE ALL SUCH CONTINGENCIES. IN THIS CONNECTION REFER RELEVANT CLAUSE OF GENERAL CONDITIONS OF CONTRACT.

### **4.10 RESPONSIBILITIES OF CONTRACTOR AND SCOPE OF WORK RECEIPT, UNLOADING, VERIFICATION AND STACKING ETC**

#### 4.10.1

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP IN TOUCH WITH OFFICIALS OF BHEL REGARDING ADVANCE INFORMATION ABOUT ARRIVAL OF CONSIGNMENTS. THE CONTRACTOR SHALL COLLECT LORRY WAY BILLS, RAILWAY RECEIPTS OR OTHER SUCH DESPATCH DOCUMENTS.

#### 4.10.2

THE CONTRACTOR SHALL REMAIN IN REGULAR CONTACT WITH THE CONCERNED TRANSPORTERS OR RAILWAYS BASED ON THE DESPATCH DETAILS OBTAINED AS STATED ABOVE AND MAKE ALL NECESSARY ARRANGEMENTS FOR COLLECTION / RECEIPT OF THE CONSIGNMENT AS APPLICABLE. CONTRACTOR SHALL TAKE ADVANCE ACTION TO DEPLOY ALL NECESSARY RESOURCES FOR LOCAL TRANSPORTATION, HANDLING AND UNLOADING OF THE ANTICIPATED CONSIGNMENTS SO AS TO ENSURE NO LOSS OF TIME UPON ARRIVAL OF THE CONSIGNMENTS.

#### 4.10.3

PAYMENT OF DEMURRAGE/ WHARFAGE ETC., WHICH RESULT DUE TO CONTRACTOR'S FAULT, SHALL BE THE RESPONSIBILITY OF CONTRACTOR AND TO HIS ACCOUNT. IF BHEL HAS TO MAKE PAYMENT OF SUCH DEMURRAGE/ WHARFAGE TOGETHER WITH FREIGHT (PAYMENT OF FREIGHT ALONE IS IN BHEL'S SCOPE), THE AMOUNTS SO PAID AS DEMURRAGE/WHARFAGE FOR THE REASONS STATED ABOVE SHALL BE PAID TO BHEL BY THE CONTRACTOR FORTHWITH OR SHALL BE RECOVERED FROM THE BILL PAYMENTS DUE TO THE CONTRACTOR.

#### 4.10.4

IT WOULD BE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE PACKAGES, CONSIGNMENTS ETC. IMMEDIATELY ON ARRIVAL AND BRING TO THE NOTICE OF BHEL AUTHORITIES REGARDING LOSS/DAMAGE/SHORTAGE/DISCREPANCY, IF ANY, OBSERVED IN THE CONSIGNMENTS BEFORE TAKING DELIVERY OF THE SAME.

#### 4.10.5 INCOMING AND OUTGOING SMALLS

CONTRACTOR SHALL ARRANGE COLLECTION, FROM TRANSPORTERS' GODOWNS, OF MATERIALS (SMALLS) DISPATCHED BY ROAD TRANSPORT ON GODOWN DELIVERY BASIS, LOADING AT TRANSPORTERS GODOWN, LOCAL TRANSPORT UP TO BHEL/ CLIENT'S STORES/ SITE AND UNLOADING. PAYMENT FOR LOADING AT THE TRANSPORTER'S GODOWN, UNLOADING AT STORES/STORAGE YARD/SITE, VERIFICATION AND STACKING WILL BE MADE AS PER UNIT RATE VIDE ITEM SL.NO. A.1 OF RATE SCHEDULE AND TERMS OF PAYMENT AS PER SECTION-12. HOWEVER, FOR TRANSPORT OF SMALLS FROM GODOWN TO SITE, PAYMENT ONLY @ Rs. 5/ PER KM FOR TOTAL TO AND FROM DISTANCE, AS CERTIFIED BY BHEL ENGINEER, SHALL BE MADE. NO OTHER PAYMENT SUCH AS MINIMUM CHARGES FOR CARRIER ETC WILL BE MADE. ALL ARRANGEMENTS INCLUDING TRANSPORT, LABOUR AND OTHER T&P ETC IS IN CONTRACTOR'S SCOPE. PRIOR APPROVAL OF BHEL ENGINEER SHOULD BE OBTAINED FOR SUCH TRIPS TO TRANSPORTERS' GODOWN(S). THESE GODOWNS ARE EXPECTED TO BE LOCATED WITHIN A RADIUS OF 25 KM APPROX FROM THE PROJECT SITE.



SIMILARY, FOR ANY SMALLS TO BE SENT TO DIFFERENT LOCATIONS/SITES FROM SITE AND WHICH NEEDS TO BE BROUGHT TO TRNSPORTER'S/RAILWAY GODOWN FOR BOOKING SAME ARRANGEMENT AS ABOVE SHALL BE ADOPTED.

IN CASE OF CONSIGNMENTS IN SMALLS, THE WEIGHT OF PACKAGE SHALL BE CHECKED WITH THE INVOICED WEIGHT OF THE PACKAGES AND ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO BHEL/TRANSPORTER.

#### 4.10.6

FOR ALL SUCH CONSIGNMENTS, OBSERVATIONS REGARDING LOSS/DAMAGE/SHORTAGE/ DISCREPANCY IS TO BE RECORDED IN APPROPRIATE DOCUMENT AND INFORMED TO BHEL. IN CASE IT BECOMES NECESSARY TO TAKE '**OPEN DELIVERY**' FROM THE AUTHORITIES, CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR TAKING OPEN DELIVERIES. ALL EXPENSES CONNECTED THEREWITH SHALL BE TO THE ACCOUNT OF CONTRACTOR. ANY LOSS THAT ACCRUES TO BHEL ON ACCOUNT OF CONTRACTOR'S FAILURES SHALL BE DEBITED TO THE CONTRACTOR AND RECOVERY EFFECTED FROM HIS RUNNING BILLS.

#### 4.10.7

ANY DISCREPANCY/SHORTAGE/DAMAGE FOUND IN THE CONSIGNMENT AFTER TAKING CLEAN DELIVERY FROM THE CARRIERS SHALL BE THE RESPONSIBILITY OF CONTRACTOR AND THE RESULTANT LOSS TO BHEL ON SUCH ACCOUNT SHALL BE RECOVERABLE FROM THE CONTRACTOR.

#### 4.10.8

CONSIGNMENTS ARE EXPECTED TO ARRIVE DURING ANY TIME OF THE DAY, AND COUNT DOWN FOR DEMMURAGE/WHARFAGE WILL START IMMEDIATELY, UNLOADING OF SUCH CONSIGNMENTS MAY BE NECESSITATED EVEN IN THE NIGHT OR ROUND THE CLOCK. CONTRACTOR SHALL ARRANGE TO DEPLOY HIS RESOURCES IMMEDIATELY AND CONTINUE ROUND THE CLOCK ON SUCH OCCASSIONS WITHUT ANY ADDITIONAL COST TO BHEL. CONTRACTOR SHALL ARRANGE NECESSARY SPOT LIGHTING FOR WORKING AT NIGHT. THE CONTRACTOR SHALL SIMILARLY UNLOAD CONSIGNMENTS ARRIVING ON WEEKLY OFF DAYS AND HOLIDAYS.

#### 4.10.9

UNLOADING AT STORAGE AREA/WORK SITE, STACKING AND RESTACKING IF NECESSITY ARISES, OF HEAVY/SOPHISTICATED EQUIPMENTS LIKE TUBED WALL PANELS OF HRSG, HEAVY MOTORS, HEAVY BEARING PEDESTALS, ELECTRICAL PANELS AND TG EQUIPMENT LIKE HEAVY TURBINE COMPONENTS, PUMPS, ETC SHALL BE DONE AS PER STORAGE AND PRESERVATION MANUAL OF BHEL AND/OR AS PER DIRECTIONS OF BHEL ENGINEER.

#### 4.10.10

THE CONTRACTOR SHALL VERIFY THE CONSIGNMENS IN DETAIL WITHIN THE TIME FRAME PRESCRIBED BY BHEL. CONTRACTOR SHALL ARRANGE ALL FACILITIES TO OPEN PACKAGES - WHERE REQUIRED IN THE PRESENCE OF BHEL ENGINEER, VERIFY THE CONTENTS, REPACK WHEREVER AND WHENEVER CALLED FOR AND PROPERLY STACK THEM AS PER STORAGE MANUAL OR/AND AS MAY BE DIRECTED BY BHEL.

#### 4.10.11

THE MATERIAL SHALL BE SO STACKED THAT IT SHOULD FACILITATE EASY IDENTIFICATION, RETRIEVAL AND HANDLING FOR ISSUE AS AND WHEN NEED ARISES.

#### 4.10.12

PRE-DEFINED IDENTIFICATION SYSTEM OF THE LOCATIONS OF OPEN STORAGE YARD, SEMI-CLOSED SHED, COVERED STORES AS WELL AS STORAGE RACKS HAS TO BE DESIGNED BY THE CONTRACTOR WITH THE APPROVAL OF BHEL. CONTRACTOR SHALL PUT UP PROMINENT IDENTIFICATION BOARDS OF SEGMENTAL LOCATIONS (FOR OPEN AND SEMI-CLOSED STORES) OR INSCRIPTION (ON THE STORAGE RACKS) WITH CLEAR VISIBILITY FROM A DISTANCE. CONTRACTOR SHALL ALSO ARRANGE TO DISPLAY PLOT PLAN AT REGULAR INTERVALS IN THE COVERED/SEMI-CLOSED/OPEN STORAGE. THE CONTRACTOR SHALL ARRANGE PROPER DISPLAYS/SIGNS FOR VARIOUS REQUIREMENTS AS PER INSTRUCTIONS OF BHEL.

#### 4.10.13

THE CONTRACTOR SHALL EXECUTE THE WORK IN A PROFESSIONAL MANNER. THE STORES SHALL BE HANDLED WITH DUE CARE AND DILIGENCE. THE CONTRACTOR AT HIS RISK AND COST SHALL MAKE GOOD ANY LOSS TO BHEL DUE TO CONTRACTOR'S LAPSE.

#### 4.10.14

LOADING ON TO THE TRANSPORTER'S TRAILER/TRUCK FOR ONWARD TRANSMITTAL TO OTHER DESTINATIONS IS ALSO SCOPE OF WORK OF CONTRACTOR. PAYMENT FOR THESE SHALL BE MADE AS PER RELEVANT ITEMS OF RATE SCHEDULE.

#### **4.10.15 SHIFTING/RE-STACKING/RE-ARRANGING**

OVER A PERIOD OF TIME, RESTACKING/REARRANGING OF THE MATERIALS STACKED EARLIER MAY ARISE DUE TO VARIOUS REASONS. THE HANDLING OF SUCH ITEMS WILL ALSO BE IN THE SCOPE OF THIS CONTRACT. THE RESTACKING/ RE-HANDLING MAY BE NECESSITATED FOR ANY EQUIPMENT/ MATERIALS COVERED WITHIN THIS WORK SPECIFICATION. CONTRACTOR SHALL DEPLOY NECESSARY RESOURCES LIKE MANPOWER, T&P, EQUIPMENTS ETC TO CARRY OUT THIS EXERCISE INCLUDING PROPER INSCRIPTION OF IDENTIFICATION MARKS IF NEEDED, PREPARATION AND SUBMISSION OF LIST OF ITEMS RESTACKED, UPDATING STOCK RECORDS ABOUT CHANGE IN LOCATION ETC.

RESTACKING AND REARRANGING SHALL BE APPLICABLE FOR MATERIALS RETURNED BY BHEL'S ERECTION CONTRACTORS ALSO.

SEPARATE ITEM RATE SHALL BE QUOTED FOR RESTACKING/RE-ARRANGING/ SHIFTING OF STAKED MATERIALS AS ASKED IN THE RATE SCHEDULE.

#### **4.11 OTHER POINTS**

##### 4.11.1

CONTRACTOR, BEFORE QUOTING FOR THIS TENDER, SHALL VISIT THE SITE AND ASSESS THE LOCAL CONDITIONS AND AVAILABLE INFRASTRUCTURES, ENTRY AND TRAFFIC RESTRICTIONS AND GET AQUAINTED WITH GENERAL PROCEDURES BY CUSTOMER RELATED TO BHEL/ITS AGENCIES' INTERFACE ACTIVITIES. CLAIMS FOR NOT HAVING PROPER KNOWLEDGE ON SITE CONDITION SHALL NOT BE ENTERTAINED.

##### 4.11.2

THE DISTANCES INDICATED IN THESE SPECIFICATIONS ARE ONLY APPROXIMATE. HOWEVER, THE TENDERERS SHOULD ASSESS THE VARIOUS DISTANCES AND SITE CONDITIONS BY VISITING SITE BEFORE SUBMITTING THEIR OFFER. NO ADDITIONAL/EXTRA CLAIMS FOR ANY VARIATION IN THIS REGARD WILL BE ENTERTAINED.

##### 4.11.3

CONTRACTOR SHALL ARRANGE FOR CUTTING AND REMOVAL OF VEGETATION GROWTH/GRASS ETC IN THE STORAGE YARD AS AND WHEN CALLED FOR BY BHEL AS INCIDENTAL TO WORK. BHEL WILL TAKE APPROPRIATE ACTION AT THE RISK & COST OF THE CONTRACTOR IN CASE OF FAILURE IN THIS REGARD.

##### 4.11.4

IF THE CONTRACTOR OR HIS WORKMEN OR EMPLOYEES 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, STORED COMPONENTS ETC. WITHIN THE PROJECT PREMISES OR OUTSIDE THE CONTRACTOR SHALL MAKE THE SAME GOOD AT HIS OWN EXPENSES.

#### **4.12 SCOPE OF WORK FOR PROVIDING MATERIALS MANAGEMENT SERVICES**

THE PROJECT IS BEING EXECUTED ON ERECTION & COMMISSIONING BASIS WHERE THE UNIT IS SCHEDULED FOR HANDING OVER BY FEB 2010.

#### 4.12.1 THE MAJOR AREAS OF MATERIAL FLOW (IN & OUT) WILL BE:

##### (i) MAIN PLANT MECHANICAL AND ELECTRICAL EQPTS

MAIN PLANT EQUIPMENT OF HRSG, GT-GTG & ST-TG AND THEIR AUXILIARIES AND POWER CYCLE, REGENERATIVE CYCLE & LP PIPING, ELECTRICAL AND CONTROL & INSTRUMENTATION ETC. THE SUPPLIES WILL START WITH THAT OF HRSG FROM JUL – AUG '08. THE MAJOR SUPPLIES OF EPC/TURNKEY PACKAGE ARE LIKELY TO CONTINUE TILL JAN - FEB'10. APPROX QUANTUM OF MATERIAL IS 13000 MT.

##### (ii) CIVIL STRUCTURAL AND RE-INFORCEMENT STEEL

MAJOR SUPPLIES WILL INCLUDE REINFORCEMENT BARS, STRUCTURAL SECTIONS SUCH AS PLATES, ROLLED SECTIONS ETC, THE SUPPLIES ARE LIKELY TO START FROM APR – MAY '08 AND MAJOR SUPPLIES ARE EXPECTED TO COMPLETE BY JUN -JUL '09. THE APPROXIMATE QUANTUM IS 5300 MT.

IN ADDITION TO ABOVE, NON-TURNKEY BOUGHT OUT ITEMS WILL BE RECEIVED DURING THE PROJECT EXECUTION PERIOD.

AS IS NORMAL TO ANY PROJECT EXECUTION, THE FLOW OF MATERIAL MAY NOT FOLLOW LINEAR PATTERN. THUS THE REQUIREMENT OF MM SERVICES WILL VARY FROM MONTH TO MONTH. SIMILARLY ISSUE OF MATERIALS TO ERECTION AGENCIES MAY VARY FROM MONTH TO MONTH DEPENDING UPON THE STAGE OF COMPLETION. AFTER MAJOR RECEIPTS AND ISSUES, THE THRUST WILL SHIFT TOWARDS FINAL RECONCILIATION WITH ERECTION AGENCIES. FROM TIME TO TIME, THE CONTRACTOR SHALL MODULATE HIS RESOURCE DEPLOYMENT IN CONSULTATION WITH BHEL FOR EFFECTIVE & SATISFACTORY DELIVERY OF REQUIRED MM SERVICES IN ALL RESPECT.

#### 4.12.2 SCOPE OF MATERIALS MANAGEMENT SERVICES

THE CONTRACTOR UNDER THIS CONTRACT SHALL PROVIDE FOLLOWING FOUR CATEGORIES OF SERVICES TOWARDS PROPER MATERIALS MANAGEMENT AT THE PROJECT SITE. CREW OF ADEQUATE STRENGTH AS PER SITE REQUIREMENT

SEE [EXPLANATION CLAUSE NO. 4.13](#) HEREIN BELOW.

#### **(A) SUPERVISION SERVICES - Progressively - 1 Service Point [\[SEE EXPLANATION\]](#)**

(1) SCOPE INCLUDES SUPERVISION OF VARIOUS ACTIVITIES AS FOLLOWS.

- (I) RECEIPT, UNLOADING, CARRYING OUT RECEIPT INSPECTION, DETAILED VERIFICATION, STACKING AND REGULAR STOCK VERIFICATION OF PROJECT MATERIALS AT SITE.
- (II) PREPARING VARIOUS REPORTS AT APPROPRIATE STAGES AND REPORTING DAMAGE/LOSS DURING RECEIPT AS WELL AS STORAGE AND ANY OTHER ASSOCIATED RESPONSIBILITY AS ASSIGNED BY BHEL FROM TIME TO TIME. RESPONSIBILITY SHALL INCLUDE THE FOLLOWING ACTIVITIES:
  - a. EXAMINATION OF INCOMING CONSIGNMENTS TO DETECT ANY LOSS OR SHORTAGE OR OUTWARD DAMAGE AND RECORDING IT ON THE LR/LWB BEFORE MAKING ACKNOWLEDGEMENT OF IT'S RECEIPT FROM THE TRANSPORTER AND SIMULTANEOUSLY OBTAINING ENDORSEMENT OF THE VEHICLE DRIVER ON THE SAME.
  - b. REPORTING SUCH DISCREPANCY TO BHEL IMMEDIATELY ON RECEIPT OF CONSIGNMENT.

c. ASSISTING BHEL IN LODGING INSURANCE CLAIMS IN RESPECT OF LOSS/DAMAGE AS STATED ABOVE.

- (III) ISSUE OF MATERIALS TO BHEL'S ERECTION CONTRACTORS, PRESERVATION OF STACKED MATERIALS, RE-STACKING/RE-HANDLING AS NECESSARY, PROGRESSIVE AND FINAL RECONCILIATION WITH BHEL'S ERECTION AGENCIES AND PREPARATION OF NECESSARY DOCUMENT/ RECORD IN RESPECT OF THESE ACTIVITIES.
- (IV) RETURN OF EXCESS/DEFECTIVE MATERIALS BY VARIOUS ERECTION CONTRACTORS OF BHEL.
- (V) LOADING AND DISPATCH OF OUTGOING MATERIALS.
- (2) EXPECTED MINIMUM QUALITY OF SERVICE

CONTRACTOR SHALL RENDER THE SUPERVISORY SERVICES BY ENSURING DEPLOYMENT OF REQUISITE PERSONNEL WITH ADEQUATE EDUCATIONAL QUALIFICATION OF ENGINEERING/TECHNICAL BACKGROUND, HAVING THOROUGH EXPERIENCE IN RELATED FIELD TO ENABLE UNDERSTANDING THE INTRICACIES OF AND SPECIAL REQUIREMENTS INVOLVED IN HANDLING OF PROJECT MATERIALS, INCONSISTENCIES AND UNCERTAINTIES ASSOCIATED WITH IN/OUT FLOW OF MATERIALS, PROJECT ACTIVITIES AT ODD HOURS & HOLIDAYS AND IRREGULAR WORKING HOURS. CONTRACTOR SHALL ENSURE PROMPT AND TIMELY AVAILABILITY OF SUCH SERVICES AS AND WHEN REQUIRED BY BHEL.

**(B) PRESERVATION OF COMPONENTS - 1 Crew of adequate strength as per site requirement [\[SEE EXPLANATION\]](#)**

CONTRACTOR SHALL ARRANGE FOR PRESERVATION OF COMPONENTS AS PER BHEL'S STORAGE AND PRESERVATION MANUAL AND/OR AS PER INSTRUCTIONS OF BHEL ENGINEERS.

ONE OR MORE OF FOLLOWING METHODS SHALL BE ADOPTED FOR PRESERVATION.

- 1) COATING WITH PRESERVATIVE PAINTS/LUBRICANT/INHIBITORS
- 2) CAPPING/WRAPPING/COVERING
- 3) FILLING/IMMERSION IN OIL/CHEMICALS ETC
- 4) PERIODIC CHECKS/MAINTAINING REQUIRED NITROGEN PRESSURE IN TANKS OF TRANSFORMERS; BHEL WILL PROVIDE THE NITROGEN GAS FOR THE SAME. HOWEVER CONTRACTOR SHALL HANDLE THE CYLINDERS AT STORES, TRANSPORT TO POINT OF USE, FIT-UP REFILLS AND RETURN EMPTY CYLINDERS TO BHEL STORES.
- 5) HT MOTORS

FOR PRESERVATION OF HT MOTORS, SPACE HEATERS HAVE TO BE KEPT ENERGIZED TO AVOID INGRESS OF MOISTURE. INSULATION RESISTANCE HAS TO BE MEASURED AND RECORDED AT SPECIFIED INTERVALS TILL THESE ARE ISSUED FOR ERECTION. BHEL WILL PROVIDE NECESSARY CABLES, SWITCHES ETC. FOR THIS, HOWEVER CONTRACTOR SHALL INSTALL, OPERATE AND MAINTAIN THE SAME.

BHEL WILL PROVIDE FREE OF COST ALL PRESERVATIVES LIKE PRESERVATIVE OIL, LUBRICANTS, CHEMICALS, INHIBITORS, CAPS ETC EXCEPT PRIMERS & PAINTS. CONTRACTOR SHALL PROVIDE RED OXIDE ZINC CHROMATE (ROZC) PRIMER CONFORMING TO IS:2074 OF REPUTED MANUFACTURES (E.G. ASIAN PAINTS, BERGER, JENSON & NICHOLSON, BOMBAY PAINTS, SHALIMAR OR ANY OTHER BHEL APPROVED

MANUFACTURER) REQUIRED FOR PRESERVATION SHALL BE PROVIDED BY THE CONTRACTOR AND USED FOR THIS PURPOSE.

IN THE PROCESS THE IDENTIFICATION MARKS, COMPONENT/MATERIAL CODES, MATCH MARKS MAY HAVE TO BE REPAINTED. THIS WORK AFTER PRESERVATION COMPONENTS ARE TO BE STACKED PROPERLY, PERIODICAL REPORTS ON THE PRESERVATION CARRIED OUT SHOULD BE SUBMITTED TO BHEL IN THE PRESCRIBED FORMATS.

**(C) RECORD KEEPING - Progressively - 3 Service Points [\[SEE EXPLANATION\]](#)**

CONTRACTOR SHALL PREPARE, MAINTAIN AND UPDATE VARIOUS MM RECORDS, ASSOCIATED WITH MATERIALS MANAGEMENT OPERATION OF BHEL AT PROJECT SITE. TWO SYSTEMS OF RECORD KEEPING/CAPTURING INFORMATION & DATA AT VARIOUS STAGES ARE IN VOGUE VIZ.

- i. MANUAL LEDGERS & RECORDS.
- ii. COMPUTERIZED DATABASE APPLICATION: BHEL HAS DEVELOPED A SOFTWARE APPLICATION NAMED SITE OPERATIONS MANAGEMENT SYSTEM (SOMS) THAT CAPTURES ALL THE DATA IN THE ENTIRE CHAIN OF TRANSACTIONS STARTING WITH MASTER LIST OF PROJECT MATERIALS, RECORDS OF DISPATCH, RECEIPT, INSPECTION, ISSUE, RETURN, CONSUMPTION ETC.

SOME OF THESE RECORDS ARE MASTER SHIPPING/PACKING LIST, LR/RR REGISTER, DAYBOOK REGISTER, STOCK REGISTER, RECORDS OF ISSUES TO & RETURN OF MATERIALS IN RESPECT OF VARIOUS ERECTION SUBCONTRACTORS, INSURANCE CLAIM RECORDS, PERIODICAL STATUS REPORTS IN VARIOUS FORMATS COVERING DESIRED ASPECTS AND OUTPUT INFORMATION AS PER BHEL/CLIENT'S REQUIREMENT.

BHEL WILL PROVIDE NECESSARY HARDWARE, SOFTWARE & STATIONARY ETC. FOR THE ABOVE. CONTRACTOR SHALL TAKE UTMOST CARE OF ENSURE THAT THESE PROPERTIES AND RECORDS ARE PROTECTED FROM ANY DAMAGE OR LOSS. BHEL WILL RECOVER THE COST OF SUCH PROPERTY / EXPENSES OF RESTORATION FROM THE CONTRACTOR WITH 30% OVERHEAD CHARGES IN CASE OF ANY LOSS/DAMAGE ATTRIBUTABLE TO NEGLIGENCE/FAILURE ON CONTRACTOR'S PART.

**D. SECRETARIAL & OTHER MISC. SERVICES - Progressively (2+2) Service Points [\[SEE EXPLANATION\]](#)**

THESE SERVICES SHALL INCLUDE SECRETARIAL SERVICES AT BHEL OFFICE AND STORES, SERVICES OF OFFICE BOY, MESSENGER/PEON AND SERVICES.

**4.12.3 PARAMETERS AND QUANTIFICATION OF MM SERVICES, PERIODIC MONITORING**

FOR THE PURPOSE OF DELIVERY OF THE AFORESAID MM SERVICES & PROGRESSIVE MONTHLY BILLING BY THE CONTRACTOR AND RELEASE OF PAYMENT THEREOF BY BHEL, THERE SHALL BE AN ACTION PLAN JOINTLY AGREED BY BHEL AND CONTRACTOR. THIS ACTION PLAN SHALL BE DRAWN AT THE BEGINNING OF EACH QUARTER/EACH MONTH/ANY CONVENIENT NUMBER OF MONTHS AS PER ACTUAL PROJECT NEED. THE PLAN SHALL DETAIL THE FOLLOWING ASPECTS.

- PLAN PERIOD (NUMBER OF MONTHS PLANNED).
- LIST OF ACTIVITIES/TARGETS TO BE CARRIED OUT/ACHIEVED BY THE CONTRACTOR UNDER THE SCOPE OF THESE MM SERVICES IN THE DEFINED PLAN PERIOD.
- IDENTIFICATION OF NECESSARY RESOURCES TO BE DEPLOYED BY THE CONTRACTOR FOR DELIVERY OF THE PLANNED ACTIVITIES/TARGETS IN THE DEFINED PLAN PERIOD.

- DECIDING ON THE BREAK UP OF THE ASSIGNED AMOUNT TOWARDS MM SERVICES IN THE PLAN PERIOD TOWARDS EACH OF ITS FOUR COMPONENTS (SUPERVISION, PRESERVATION, RECORD KEEPING AND SECRETARIAL SERVICES) FOR THE PURPOSE OF MONTHLY BILLING BY CONTRACTOR.

#### 4.12.4 PRICE AND STAGE PAYMENT

CONTRACTOR SHALL INCLUDE THE PRICE FOR RENDERING COMPLETE MATERIALS MANAGEMENT SERVICES (GENERALLY DESCRIBED AS IN THE PRECEDING CLAUSES, INCLUDING PROVIDING ALL NECESSARY RESOURCES EXCEPTING THOSE INDICATED SPECIFICALLY AS BHEL SCOPE) IN THE VARIOUS ITEM RATES OF MATERIAL HANDLING ACTIVITIES AS APPEARING IN THE RATE SCHEDULE OF PRICE BID. **CONTRACTOR SHALL NOT QUOTE ANY SEPARATE ITEM RATE/PRICE FOR MM SERVICES IN THE RATE SCHEDULE.**

FOR FURTHER DETAILS OF PROGRESSIVE PAYMENT AND FINAL PAYABLE AMOUNTS, PLEASE REFER SECTION-12 (SCC).

#### 4.12.5 DEFICIENT/UNSATISFACTORY MM SERVICES & NOT RENDERING MM SERVICES

##### 4.12.5.1

CONTRACTOR SHALL RENDER THE MM SERVICES AS PER THE JOINTLY AGREED PLAN AND PARAMETERS THEREOF AS DESCRIBED IN "PARAMETERS AND QUANTIFICATION OF MM SERVICES". IN CASE THE CONTRACTOR FAILS IN DELIVERING/RENDERING THESE SERVICES PARTLY OR TOTALLY, EITHER QUALITATIVELY OR QUANTITATIVELY IN THE CONCERNED PLAN PERIOD, BHEL WILL TAKE THE FOLLOWING RECOURSE.

- DEFICIENT/UNSATISFACTORY SERVICES:

IN CASE THE LEVEL/QUALITY OF MM SERVICES IS FOUND NOT IN COMPLIANCE WITH THE PLAN (EITHER IN TERMS OF DEFICIENCY IN QUALITY OR QUANTITY OR BOTH, WITH REGARD TO THE MUTUALLY AGREED/IDENTIFIED RESOURCES), BHEL WILL COMMUNICATE THE SAME TO THE CONTRACTOR ON RECORD. CONTRACTOR SHALL IMMEDIATELY TAKE CORRECTIVE ACTION TO ERADICATE THE COMPLAINT. BHEL WILL NOT MAKE ANY PAYMENTS FOR SUCH PERIOD / NUMBER OF DAYS WHEN SERVICES ARE FOUND DEFICIENT/ UNSATISFACTORY. PAYMENT WILL BE MADE FOR THE PERIOD /NUMBER OF DAYS OF SATISFACTORY SERVICES ON PRO-RATA BASIS AS PER THE FOLLOWING FORMULA.

$$P = P_a \times D_s / D_m, \text{ WHERE}$$

P = AMOUNT PAYABLE FOR RENDERING A PARTICULAR SERVICE SATISFACTORILY IN A BILLING MONTH.

P<sub>A</sub> = AMOUNT **ASSIGNED** TOWARDS THE PARTICULAR SERVICE FOR THE CONCERNED MONTH AS PER AGREED PLAN.

D<sub>S</sub> = NUMBER OF EQUIVALENT DAYS INCLUDING SUNDAYS AND BHEL HOLIDAYS OF **SATISFACTORY** SERVICES IN THE PARTICULAR BILLING MONTH.

D<sub>M</sub> = TOTAL NUMBER OF DAYS INCLUDING SUNDAYS AND BHEL HOLIDAYS IN THE PARTICULAR **BILLING MONTH.**

IN ADDITION TO NO PAYMENT FOR THE UNSATISFACTORY/DEFICIENT SERVICES PERIOD, A PENALTY @ 5% APPLIED ON THE PRO-RATA AMOUNT OF THE DEFICIENT PERIOD i.e. 5% OF (P<sub>A</sub> – P) WILL BE LEVIED ON THE CONTRACTOR. THIS PENALTY WILL BE RECOVERED FROM THE RUNNING ACCOUNT BILL OF THE SAME MONTH.

##### 4.12.5.2 NOT RENDERING THE SERVICES AT ALL

IN THE EVENT, THE CONTRACTOR FAILS TO RENDER A PARTICULAR SERVICE DURING THE MONTH (EITHER PART OF THE MONTH OR FULL) BHEL WILL NOT MAKE ANY PAYMENT TOWARDS THAT SERVICE FOR SUCH PERIOD. ADDITIONALLY, A PENALTY @ 15% WILL BE LEVIED AS UNDER.

|   |   |
|---|---|
| FOR NO SERVICES IN THE ENTIRE MONTH:      | 15% OF THE TOTAL MONTHLY ASSIGNED AMOUNT.   |
| FOR NO SERVICES DURING PART OF THE MONTH: | 15% OF THE PRO-RATA AMOUNT FOR THE DEFAULTING PERIOD AS PER FORMULA GIVEN EARLIER HERE. |

#### **4.12.5.3 IRREVOCABLE PENALTY AND DISALLOWED AMOUNT**

**IT SHALL BE SPECIFICALLY NOTED THAT THE PAYMENT DISALLOWED FOR DEFICIENT OR NIL SERVICE IN A PARTICULAR MONTH AND/OR PENALTIES LEVIED ON SIMILAR GROUND, SHALL NOT BE CONSIDERED FOR RELEASE IN ANY SUBSEQUENT MONTH EVEN IF THE CONTRACTOR TAKES CORRECTIVE ACTION IN THE LATER STAGE.**

#### **4.13 EXPLANATION ABOUT THE SCOPE OF MM SERVICES**

##### **1. GENERAL**

THE RESOURCES DEPLOYED FOR MM SERVICES BY THE CONTRACTOR SHALL BE AT THE EXCLUSIVE DISPOSAL OF BHEL ON A FULL TIME BASIS. THESE SHALL NOT BE USED FOR ANY ACTIVITIES ASSOCIATED WITH THE REGULAR MATERIAL HANDLING ACTIVITIES (LIKE RECEIPT, UNLOADING, VERIFICATION, STACKING AND REGULAR STOCK VERIFICATION OF PROJECT MATERIALS).

##### **2. SUPERVISION SERVICES**

WORKING LEVEL SUPERVISION OF EACH WORK SPOT SHALL BE IN THE SCOPE OF CONTRACTOR UNDER REGULAR MATERIAL HANDLING WORK. ON THE OTHER HAND, SUPERVISORY SERVICES UNDER MM SERVICES SHALL BE AT ONE LEVEL HIGHER THAN WORKING LEVEL SUPERVISION BEING DONE AS CONTRACTOR'S RESPONSIBILITY TOWARDS MATERIAL HANDLING WORK. BHEL REQUIRES THAT THESE SERVICES SHALL BE TO OVERSEE AND MONITOR THE VARIOUS OPERATIONS/ACTIVITIES OF MATERIAL HANDLING PROCESS. MM SUPERVISORY SERVICES SHALL ENSURE SETTING BROAD GUIDELINES TO THE WORKING LEVEL SUPERVISORS, MONITORING PROGRESS OF OVERALL PLAN VIS-À-VIS IMPLEMENTATION, PROPER AND PROMPT TRACEABILITY OF STOCK IN THE STORES, IDENTIFICATION OF CORRECTIVE & PREVENTIVE ACTIONS IN MATERIAL HANDLING & STORAGE WORK AND IMPLEMENTATION OF A SYSTEMATIC PROCESS TO FINALLY ENSURE ACHIEVEMENT OF THE PROJECT SCHEDULE.

##### **3. PRESERVATION OF COMPONENTS**

CONTRACTOR'S SCOPE UNDER THIS MM SERVICES WORK INCLUDES HANDLING OF THE MATERIALS THAT REQUIRES PRESERVATION, AS WELL AS HANDLING OF OTHER MATERIALS AROUND THE FORMER IN ORDER TO MAKE PROPER ACCESS/APPROACH FOR WORK. CONTRACTOR SHALL DEPLOY NECESSARY SUPERVISORS, LABOURERS AND T&P FOR ALL SUCH ACTIVITIES.

##### **4. RECORD KEEPING**

CREATION AND MAINTENANCE OF PROPER RECORDS OF DISPATCH, RECEIPT, STOCK, ISSUE, RETURN, DAMAGE, INSURANCE CLAIMS, PRESERVATION, RESTACKING, RECEIPT INSPECTION, STOCK VERIFICATION ETC. OF PROJECT MATERIALS ARE VITAL IN NATURE. CONTRACTOR SHALL ENSURE THAT ALL SUCH RECORDS ARE CREATED AND UPDATED PROMPTLY TO FACILITATE LATEST POSSIBLE INFORMATION TO BHEL AND CONCERNED ERECTION AGENCIES OF BHEL. RECORDS SHALL BE CRATED AND MAINTAINED IN BHEL'S COMPUTERIZED DATA BASE PROGRAMME (NAMED SOMS) AS WELL AS IN HARD COPY (REGISTERS, FILE, FOLDER ETC.) AS A

BACK UP. THE CONTRACTOR SHALL DEPLOY ADEQUATE NUMBER OF PERSONNEL WITH PROFICIENCY IN COMPUTERIZED DATA BASE OPERATIONS FOR OPERATING SOMS. CONTRACTOR SHALL ALSO DEPLOY ADEQUATE PERSONNEL FOR CREATION & MAINTENANCE OF MANUAL RECORDS WITH EXPERIENCE IN MATERIALS MANAGEMENT WORK.

5. SECRETARIAL & OTHER MISCELLANEOUS SERVICES

THESE SHALL INCLUDE SERVICES OF PERSONAL ASSISTANCE IN THE OFFICIAL WORK OF BHEL'S CONSTRUCTION MANAGER, CLERICAL SERVICES FOR CORRESPONDENCES AND RECORD KEEPING TO VARIOUS DEPARTMENTS OF BHEL SITE (ERECTION, COMMISSIONING, FINANCE & ACCOUNTS, STORES/MATERIAL MANAGEMENT ETC).

SCOPE SHALL ALSO INCLUDE SERVICES OF OFFICE BOY AT BHEL OFFICE AND STORES, MESSENGER/PEON FOR RECEIPT AND LOCAL DISTRIBUTION OF CORRESPONDENCES (DAK), COLLECTION/DELIVERY OF CORRESPONDENCES FROM/TO POST OFFICE OR COURIER OFFICE AND SIMILAR NATURE OF SERVICES.



## **SECTION-5**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **5.0 OBLIGATIONS OF THE CONTRACTOR (TOOLS AND TACKLES, CONSUMABLES, INFRASTRUCTURES, ETC.)**

##### **5.1 TOOLS AND PLANTS**

###### **5.1.1**

CONTRACTOR SHALL PROVIDE ALL THE TOOLS AND PLANTS THAT ARE REQUIRED FOR THE SCOPE OF WORK COVERED IN THIS TENDER SPECIFICATION. BHEL WILL PROVIDE, ON SHARING BASIS, ONLY THE TOOLS AND PLANTS FOR THIS WORK SPECIFICALLY PROVIDED IN THESE SPECIFICATIONS ELSEWHERE. CONTRACTOR SHALL SUBMIT PROPOSED T & P DEPLOYMENT PLAN ALONGWITH OFFER.

###### **5.1.2**

THE CONTRACTOR SHALL PROVIDE NECESSARY WOODEN/CONCRETE SLEEPERS FOR UNLOADING & STORAGE OF MATERIALS AS PER SPECIFIED SCHEDULE IN RELEVANT APPENDIX HEREIN.

###### **5.1.3**

INCASE THE CONTRACTOR DOES NOT DEPLOY/ DELAYS THE DEPLOYMENT OF MAJOR T&P SUCH AS CRANES IN THE SCHEDULE SPECIFIED IN THE RELEVANT APPENDIX THEN BHEL WILL RECOVER NON-REFUNDABLE PENALTY IN THE FOLLOWING MANNER:

A. IN RESPECT OF 40T CAPACITY MOBILE CRANE: @Rs. 2,000/- PER DAY OF DELAY FROM END OF SPECIFIED SCHEDULE.

B. IN RESPECT OF 8/10T CAPACITY MOBILE CRANE: @Rs. 500/- PER DAY OF DELAY FROM END OF SPECIFIED SCHEDULE.

###### **5.1.4**

FURTHER, IN THE EVENT OF CONTRACTOR FAILING TO ARRANGE THE REQUIRED TOOLS AND PLANTS AND OTHER RESOURCES ENVISAGED AS HIS SCOPE AS ALSO THE NON-AVAILABILITY OF THE T & P OWING TO BREAKDOWN, OR OTHERWISE, BHEL WILL TAKE APPROPRIATE ACTION AT CONTRACTOR'S RISK AND COST.

###### **5.1.5**

THE T&P ARRANGED BY THE CONTRACTOR SHALL BE IN PROPER WORKING CONDITION, AND SHALL NOT LEAD TO UNSAFE CONDITIONS.

##### **5.2 CONSUMABLES**

###### **5.2.1**

THE CONTRACTOR SHALL PROVIDE ALL CONSUMABLES REQUIRED FOR CARRYING OUT THE WORK COVERED UNDER THIS SCOPE OF WORK EXCEPTING THOSE SPECIFICALLY INCLUDED IN THE SCOPE OF BHEL.

###### **5.2.2**

IF AT ANY TIME DURING THE EXECUTION OF WORK, IT IS NOTICED THAT THE WORK IS SUFFERING ON ACCOUNT OF NON-AVAILABILITY OF CONSUMABLES FROM THE CONTRACTOR'S SIDE BHEL WILL TAKE APPROPRIATE ACTION AT HIS COST AND RISK.

##### **5.3 FIELD OFFICE AND STORES, LOCALIZED LIGHTING, LABOUR COLONY ETC**

###### **5.3.1**

THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR FIELD OFFICE CUM STORES. ONLY THE OPEN LAND FOR THE SAME WILL BE PROVIDED BY CUSTOMER/ BHEL FREE OF CHARGE. AFTER THE COMPLETION OF WORK, CONTRACTOR SHALL DISMANTLE HIS STRUCTURES AND HANDOVER THE VACANT LAND TO BHEL/CUSTOMER.

#### 5.3.2

THE CONTRACTOR AT HIS COST SHALL ARRANGE FOR TEMPORARY LOCALIZED LIGHTING FOR UNLOADING, VERIFICATION AND STACKING ACTIVITIES. ALL TEMPORARY WIRING MUST COMPLY WITH REGULATIONS AND WILL BE SUBJECTED TO ENGINEER'S INSPECTION BEFORE CONNECTING TO SUPPLY POINT.

#### 5.3.3

CONSTRUCTION POWER AT ONE FIXED POINT WILL BE MADE AVAILABLE FREE OF CHARGE. HOWEVER, TAXES DUTIES AND OTHER LEVIES AS APPLICABLE SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE AT HIS OWN COST DRAWL AND DISTRIBUTION OF POWER FROM THIS POINT. CONTRACTOR SHALL BE RESPONSIBLE FOR FULFILLMENT OF ALL REQUIREMENTS INCLUDING STATUTORY REQUIREMENTS IN THIS REGARD.

#### **5.3.4 LABOUR COLONY**

CUSTOMER/BHEL WILL PROVIDE LAND FOR CONSTRUCTION OF LABOUR COLONY. CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR LABOUR COLONY INCLUDING LIGHTING, WATER, SANITATION ETC WITH HYGIENE AND COMPLY WITH ALL REQUIREMENTS. IT SHOULD BE SPECIFICALLY NOTED THAT LABOUR QUARTERS SHALL BE ONLY OF STEEL AND MASONARY CONSTRUCTION, NO THATCH OR WOODEN STRUCTURE SHOULD BE PERMITTED.

#### **5.3.5 CONSTRUCTION WATER & DRINKING WATER**

- (A) CONSTRUCTION WATER WILL BE PROVIDED AT ONE POINT BY THE CLIENT FREE OF CHARGE. FURTHER DISTRIBUTION IS IN CONTRACTOR'S SCOPE. THE CONTRACTOR AT HIS OWN COST SHALL ARRANGE DRINKING WATER.
- (B) CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENT FOR TREATING THE CONSTRUCTION WATER TO MAKE THE SAME SUITABLE FOR HUMAN CONSUMPTION OR BY SOURCING DRINKING WATER FROM OUTSIDE.

#### **5.3.6 SITE CLEARANCE AND REMOVAL OF CONTRACTOR'S ESTABLISHMENT**

ON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL HIS ESTABLISHMENTS AND T&P AND OTHER ITEMS BROUGHT BY HIM FOR THIS WORK, LEVEL THE GROUND AND RETURN TO BHEL/CLIENT. BHEL SHALL TAKE NECESSARY ACTION IN THIS REGARD AT CONTRACTOR'S RISK AND COST INCLUDING IMPOSING NON-REFUNDABLE PENALTY IN THE EVENT CONTRACTOR FAILS TO CLEAR SITE WITHIN SPECIFIED PERIOD BY BHEL/CLIENT.

#### **5.3.7 COMPLIANCE WITH LABOUR LAWS**

IT IS TO BE SPECIFICALLY NOTED THAT BHEL AND CLIENT PLACE SPECIAL EMPHASIS ON COMPLIANCE WITH LABOUR LAWS. ACCORDINGLY CONTRACTOR SHALL BE REQUIRED TO PROMPTLY AND REGULARLY PAY ALL DUES AS PER CENTRAL, STATE AND LOCAL GOVERNMENT LAWS, ACTS, REGULATION ETC AS MAY BE APPLICABLE FROM TIME TO TIME IN THIS REGARD.

**IT WILL BE ESSENTIAL TO PROVIDE ALL REQUISITE DOCUMENTS AS EVIDENCE OF COMPLIANCE FOR A PARTICULAR MONTH ALONG WITH MONTHLY RUNNING BILL OF IMMEDIATE SUBSEQUENT MONTH. FAILING WHICH CONTRACTOR'S BILL SHALL NOT BE RELEASED FOR PAYMENT, AND ALL CONSEQUENCES THEREOF SHALL BE CONTRACTOR'S RESPONSIBILITY.**

BHEL ENGINEER, HOWEVER, IN CONSIDERATION OF CERTAIN EXCEPTIONAL SITUATIONS MAY GRANT RELAXATION AT HIS DISCRETION WITH REGARD TO TIME FRAME OF SUBMISSION OF THESE DOCUMENTS.

#### 5.3.8

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

DOWN BY THE CUSTOMER FOR MAKING GATE PASSES. WHERE PERMITTED, BY CUSTOMER/ BHEL, TO WORK BEYOND NORMAL WORKING HOURS, THE CONTRACTOR SHALL ARRANGE NECESSARY WORK PERMIT FOR WORKING BEYOND NORMAL WORKING HOURS.

## **5.4 TAXES, DUTIES, LEVIES**

### **5.4.1 OCTROI / ENTRY TAX**

CONTRACTOR SHALL PAY OCTROI / ENTRY TAX IN RESPECT OF ALL TOOLS & PLANTS, CONSUMABLES AND OTHER RESOURCES UNDER HIS SCOPE AS PER THIS CONTRACT WITHIN THE CONTRACT RATES.

#### **5.4.2**

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

#### **5.4.3**

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

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

##### **5.4.3.1. 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.

##### **5.4.3.2. 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.

#### **5.4.3.3. 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.

#### **5.4.3.4. 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.

### **5.5 SUBMISSION OF PERIODICAL REPORTS**

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

- CONSUMPTION OF WELDING ELECTRODES AND GASES
- CONSUMPTION OF CONSTRUCTION POWER
- AVAILABILITY AND UTILIZATION OF BHEL'S CRANES
- MANPOWER REPORTS
- PROGRESS REPORTS - PERIODICALLY
- FIELD CALIBRATION / TEST REPORTS
- SAFETY REPORTS AS SPECIFIED IN SECTION-9 OF SCC

BHEL AT SITE WILL INFORM FORMATS FOR THESE REPORTS.

## SECTION-6

### SPECIAL CONDITIONS OF CONTRACT

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

##### **6.1 SUPERVISORS AND LABOURER**

CONTRACTOR SHALL DEPLOY IN ADEQUATE STRENGTH LABOUR, TECHNICIANS AND ENGINEERS/ SUPERVISORS FOR THIS WORK.

##### **6.2**

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 TARGET WILL BE FINAL AND BINDING ON THE CONTRACTOR.

##### **6.3**

CONTRACTOR SHALL EMPLOY ONLY QUALIFIED ENGINEERS/SUPERVISORS AND WORKMEN FOR THIS JOB. THEY SHALL HAVE PROFESSIONAL APPROACH IN EXECUTING THE WORK HAVING ADEQUATE KNOWLEDGE/EXPERIENCE IN THE FIELDS OF MATERIAL HANDLING AND MATERIALS MANAGEMENT, QUALITY ASSURANCE PROCEDURES, PLANNING, SAFETY ETC THAT ARE REQUIRED TO BE UNDERTAKEN FOR THE TYPE OF WORK AS PER THESE SPECIFICATIONS.

##### **6.4**

CONTRACTOR SHALL OBTAIN NECESSARY WORK PERMITS FROM BHEL/ CUSTOMER PRIOR TO TAKING UP ANY WORK. HE SHALL ARRANGE FOR DISPLAY OF DUE AND NECESSARY CAUTION NOTICES/ BOARDS ETC.

##### **6.5**

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 ANOTHER CONTRACTORS OR AGENCIES. COST OF DAMAGE, IF ANY, TO LIFE AND PROPERTY ARISING OUT OF SUCH VIOLATION OF STATUTORY REGULATIONS SHALL BE BORNE BY THE CONTRACTOR.

##### **6.6 WATCH AND WARD**

CONTRACTOR SHALL ARRANGE AND PROVIDE WATCH AND WARD ROUND THE CLOCK FOR THE MATERIALS/EQUIPMENTS ISSUED TO HIM.

##### **6.7**

CONTRACTOR SHALL IMPLEMENT LOCAL LABOUR LAWS, MAINTAIN NECESSARY RECORDS AND CO-ORDINATE WITH THE LOCAL LABOUR AUTHORITIES ON ALL MATTERS OF LABOUR AND INDUSTRIAL RELATIONS.

##### **6.8**

THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE LAW, RULES AND REGULATION ETC; WITH REGARD TO EMPLOYMENT OF LABOUR. HE SHALL OBTAIN LABOUR LICENSE.

THE SCOPE INCLUDES GETTING THE LICENCES AND APPROVALS FROM THE STATUTORY AUTHORITIES, ARRANGING FOR INSPECTION OF ELECTRICAL INSPECTOR PERIODICALLY AS PER BHEL ENGINEER'S INSTRUCTIONS, SUBMITTING DOCUMENTS ETC. AND FOLLOWING UP THE MATTER WITH THEM AS AND WHEN NECESSARY FOR THE WORK INVOLVED IN THIS SCOPE. ALL EXPENSES, FEES, LEVIES ETC HAVE TO BE BORNE BY THE CONTRACTOR.

## **SECTION-7**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **7.0 OBLIGATIONS OF BHEL**

#### **7.1 FACILITIES PROVIDED BY BHEL**

##### **7.1.1 CONSTRUCTION POWER**

REFER SECTION-5.

FURTHER TO ABOVE, WITH REGARD TO CONSTRUCTION POWER, IT IS TO BE SPECIFICALLY NOTED THAT BHEL IS NOT RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE CONTRACTOR'S EQUIPMENT AS A RESULT OF VARIATIONS IN VOLTAGE OR FREQUENCY OR INTERRUPTIONS IN POWER SUPPLY.

##### **7.1.2 CONSTRUCTION WATER AND DRINKING WATER**

REFER SECTION-5.

##### **7.1.3 TOOLS AND PLANTS**

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

#### **7.2 OTHER ISSUES**

##### **7.2.1**

THE DU/ DESS NOS SUPPLIED BY MANUFACTURING UNITS AS PART OF SUPPLY FOR HANDLING OF MATERIALS WILL BE PROVIDED FREE OF CHARGE TO THE CONTRACTOR ON RETURNABLE BASIS.

##### **7.2.2**

BHEL WILL PROVIDE TARPAULINS AND/OR SUCH OTHER COVERING MATERIAL FOR COVERING THE MATERIALS AT BHEL STORAGE YARD. CONTRACTOR SHALL DO NECESSARY WORK FOR COVERING THE MATERIALS WITH THE COVERING MATERIAL PROVIDED BY BHEL.

## **SECTION-8**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **8.0 INSPECTIONS/QUALITY ASSURANCE/ QUALITY CONTROL/STATUTORY INSPECTION**

##### **8.1**

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

##### **8.2**

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

##### **8.3**

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

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

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

Record of heat treatments performed shall be maintained as prescribed by BHEL. Similarly, performance report of all welders shall be furnished for scrutiny of BHEL Engineer.

##### **8.4**

In the course of erection, it may become necessary to carry repeated checks of the work with instruments recently calibrated, re-calibrated. Such instruments whenever necessary, will be provided by BHEL, on returnable basis, on specific authorisation by BHEL Engineer.

##### **8.5**

Vibration indicators/vibration recorders/vibration analysers will be provided by BHEL for checking and analysing vibration levels of rotating equipments with

necessary operators. Contractor shall provide necessary labour for carrying out such tests.

## **8.6**

Total quality is the watch word 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.

## **8.7 STAGE INSPECTION BY FES / QA ENGINEERS**

### **8.7.1**

Apart from day-to-day inspection by BHEL engineers stationed at site and also by customer's engineers, stage inspection of equipments under erection and commissioning at various stages of erection and commissioning by teams of engineers from field engineering services of BHEL manufacturing units and quality assurance teams from field quality assurance unit/factory quality assurance and commissioning engineers from technical services of BHEL will also be conducted. Contractor shall arrange all labour, tools and tackles etc. for such stage inspections free of cost.

### **8.7.2**

Any modifications suggested by BHEL FES and QA Engineers team shall be carried out. Claims of contractor, if any, shall be dealt as per clause 13.1 to 13.8, provided such modifications have not arisen for reasons attributable to the contractor.

## **STATUTORY INSPECTION.**

### **8.8.1**

The scope includes getting the approvals from the statutory authorities (like boiler inspector and labour officers). This includes arranging for inspection visits of boiler inspector periodically as per BHEL Engineer's instructions, submitting documents, radiographs etc. and following up the matter with them.

### **8.8.2**

All fees connected with the contractors for testing his welders / men / workers and testing, inspection, calibrating of his instruments and equipments, shall be paid by the contractor. It shall be contractor's responsibility to obtain approval of statutory authorities, wherever applicable, for the conducting of any work which comes under the purview of these authorities. Any cost arising from this shall be contractor's account. , Contractor shall pay all other fees (fees for visits, inspection fees, hydraulic test fees, light up inspection fees, registration fees etc.). In case these inspections have to be repeated due to default / fault of the contractor and fees have to be paid again, the contractor shall have to bear the charges. These would be deducted from his bills.

## **8.9**

BHEL, Power Sector – Western Region (PSWR) has already been accredited with ISO 9002 certification and as such this work is subject to various audits to meet ISO 9002 requirements. One particular aspect which needs special mention is about arrangement of calibration of instruments by the contractor. Contractor shall



ensure deployment of reliable and calibrated MMD (instrument measuring and test equipment). The MMD shall have test / calibration certificates from authorised / government approved / accredited agencies traceable to national / international standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMD so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMD 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 and retake the readings at contractor's cost.

## **SECTION-9**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **SAFETY, OCCUPATIONAL HEALTH AND ENVIRONMENTAL MANAGEMENT**

##### **Safety, Occupational Health and Environmental Management**

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

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

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

##### **9.1 The Contractor shall:**

###### **9.1.1**

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

###### **9.1.2**

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

###### **9.1.3**

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

###### **9.1.4**

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

###### **9.1.5**

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

- i) Name of Contractor
- ii) Name of Contractor Site-in-charge & Telephone number
- iii) Job Description in short
- iv) Date of start of job
- v) Date of expected completion
- vi) Name of BHEL Site-in-charge.

#### 9.1.6

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

#### 9.1.7

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

### 9.2 **SPECIAL CONDITIONS**

#### 9.2.1 **Safety**

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

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

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

##### 9.2.1.2

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

##### 9.2.1.3

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

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

##### 9.2.1.4

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

##### 9.2.1.5

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

##### 9.2.1.6

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

#### 9.2.1.7

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

#### 9.2.1.8

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

#### 9.2.1.9

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

#### 9.2.1.10

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

#### 9.2.1.11

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

#### 9.2.1.12

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

#### 9.2.1.13

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

#### 9.2.1.14

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

#### 9.2.1.15

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

#### 9.2.1.16

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

#### 9.2.1.17

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

#### 9.2.1.18

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

#### 9.2.1.19

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

#### 9.2.1.20

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

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

#### 9.2.1.21

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

#### 9.2.1.22

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

#### 9.2.1.23

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

#### 9.2.1.24

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

#### 9.2.1.25

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

**Emergency Response**

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

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

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

## 9.2.1.27

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

**9.2.2 OCCUPATIONAL HEALTH**

## 9.2.2.1

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

## 9.2.2.2

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

## 9.2.2.3

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

## 9.2.2.4

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

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

## 9.2.2.5

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

## 9.2.2.6

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

#### 9.2.2.7

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

#### 9.2.2.8

Adequate arrangements shall be made to provide safe drinking water

#### 9.2.2.9

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

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

### 9.2.3.0 HYGIENE and HOUSEKEEPING

#### 9.2.3.1

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

#### 9.2.3.2

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

#### 9.2.3.3

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

### 9.2.4 ENVIRONMENT MANAGEMENT

#### 9.2.4.1

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

#### 9.2.4.2 WASTE MANAGEMENT

##### 9.2.4.3.1

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

##### 9.2.4.3.2

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

#### 9.2.4.3.3

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

#### 9.2.4.3.4

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

#### 9.2.4.3.5

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

#### 9.2.4.3.6

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

### 9.3 SUPERVISION

#### 9.3.1

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

#### 9.3.2

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

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

#### 9.3.3

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

#### 9.3.4

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

### 9.4.0 **TRAINING & AWARENESS**

#### 9.4.1

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

#### 9.4.2

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



#### 9.4.3

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

#### 9.4.4

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

#### 9.4.5

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

### 9.5.0 **REPORTING**

#### 9.5.1

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

#### 9.5.2

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

#### 9.5.3

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

#### 9.5.4

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

#### 9.5.5

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

#### 9.5.6

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

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

#### 9.6.1

BHEL shall conduct audit on the contractor performance and compliance with the project specific requirements of the Environment and Occupational Health & Safety Management systems. The programme of audit shall cover all activities under the contract but will focus particularly on high-risk activities. The Construction Manager shall decide the schedule of audit. The audit findings shall be communicated to the contractors and necessary remedial action as advised by BHEL Engineers shall be under taken within the stipulated time.

#### 9.6.2

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

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

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

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

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

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

##### 9.7.1

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

| Sl. No | Instance of Violation | Fine (in Rs) |
|--------|-----------------------|--------------|
|--------|-----------------------|--------------|

| Sl. No | Instance of Violation   | Fine (in Rs)          |
|--------|---|-----------------------|
| 01.    | Not Wearing Safety Helmet   | 50/-                  |
| 02.    | Not wearing Safety Belt   | 100/-                 |
| 03.    | Grinding Without Goggles  | 50/-                  |
| 04.    | Not using 24 V Supply For Internal Work   | 500/-                 |
| 05.    | Electrical Plugs Not used for hand Machine  | 100/-                 |
| 06.    | Not 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&P   | 500/-                 |
|        | Major Accident or Accidents causing partial loss of earning to the victim         | 50,000/- per victim   |
| 14     | Fatal Accident or Accidents causing permanent loss of earning to the victim       | 1,00,000/- per victim |

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

#### 9.8

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

#### 9.9 Memorandum of Understanding

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

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

| IS No   | YEAR | Amd upto | DESCRIPTION   |
|---------|------|----------|---|
|         |      |          | RAILINGS AND TOE BOARDS   |
| IS 5121 | 1969 |          | SAFETY CODE FOR PILING AND OTHER DEEP FOUNDATIONS   |
| IS 5182 | 1969 | 1982     | METHODS FOR MEASUREMENT OF AIR POLLUTION  |
| IS 5184 | 1969 |          | CODE OF SAFETY FOR HYDROFLUORIC ACID  |
| IS 5216 | 1982 | 2000     | RECOMMENDATIONS ON SAFETY PROCEDURES AND PRACTICE IN ELECTRICAL WORK PART I AND II                      |
| IS 555  | 1979 |          | TABLE FANS  |
| IS 5557 | 1995 |          | INDUSTRIAL AND SAFETY LINED RUBBER BOOTS ( SECOND REVISION)   |
| IS 5916 | 1970 |          | SAFETY CODE FOR CONSTRUCTION INVOLVING USE OF HOR BITUMINOUS MATERIALS                                  |
| IS 5983 | 1980 |          | SPECIFICATION FOR EYE PROTECTORS - FIRST REVISION   |
| IS 6234 | 1986 |          | PORTABLE FIRE EXTINGUISHERS WATER TYPE ( STORED PRESSURE)   |
| IS 692  | 1994 |          | CRITERIA FOR SAFETY AND DESIGN OF STRUCTURES SUBJECTED TO UNDERGROUND BLASTS                            |
| IS 6994 | 1973 |          | SPECIFICATION FOR SAFETY GLOVES   |
| IS 7155 | 1986 |          | CODE OF RECOMMENDED PRACTICE FOR CONVEYOR SAFETY (PART 1 TO 8)  |
| IS 7205 | 1974 |          | SAFETY CODE FOR ERECTION OF STRUCTURAL STEEL WORK   |
| IS 7293 | 1974 |          | SAFETY CODE FOR WORKING WITH CONSTRUCTION MACHINERY   |
| IS 7323 | 1994 |          | GUIDELINES FOR OPERATIONS OF RESERVOIRS   |
| IS 7812 | 1975 |          | CODE OF SAFETY FOR MERCURY  |
| IS 7969 | 1975 |          | SAFETY CODE FOR HANDLING AND STORAGE OF BUILDING MATERIALS  |
| IS 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 No    | YEAR | Amd<br>upto | DESCRIPTION  |
|----------|------|-------------|--|
| IS 9759  | 1981 |             | GUIDELINES FOR DEWATERING DURING CONSTRUCTION                                      |
| IS 9815  | 1989 |             | SERVO MOTOR OPERATED LINE VOLTAGE CORRECTOR<br>(SERVO STABILISER)                  |
| IS 9944  | 1992 |             | RECOMMENDATIONS ON SAFE WORKING LOAD FOR NATURAL<br>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 quoted for offer evaluation.
- 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 OF CONTRACT**

#### **11.0 TIME SCHEDULE, MOBILIZATION, OVERRUN, QUANTITY VARIATION, PRICE VARIATION, PROGRESS MONITORING ETC.**

##### **11.1 TIME SCHEDULE (CONTRACT PERIOD) AND MOBILIZATION OF RESOURCES**

###### **11.1.1 INITIAL MOBILIZATION**

CONTRACTOR SHALL REACH SITE, MAKE HIS SITE ESTABLISHMENT AND DEPLOY NECESSARY INITIAL RESOURCES SO AS TO BE READY TO COMMENCE THE WORK WITHIN TWO WEEKS FROM THE DATE OF FAX LETTER OF INTENT; OR LATER - IF SO DIRECTED BY THE CONSTRUCTION MANAGER OF BHEL.

###### **11.1.2 AUGMENTATION OF MOBILISATION**

CONTRACTOR SHALL SUBSEQUENTLY AUGMENT HIS RESOURCES IN SUCH A MANNER THAT THE ENTIRE WORK IS COMPLETED WITHIN THE TIME SCHEDULE/CONTRACT PERIOD. MOBILIZATION OF CONTRACTOR'S RESOURCES SHALL BE MADE AND AUGMENTED FROM TIME TO TIME IN SUCH A MANNER THAT THE WORK IN SCOPE IS CARRIED OUT IN AN UNINTERRUPTED MANNER.

###### **11.1.3 CONTRACT PERIOD / TIME SCHEDULE**

THE MATERIALS/EQUIPMENTS/COMPONENTS ARE LIKELY TO BE RECEIVED FOR THE PROJECT OVER A PERIOD OF 24 MONTHS. CONTRACT PERIOD SHALL BE CONSIDERED AS 24 **(TWENTY FOUR) MONTHS**.

THE DATE OF RECEIPT/UNLOADING THE VERY FIRST CONSIGNMENT OR THE DATE OF COMMENCEMENT OF MATERIALS MANAGEMENT SERVICES BY THE CONTRACTOR AS DEFINED IN SCOPE OF THIS CONTRACT- WHICHEVER IS EARLIER, SHALL BE RECKONED AS THE START OF THE CONTRACT PERIOD.

###### **11.1.4 GRACE PERIOD**

A GRACE PERIOD OF 4 (FOUR) MONTHS WILL BE GRANTED AFTER COMPLETION OF CONTRACT PERIOD AS ABOVE. DURING THE ENTIRE PERIOD OF CONTRACT AND EXTENSION THEREOF, IF ANY, CONTRACTOR SHALL MAINTAIN PROPER PROGRESS, ADEQUATE MANPOWER, REQUISITE HANDLING AND TRANSPORTATION EQUIPMENTS, TOOLS & PLANTS AND CONSUMABLES ETC TO MEET THE SCHEDULED PROGRAMME AS PER THE PRIORITY SET BY BHEL SITE ENGINEER.

###### **11.1.5 CONSEQUENCE OF DELAY**

IT MAY BE NOTED THAT IN THE EVENT OF DELAY IN COMPLETION IS ATTRIBUTABLE TO THE CONTRACTOR, BHEL WILL IMPOSE PENALTY ON THE CONTRACTOR AS PER GCC.

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

###### **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 CL. 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:

- A) OUTPUT OF WORK NOT ACHIEVED OWING TO NON-AVAILABILITY OF FRONTS.
- B) OUTPUT OF WORK NOT ACHIEVED OWING TO NON-AVAILABILITY OF MATERIALS.
- C) ERECTION/COMMISSIONING PROGRAMME NOT ACHIEVED OWING TO NON-AVAILABILITY OF TOOLS AND PLANTS, MANPOWER AND CONSUMABLES BY THE CONTRACTOR OR ANY OTHER REASON ATTRIBUTABLE TO THE CONTRACTOR.
- D) ERECTION / COMMISSIONING PROGRAMME NOT ACHIEVED DUE TO ANY OTHER REASONS NOT ATTRIBUTABLE TO THE CONTRACTOR.

#### **11.2.3 CONTRACT PERIOD EXTENSION**

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 ON EXISTING TERMS AND CONDITIONS FOR A PERIOD OF MAXIMUM THREE MONTHS AFTER THE END OF CONTRACT PERIOD AND GRACE PERIOD.

#### **11.2.4**

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 NO. 11.2.2 SHALL BE DONE DURING THE EXTENDED PERIOD.

#### **11.2.5**

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.

#### **11.3 OVERRUN COMPENSATION**

THERE IS NO PROVISION OF OVERRUN COMPENSATION IF THE CONTRACT IS EXTENDED AS EXPLAINED ABOVE. ANY EXTENSION REQUIRED BEYOND STIPULATIONS AS ABOVE, THE SAME INCLUDING THE RATES ETC. WILL BE DISCUSSED AND AGREED TO MUTUALLY.

#### **11.4 VARIATION IN RATES/PRICE**

ITEM RATES AS AGREED BETWEEN BHEL AND THE CONTRACTOR SHALL REMAIN FIRM THROUGHOUT THE CONTRACT PERIOD, GRACE PERIOD AND EXTENSION PERIOD, IF ANY. NO PRICE VARIATION IS PROVIDED FOR IN THIS CONTRACT. ACCORDINGLY CLAUSE 2.16 OF GENERAL CONDITIONS OF CONTRACT IS NOT APPLICABLE.

#### **11.5 VARIATION IN QUANTITIES & MEASUREMENT OF WORK**

##### **11.5.1 VARIATION IN QUANTITIES**

QUANTITIES INDICATED IN RATE SCHEDULE ARE APPROXIMATE AND LIABLE TO VARY/ALTER AT THE DISCRETION OF BHEL. THE ACCEPTED UNIT RATES SHALL REMAIN FIRM FOR ANY VARIATION IN THE INDICATED QUANTITIES.

##### **11.5.2 MEASUREMENT OF WORK AND PAYMENT**

PAYMENT WILL BE MADE FOR THE WORK MEASURED AND ACCEPTED BY BHEL AS PER THE AGREED ITEM RATES OF THE CONTRACT. FOR THE PURPOSE OF PAYMENT, GROSS WEIGHT HANDLED INCLUDING WEIGHT OF PACKING WILL BE TAKEN INTO ACCOUNT. GENERALLY WEIGHT INDICATED IN LR/RR/LWB WILL BE TAKEN FOR THIS PURPOSE. IN CASE WEIGHT INDICATED ON LWB IS 'FTL' OR 'FIXED', THE WEIGHT SHALL BE ASSESSED BY BHEL AND PAID ACCORDINGLY WHICH SHALL BE FINAL/BINDING ON CONTRACTOR.

#### **11.6 DEFINITION OF WORK COMPLETION**

THE CONTRACTOR'S SCOPE OF WORK UNDER THESE SPECIFICATIONS WILL BE DEEMED TO HAVE BEEN COMPLETED IN ALL RESPECT, ONLY WHEN ALL THE ACTIVITIES ARE COMPLETED

SATISFACTORILY AND SO CERTIFIED BY BHEL. THE DECISION OF BHEL IN THIS REGARD SHALL BE FINAL AND BINDING ON THE CONTRACTOR.

#### 11.7 INTEREST BEARING 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).

## SECTION-12

### 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 25<sup>th</sup> of previous calendar month to 24<sup>th</sup> 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, on specific request of vendor, this amount may be released on pro rata basis for the value of work executed and accepted by BHEL, along with any RA Bill and onwards, subject to receipt and acceptance of bank guarantee of equal amount in BHEL's prescribed format. 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 BREAK UP FOR EVENT BASED AND PROGRESSIVE PRO-RATA PAYMENTS**

12.1.1 THE 5% OF TOTAL AMOUNT OF RATE SCHEDULE WILL BE RELEASED ON FOLLOWING EVENTS OF CONTRACTOR'S T&P MOBILIZATION:

- (i) 2.0% OF THE TOTAL AMOUNT ON DEPLOYMENT OF & MAKING OPERATIONAL THE 25/40T CRANE AT SITE
- (ii) 1.0% OF THE TOTAL AMOUNT ON DEPLOYMENT OF & MAKING OPERATIONAL THE 8/10 T CRANE AT SITE
- (iii) 1.0% OF THE TOTAL AMOUNT ON DEPLOYMENT OF 2,000 Nos OF WOODEN/ CONCRETE SLEEPERS AT SITE
- (iv) 1.0% OF THE TOTAL AMOUNT ON DEPLOYMENT OF BALANCE 2,000 Nos OF WOODEN/CONCRETE SLEEPERS AT SITE

12.1.2 70% OF THE AGREED ITEM RATES SHALL STAND ASSIGNED FOR PROGRESSIVE PRO-RATA RELEASE TOWARDS MATERIAL HANDLING WORK OF THE RATE SCHEDULE.

PAYMENTS IN RESPECT OF MATERIAL HANDLING ACTIVITIES (LISTED IN SECTION-A OF RATE SCHEDULE) WILL BE MADE FOR THE ACTUAL QUANTITIES EXECUTED.

12.1.3 THE REMAINING 25% OF THE AGREED ITEM RATES SHALL BE ASSIGNED FOR PROGRESSIVE PRO-RATA RELEASE TOWARDS VARIOUS MATERIAL MANAGEMENT SERVICES AS DESCRIBED IN DETAIL IN THESE SPECIFICATIONS.

PAYMENT TOWARDS MM SERVICES WILL BE MADE ON CERTIFICATON BY BHEL ENGINEER SUCH AVAILED SERVICES AS PER AGREED PLAN. THIS IS IRRESPECTIVE OF ANY MATERIALS HANDLED OR NOT IN THAT MONTH.

DETAILED BREAK UP FOR RELEASE ON PROGRESSIVE PRO-RATA PAYMENT WILL BE AS FOLLOWING.

12.2 BREAK UP OF ASSIGNED % OF RATE TOWARDS MATERIAL HANDLING ACTIVITIES FOR PROGRESSIVE PAYMENT

### **12.2.1 INCOMING MATERIALS (ITEM NOS. A.1 OF RATE SCHEDULE)**

#### **12.2.1.1 UNLOADING & PRELIMINARY VERIFICATION OF MATERIALS**

35 % OF AGREED RATES SHALL BE PAID AFTER THE MATERIALS ARE RECEIVED AND UNLOADED AT PROJECT SITE AND VERIFIED (VERIFICATION OF PHYSICAL QUANTITIES AND EXTERNALLY DETECTABLE DAMAGES) WITH REFERENCE TO RR/LWB/PWB SUBJECT TO FURNISHING FOLLOWING INFORMATION AND RECORD ALONG WITH THE BILL.

- (a) SHORTAGE REPORT/OPEN DELIVERY TAKEN W.R.T. RR/LWB, IF ANY, AND ACCEPTANCE THEREOF BY RAILWAY AUTHORITIES/TRANSPORTERS.
- (b) PROOF OF THE CLAIM LODGED WITH RAILWAYS/TRANSPORTERS IN RESPECT OF ABOVE SHORTAGE/OPEN DELIVERY.
- (c) MATERIAL MANAGEMENT FORMS DULY FILLED IN BY CONTRACTOR AND CERTIFIED BY BHEL ENGINEER.

#### **12.2.1.2 DETAILED VERIFICATION & STACKING**

35 % OF THE AGREED RATES SHALL BE PAID AFTER THE MATERIALS ARE DULY STACKED AND VERIFIED AS PER PACKING SLIP/LOADING ADVICE SLIP BY REPACKING, STACKING ETC WHEREVER NECESSARY. PAYMENT WILL BE RELEASED ON SUBMISSION OF INFORMATION AS PER MATERIALS MANAGEMENT FORMS BY THE CONTRACTOR IMMEDIATELY AFTER VERIFICATION OF MATERIALS AND CERTIFIED BY BHEL ENGINEERS. SITE ENGINEER WILL PROVIDE THE REQUISITE PROFORMA.

NORMALLY THE VERIFICATION OF MATERIAL SHALL BE DONE WITHIN THE TIME FRAME SPECIFIED BY BHEL.

**12.2.2 FOR SHIFTING/RE-ARRANGING/ RE-STACKING OF MATERIALS (ITEM SL. NO. A.2 OF RATE SCHEDULE)**

70% OF THE ACCEPTED ITEM RATE ON PRORATA BASIS FOR RESPECTIVE WORK COMPLETED AND CORRESPONDING RECORDS PREPARED IN THE MONTH.

**12.2.3 FOR OUTGOING MATERIALS (ITEM NO. A.3 OF RATE SCHEDULE)**

70% OF ACCEPTED RATE WILL BE PAID AFTER PROPER PACKING/BUNDLING OF MATERIALS AS AND WHERE NECESSARY, LOADING ON THE OUTGOING VEHICLE, PREPARATION OF PACKING LIST AND MATERIAL OUTGOING GATE PASS, GETTING THE CONSIGNMENT INSPECTED AND ENDORSED BY THE SECURITY PERSONNEL OF BHEL AS WELL AS THAT OF CUSTOMER, GETTING THE OUTGOING GATE PASS REGISTERED AT THE 'OUT GATE' OF THE PROJECT.

**12.3 BREAK UP OF ASSIGNED % TOWARDS MATERIALS MANAGEMENT SERVICES FOR PRO-RATA PROGRESSIVE PAYMENT**

THE BREAK UP OF ASSIGNED 25% TOWARDS VARIOUS MM SERVICES SHALL BE AS UNDER:

|                                       |     |
|---------------------------------------|-----|
| A. SUPERVISION:                       | 04% |
| B. PRESERVATION:                      | 03% |
| C. RECORD KEEPING:                    | 07% |
| D. SECRETARIAL & OTHER MISC. SERVICES | 11% |

12.3.1 FOR THE PURPOSE OF RELEASE OF PROGRESSIVE PAYMENTS, MONTH-WISE BREAK UP FOR EACH OF THE ABOVE SERVICES WILL BE JOINTLY WORKED OUT BY BHEL AND THE CONTRACTOR AT SITE AT THE TIME OF START OF WORK. THIS WILL BE DYNAMICALLY AND REGULARLY REVIEWED EVERY MONTH OR MUTUALLY AGREED PERIODICITY AND SHALL BE RE-SET BASED ON EXPECTED REQUIREMENT OF VARIOUS SERVICES KEEPING IN VIEW RELEVANT ASPECTS. ON ALL THE ISSUES AS ABOVE, BHEL ENGINEER'S DECISION SHALL BE FINAL & BINDING.

12.3.2 THESE SERVICES ARE TO BE RENDERED EVEN DURING EXTENDED PERIOD (THE CONTRACT EXTENSION MAY BE DUE TO ANY REASON) WITHOUT ANY ADDITIONAL PAYMENT/ COMPENSATION. THE PERIODICAL REVIEW OF MONTHLY BILLING/PAYMENT BREAK UP SHALL TAKE THIS ASPECT IN CONSIDERATION. PROGRESSIVE PAYMENT FOR EACH SERVICE OF THESE WILL BE MADE ON CERTIFICATION OF BHEL ACCORDINGLY.

**12.4**

TO START WITH CONTRACT VALUE WILL BE CONSIDERED AS THE AWARD VALUE. CONTRACT VALUE WILL BE PERIODICALLY REVIEWED DEPENDING ON THE QUANTITY OF MATERIALS TO BE HANDLED BY THE CONTRACTOR FOR COMPLETION OF THE CONTRACTUAL WORK IN TOTALITY. FINALLY, THE CONTRACT VALUE SHALL BE ARRIVED AT BY MULTIPLYING THE AGREED ITEM RATES OF THE RATE SCHEDULE APPLIED ON ACTUALLY EXECUTED FINAL QUANTITY OF ALL THE MATERIAL HANDLING ACTIVITIES AND THE TOTAL PAYMENT TOWARDS BREAK UP ENVISAGED IN CLAUSE 12.1 HEREIN ABOVE SHALL BE ADJUSTED ACCORDINGLY.

**12.5 MODE OF PAYMENT AND MEASUREMENT OF WORK COMPLETED**

CLAUSE 2.6 OF THE GENERAL CONDITIONS OF CONTRACT AND CLAUSE 11.5.2 SHALL BE APPLICABLE.

## **SECTION-13**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **13.1 EXTRA CHARGES FOR RECTIFICATION AND MODIFICATION**

NOT APPLICABLE

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

**14.0 Insurance**

**14.0 Insurance**

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

**14.1.1**

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

**14.2 Reporting Damages and Carrying out Repairs**

**14.2.1**

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

**14.2.2**

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

**14.2.3**

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

**14.2.4**

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

**14.2.5**

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

**14.2.6**

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

**14.2.7**



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

#### 14.2.8

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

#### 14.2.9

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

#### 14.2.10

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

#### 14.2.11

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

#### 14.2.12

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

### 14.3 Insurance by the Contractor and Indemnification of BHEL

#### 14.3.1

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

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

#### 14.3.2

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

## SECTION-15

### Special Condition of Contract

#### 15.0 Earnest Money Deposit & Security Deposit

##### 15.1 Earnest Money Deposit:

EMD for this tender is Rs. 2,00,000/- (Rupees Two lakhs only). Bidders who have already deposited One Time EMD of Rs. 2.00 lakh will be exempted from submission of any EMD now for this tender.

EMD is to be paid in **cash** (as permissible under Income Tax Act), Pay order or **Demand Draft** in favour of Bharat Heavy Electricals Limited and payable at Nagpur opr Bank Guarantee in BHEL's prescribed format furnished in GCC.

##### 15.1.1 EMD by the bidder will be forfeited as per Tender Documents if

- i) After opening the tender, the bidder revokes his tender within the validity period or increases his earlier quoted rates.
- ii) The bidder does not commence the work within the period as per LOI/Contract. In case the LOI / contract is silent in this regard then within 15 days after award of contract.

##### 15.1.2 EMD shall not carry any interest.

##### 15.1.3 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 shall be furnished by the successful bidder. The rate of Security Deposit will be as below:

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

The security Deposit should be furnished 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 favour of BHEL.
- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.  
(Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act subject to a **maximum of 50%** of the total security deposit value. The balance SD has to be remitted either by cash or in the other forms of security. The Bank Guarantee format should have the approval of BHEL.
- vi) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be remitted (either by cash/DD or **BG for maximum 50%** of total SD) before start of the work and the balance 50% may be recovered from the running bills.
- viii) EMD of the successful bidder shall be converted and adjusted against the cash Security Deposit excepting for such bidder who has remitted One Time EMD.
- ix) The Security Deposit shall not carry any interest.

**NOTE:** Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

**15.2.3** Security Deposit may be refunded to the contractor on his request but after completion of entire contractual scope of work duly certified by construction manager of BHEL. Alternately it will be released with final bill payment.

## **APPENDIX-I**

### **LIST OF MAJOR T&P TO BE PROVIDED BY BHEL ON SHARING BASIS**

BHEL IS NOT PROVIDING ANY TOOLS AND PLANTS FOR THIS WORK. ALSO REFER SECTION-7.

DATE:

SIGNATURE OF THE TENDERER

## APPENDIX-II

### LIST OF MAJOR T&P TO BE PROVIDED BY CONTRACTOR

| SN | DESCRIPTION & CAPACITY OF T&P               | RANGE/ CAPACITY             | MINIMUM QUANTITY | REMARKS   |
|----|---|-----------------------------|------------------|---|
| 01 | MOBILE/ CRAWLER CRANE                       | 40 Ton                      | 1                | TO BE AVAILABLE FROM START OF WORK  |
| 02 | PICK AND CARRY MOBILE CRANE                 | 8 TO 10 Ton                 | 1                | TO BE AVAIALBALE FROM START OF WORK   |
| 03 | TRUCK                                       | ADEQUATE CAPACITY           | AS REQUIRED      | WHILE FUNISHING THE DEPLOYMENT PLAN FOR THESE ITEMS, THE NEED FOR TRANSPORT OF MATERIAL, RECD ON GODOWN DELIVERY BASIS IS TO BE KEPT IN VIEW.   |
| 04 | WOODEN/CONCRETE SLEEPERS                    | Assorted sizes 6 FT. length | 4,000 Nos        | DEPLOYMENT SCHEDULE: 1000 NOS – FROM 1 <sup>ST</sup> MONTH, +1000 Nos – FROM 3 <sup>RD</sup> MONTH, + 2000 Nos – PROGRESSIVELY UPTO 6 <sup>TH</sup> MONTH FROM START OF WORK.<br>CONTRACTOR SHALL TAKE OUT ALL SUCH SLEEPERS AT THE END OF CONTRACT AND LEAVE THE PROJECT PREMISES CLEAN. |
| 05 | SLINGS, 'D'-SHACKLES, HYDRAULIC JACKS, ETC. | AS REQUIRED                 | AS REQUIRED      |   |

LIST FURNISHED ABOVE IS TENTATIVE AND ONLY FOR GENERAL GUIDANCE TO THE BIDDERS FOR THE PURPOSE OF ESTIMATION. SUCCESSFUL BIDDER SHALL DEPLOY ALL NECESSARY T&P REQUIRED TO CARRY OUT THE WORK IN SCOPE OF THIS TENDER SPECIFICATION. DEPLOYMENT SCHEDULE AND AUGMENTATION OF THE TOOLS & PLANTS SHALL BE STRICTLY AS PER ACTUAL REQUIREMENT OF THE WORK AS DECIDED BY BHEL FROM TIME TO TIME.

SIGNATURE OF THE TENDERER

DATE:



**APPENDIX–III****DETAILS OF SIMILAR WORK DONE DURING THE LAST SEVEN YEARS**

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

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

DATE

SIGNATURE OF TENDERER WITH SEAL

## APPENDIX –IV

### CURRENT COMMITMENTS OF THE TENDERER

| SL.N<br>O. | FULL POSTAL<br>ADDRESS OF CLINT<br>& NAME OF<br>OFFICER IN<br>CHARGE | DESCRIP-<br>TION OF<br>WORK | VALUE OF<br>CONTRACT | DATE OF<br>COMMENCE<br>MENT OF<br>WORK | SCHEDULE<br>OF COMPLE-<br>TION | % OF WORK<br>COMPLETED AS<br>ON DATE | EXPECTED DATE<br>OF COMPLETION | REMARKS |
|------------|--|-----------------------------|----------------------|--|--------------------------------|--------------------------------------|--------------------------------|---------|
|            |  |                             |                      |  |                                |                                      |                                |         |
|            |  |                             |                      |  |                                |                                      |                                |         |
|            |  |                             |                      |  |                                |                                      |                                |         |
|            |  |                             |                      |  |                                |                                      |                                |         |
|            |  |                             |                      |  |                                |                                      |                                |         |

DATE

SIGNATURE OF TENDERER WITH SEAL



**APPENDIX-V**  
**FORMAT FOR MONTH-WISE DEPLOYMENT PLAN FOR MATERIAL HANDLING MANPOWER**  
(CATEGORY-WISE NUMBERS TO BE INDICATED FOR EACH MONTH)  
**\*USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

| SL. NO. | CATEGORY                                     | MONTHS |   |   |   |   |   |   |   |   |    |        |
|---------|--|--------|---|---|---|---|---|---|---|---|----|--------|
|         |  | 1      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | SO ON* |
| 01      | RESIDENT MANAGER                             |        |   |   |   |   |   |   |   |   |    |        |
| 02      | SUPERVISORS (FOR CONTRACTOR'S OWN USE)       |        |   |   |   |   |   |   |   |   |    |        |
| 03      | FOREMAN                                      |        |   |   |   |   |   |   |   |   |    |        |
| 04      | STOREKEEPER                                  |        |   |   |   |   |   |   |   |   |    |        |
| 05      | COMPUTER OPERATOR (FOR CONTRACTOR'S OWN USE) |        |   |   |   |   |   |   |   |   |    |        |
| 06      | CRANE OPERATOR                               |        |   |   |   |   |   |   |   |   |    |        |
| 07      | ELECTRICIAN                                  |        |   |   |   |   |   |   |   |   |    |        |
| 08      | TRUCK / TRAILER DRIVER                       |        |   |   |   |   |   |   |   |   |    |        |
| 09      | SARANG                                       |        |   |   |   |   |   |   |   |   |    |        |
| 10      | RIGGER                                       |        |   |   |   |   |   |   |   |   |    |        |
| 11      | CARPENTER                                    |        |   |   |   |   |   |   |   |   |    |        |
| 12      | UNSKILLED WORKER                             |        |   |   |   |   |   |   |   |   |    |        |
| 13      | OTHERS (PLEASE SPECIFY)                      |        |   |   |   |   |   |   |   |   |    |        |
| 14      |  |        |   |   |   |   |   |   |   |   |    |        |
|         | MONTH WISE TOTAL                             |        |   |   |   |   |   |   |   |   |    |        |

DATE

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**APPENDIX-VI**  
**FORMAT FOR MONTH-WISE DEPLOYMENT PLAN FOR MATERIALS MANAGEMENT SERVICES**  
 (CATEGORY-WISE NUMBERS TO BE INDICATED FOR EACH MONTH)  
**\*USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

| Sl. No. | Service Category                  | Months |   |   |   |   |   |   |   |   |    |    |    |        |
|---------|-----------------------------------|--------|---|---|---|---|---|---|---|---|----|----|----|--------|
|         |                                   | 1      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SO ON* |
| 01      | Supervision                       |        |   |   |   |   |   |   |   |   |    |    |    |        |
| 02      | Record Keeping                    |        |   |   |   |   |   |   |   |   |    |    |    |        |
| 03      | Preservation                      |        |   |   |   |   |   |   |   |   |    |    |    |        |
| 04      | Secretarial & Other Misc Services |        |   |   |   |   |   |   |   |   |    |    |    |        |
|         |                                   |        |   |   |   |   |   |   |   |   |    |    |    |        |
|         | Month Wise Total                  |        |   |   |   |   |   |   |   |   |    |    |    |        |

## APPENDIX–VII

### FORMAT FOR DEPLOYMENT PLAN FOR MAJOR TOOLS AND PLANTS

**\* 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    | 7    | 8    | 9    | 10   | SO<br>ON * |
| 01 | MOBILE CRANE –40 T CAPACITY             |                                     |      |      |      |      |      |      |      |      |      |            |
| 02 | 8-10 TON PICK AND CARRY MOBILE<br>CRANE |                                     |      |      |      |      |      |      |      |      |      |            |
| 03 | WOODEN/ CONCRETE SLEEPERS               | 1000                                | 1000 | 2000 | 2000 | 3000 | 4000 | 4000 | 4000 | 4000 | 4000 | CONT       |
|    |   |                                     |      |      |      |      |      |      |      |      |      |            |
|    |   |                                     |      |      |      |      |      |      |      |      |      |            |

CONCRETE SLEEPERS SHALL BE DEPLOYED AS PER THE SCHEDULE SPECIFIED IN APPENDIX-II.

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**APPENDIX-VIII**  
**ANALYSIS OF UNIT RATE QUOTED**

| SN    | DESCRIPTION  | % OF QUOTED RATE | REMARKS |
|-------|--|------------------|---------|
| 01    | SITE FACILITIES VIZ., ELECTRICITY, WATER, AREA LIGHTING IN YARD, OTHER INFRASTRUCTURES |                  |         |
| 02    | SALARY AND WAGES + RETRENCHMENT BENEFITS   |                  |         |
| 03    | CONSUMABLES  |                  |         |
| 04    | T&P DEPRECIATION & MAINTENANCE   |                  |         |
| 05    | ESTABLISHMENT & ADMINISTRATIVE EXPENSES  |                  |         |
| 06    | OVERHEADS  |                  |         |
| 07    | PROFIT   |                  |         |
| TOTAL |  | 100 %            | -----   |

DATE

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