

TENDER SPECIFICATION

T.S NO. BHE/PW/PUR/PIPVG-MMS/598

FOR

THE WORK OF RECEIPT/COLLECTION OF MATERIALS, UNLOADING, VARIFYING, 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 AND AUXILIARIES ,TURBO GENERATOR &AUXILIARIESV ,CONTROLS AND INSTRUMENTATION OF HRSG&TG PACKAGES ,ELECTICAL PACAKAGES INCLUDING GENERATOR TRANSFORMERS AND OTHER TRANSFORMERS ,DG SET, HP & LP PIPING ,REFARACTORY AND 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 2X351.43. MW COMBINED CYCLE POWER PROJECT

2x351.43 MW PIPAVAV CCPP

AT

**GSPC PIPAVAV POWER COMPANY LIMITED
VILL-KOVAYA (NEAR PIPAVAV), TALUKA:
RAJULA, DIST- AMRELI (GUJARAT)**

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 1 OF 2)

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

APPENDICES			
1	LIST OF MAJOR T&P TO BE PROVIDED BY BHEL 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 SEVEN YEARS	APPENDIX-III	01
4	DETAILS OF BIDDER'S CURRENT COMMITMENTS	APPENDIX-IV	01
5	MONTHWISE MANPOWER DEPLOYMENT PLAN	APPENDIX-V	01
6	MONTHWISE DEPLOYMENT PLAN FOR MM 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) as file titled "**NIT+GCC-598**".

@: Issued as separate hard copy booklet 'Tender Specifications Part-II (Price Bid-598)'. Hosted in BHEL web page (www.bhel.com) as files titled "**Price Bid Cover Page-598**" and "**Rate Schedule-598**".

Note:

Rest of the tender documents are included in Tender Specifications Part-I. Hosted in BHEL web page (www.bhel.com) as file titled "**TECH BID-598**".

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/PIVVG-MMS/598

NAME OF THE WORK: THE WORK OF RECEIPT/COLLECTION OF MATERIALS, UNLOADING, VARIFYING, 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 AND AUXILIARIES ,TURBO GENERATOR &AUXILIARIESV ,CONTROLS AND INSTRUMENTATION OF HRSG&TG PACKAGES ,ELECTICAL PACAKAGES INCLUDING GENERATOR TRANSFORMERS AND OTHER TRANSFORMERS ,DG SET, HP & LP PIPING ,REFARACTORY AND 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 2X351.43 MW COMBINED CYCLE CAPTIVE POWER PROJECT

2x351.43 MW PIPAVAV CAPP

AT

GSPC PIPAVAV POWER COMPANY LIMITED

**VILL-KOVAYA (NEAR PIPAVAV), TALUKA: RAJULA,
DIST- AMRELI (GUJARAT)**

EARNEST MONEY DEPOSIT: Please refer Section 15

LAST DATE AND TIME FOR

SUBMISSION OF OFFERS: PLEASE REFER NOTICE INVITING TENDER IN WEB PAGE (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: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 4 of 66

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.

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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 5 of 66

PROJECT INFORMATION

INTRODUCTION

GSPC PIPAVAV POWER CO. Ltd. is going to install 2x351.43 MW Gas Based Combined Cycle Power Plant (CCPP). The entire work of this project have been awarded to BHEL on total turn-key basis (EPC Contract) comprising of Design, Engineering, Manufacturing, Supply, transportation, Unloading, Storage, erection, testing, Commissioning with Auxiliaries and ancillaries including civil & structural works and handing over of TWO MODULE of 351.43MW (1 GTG FR9FA + 1 STG + 1 HRSG) within 33 months from zero date/ 29th Mar 2008.

The project site is approx 16 Km south of Rajula town and 6 Km of State Highway No.34.

APPROACH TO SITE

Location:

In Amreli District of Gujarat State, Latitude 71° 16' N / Longitude 20° 54' E
The site is a PIPAVAV Plant of GSPCL in Amreli District of State of Gujarat.

Access by Road:

PIPAVAV is connected by District Road from State Highway NH 34 running between Rajula and Jafrabad.

Nearest Railway Station: Rajula

Nearest Airport: Diu (80 kms) / Ahmadabad (375kms by road)

Nearest Seaport: Pipavav (35 kms)

1. **Owner** GSPC PIPAVAV POWER COMPANY Ltd (GPPC)
2. **Project Title** 2X351.43 MW PIPAVAV CCPP
3. **Location** Village: Kovaya Near Pipavav Taluka: Rajula,
Distt: Amreli, Gujarat, India
4. **Nearest Railway Stn.:** Rajula

METEOROLOGICAL DATA

5. Ambient Air Temperature

- a. Highest ever temperature recorded (Dry Bulb) 43 Deg C
- b. Lowest ever temperature recorded (Dry Bulb) 10 Deg C
- c. Maximum Daily Average (Dry Bulb) 33 Deg C
- d. Average Mean temperature
(Dry Bulb) : 33 deg C (For CCPP Performance)
- e. Average Mean temperature

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

(Wet Bulb) : 28 deg C (For CCPP Performance)

f. Average Mean temperature

(Wet Bulb) : 28.5 deg C (For Cooling Tower Performance)

g. Design Ambient for Electrical Equipment 50 deg C

6. Relative Humidity

a. Maximum 89%

b. Minimum 10%

c. Average 70%

7. Rainfall

a. Annual Average – 1050 mm in the period June to October. Maximum intensity of rainfall; 150 mm/hr continuously maximum rainfall in a day – 400mm.

8. Wind Data

a. 16.5 km/hr (Normal)

9. Seismic Zone - Zone III as per IS: 1893-2005 (Part – IV)

10. Fuel - Regassified Liquefied Natural Gas(RNLG)

11. Ambient Air Quality - The site is located close to Kovaya village and is bordering Birla group Cement plant and colony .This area is classified under semi-urban area.

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 NO DEVIATION CERTIFICATE 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 Certificate by Bidder's Banker for Overdraft & BG Limits is Furnished(Certificate shall not be older than six months from the Last Date for offer submission)	YES	NO
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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 8 of 66

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/PIVVG-MMS/598** 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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIVVG-MMS/598

Part-I: Technical Bid Specifications

Page 9 of 66

CERTIFICATE OF NO DEVIATION

REFERENCE: TENDER SPECIFICATION No. BHE/PW/PUR/PIPVG-MMS/598

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 REFERNCE ABOVE INCLUNG NOTICE INVITING TENDER, ALL ASSOCIATED CLARIFICATIONS AND AMENDMENTS.

DATE:

SIGNATURE OF THE TENDERER

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 10 of 66

**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/PIVVG-MMS/598 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/PIVVG-MMS/598 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. 2,00,000/- (RUPEES TWO LAKH ONLY) DETAILS OF EMD PAYMENT ARE FURNISHED IN THE CHECK LIST.

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

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

PLACE:
DATE :

SIGNATURE OF BIDDER:
ADDRESS:

WITNESSES WITH THEIR ADDRESS

SIGNATURE	NAME	ADDRESS
1.		
2.		

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur
Tender Specs No. BHE/PW/PUR/ PIVVG-MMS/598

Part-I: Technical Bid Specifications

Page 12 of 66

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 2X351.43 MW PIPAVAV COMBINED CYCLE POWER PROJECT, GSPC PIPAVAV POWER COMPANY LTD. SHALL BE BROADLY 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, 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.).

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 13 of 66

- 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 SUPPLIED BY BHEL (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 & ITS AUXILIARIES, ASSOCIATED EQUIPMENTS ETC. INCLUDING BOIs.
4. STEAM TURBINE – GENERATOR SET & ITS AUXILIARIES INCLUDING PUMPS, HEAT EXCHANGERS, CONDENSERS 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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

SOME OF THE MAJOR HEAVY CONSIGNMENTS ARE:

SL.NO.	DESCRIPTION	APPROX WT
01	BOILER DRUM	
	A) HP DRUM	160 MT
	B) IP DRUM	45 MT
	C) LP DRUMS	25 MT
02	ROTOR FOR THE TG	37 MT
03	ROTOR FOR THE GTG	45 MT
03	GENERATOR TRANSFORMER	250 MT
04	STEAM TURBINES	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 RESPECTIOVE 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. HP-IP modules (if sent as assembled unit from Hyd)

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 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 TRASPORT OF SMALLS FROM GODOWN TO SITE, PAYMENT ONLY @ Rs. 5/ PER KM FOR TOTAL TO AND FRO 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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 16 of 66

SIMILARY, FOR ANY SMALLS TO BE SENT TO DIFFERENT LOCATIONS/SITES FROM SITE AND WHICH NEEDS TO BE BROUGHT TO TRNASPORTER'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 SUCH 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, PANELS, 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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 ARISES 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

CONTRACOR, 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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 18 of 66

THE PROJECT IS BEING EXECUTED ON ERECTION & COMMISSIONING BASIS WHERE THE UNIT IS SCHEDULED FOR HANDING OVER BY SEP 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-TGG AND THEIR AUXILIARIES AND POWER CYCLE, REGENERATIVE CYCLE & LP PIPING, ELECTRICAL AND CONTROL & INSTRUMENTATION ETC. THE SUPPLIES WILL START WITH THAT OF HRSG FROM OCT-NOV '08. THE MAJOR SUPPLIES OF EPC/TURNKEY PACKAGE ARE LIKELY TO CONTINUE TILL AUG - SEP'10. APPROX QUANTUM OF MATERIAL IS 26000 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 JUL-AUG '08 AND MAJOR SUPPLIES ARE EXPECTED TO COMPLETE BY JUL- AUG '10. THE APPROXIMATE QUANTUM IS 10600 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 - 2 Service Points [\[SEE EXPLANATION\]](#)

(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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 19 of 66

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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 20 of 66

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 - 4 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 (3+3) 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).

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 21 of 66

- 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_A = AMOUNT **ASSIGNED** TOWARDS THE PARTICULAR SERVICE FOR THE CONCERNED MONTH AS PER AGREED PLAN.

D_S = NUMBER OF EQUIVALENT DAYS INCLUDING SUNDAYS AND BHEL HOLIDAYS OF **SATISFACTORY** SERVICES IN THE PARTICULAR BILLING MONTH.

D_M = TOTAL NUMBER OF DAYS INCLUDING SUNDAYS AND BHEL HOLIDAYS IN THE PARTICULAR **BILLING MONTH**.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 $(P_A - P)$ 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 [\[BACK\]](#)

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 [\[BACK\]](#)

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 [\[BACK\]](#)

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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 23 of 66

4. RECORD KEEPING [\[BACK\]](#)

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 [\[BACK\]](#)

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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 NOT PROVIDE ANY LAND FOR CONSTRUCTION OF LABOUR COLONY ETC. CONTRACTOR SHALL MAKE HIS OWN COMPLETE 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 NOT BE PROVIDED BY THE CLIENT/BHEL. THE CONTRACTOR AT HIS OWN COST SHALL ARRANGE CONSTRUCTION BY DRILLING SUITABLE BORE WELLS OR ANY OTHER ARRANGEMENT.

(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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 26 of 66

5.4 TAXES, DUTIES, LEVIES

5.4

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

5.4.1

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

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

5.4.2 Service Tax & Cess on Service Tax

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

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

5.4.3 VAT (Sales Tax /WCT)

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

5.4.4 Modalities of Tax Incidence on BHEL

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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.

5.4.5 New Taxes/Levies

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

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

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

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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 29 of 66

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.

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 and other statutory provisions and as per BHEL engineer's instructions.
- 8.2 Preparation of quality assurance log sheets and protocols with customer/ consultants/statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification. These records shall be submitted to BHEL/customer for approval from time to time.
- 8.3 A daily logbook of all measurements and testing/calibration should be maintained by contractor on the job for detailing inspection details of various equipments.
- 8.4 The performance of welders will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately.
- 8.5 All the welders shall carry identity cards as per the proforma prescribed by BHEL only welders duly authorized by BHEL/customer/consultant shall be engaged on the work.
- 8.6 Contractor shall provide all the measuring monitoring devices (MMDs) required for completion of the work satisfactorily. These MMDs shall conform to job requirement in respect of measurement range, accuracy level & any other specification. The indicative list of MMDs required for this work and to be made available by the contractor is given in Appendix-II. The list will be reviewed by BHEL and the contractor shall meet any augmentation needed.
- 8.7 The MMDs deployed by the contractor shall, at all stages of work, have valid and current calibration. BHEL shall be done the calibration of these MMDs from the agencies accredited/ approved. Copy of calibration certificates in respect of these MMDs has to be submitted to BHEL. Periodical status report regarding validity of calibration has to be submitted to BHEL. Re-calibration/ re-validation shall be done periodically as per BHEL specifications. Contractor shall conform to the specifications of BHEL regarding storage of the MMDs.
- 8.8 Re-work necessitated on account of use of invalid MMDs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions, including resource augmentation if any, as specified by BHEL to make-up for the loss of time.
- 8.9 In the course of work BHEL may counter/ finally check the measurements with their own MMDs. Contractor shall render all assistance in conduct of such counter/final measurements.
- 8.10 Total quality is the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide for the services of quality assurance engineer.

8.11 Stage Inspection By FES/QA Engineers

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's manufacturing units and quality assurance teams from field quality assurance 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 as part of work.

8.12 Statutory Inspection of Work

8.13.1

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

8.13.2

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

1) Inspectorate of the Chief Electrical Inspector of Madhya Pradesh OR Central Electricity Authority as per statute.

2) Any other authority connected to this work.

The scope includes getting the approval of the installations from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL engineer's instructions, submitting documents, radiographs etc. and following up the matter with them. Contractor shall also make all arrangements for offering the products/systems for inspection, as applicable, to the concerned authority.

8.13.3

It shall be contractor's responsibility to obtain approval of statutory authorities, whenever applicable, for conducting any work which comes under the purview of these authorities.

8.13.4

BHEL will pay fees for visits, inspection fees etc. of these statutory authorities. Please refer Section-5 for working arrangement for payment of fees in this regard. All other expenses shall be borne by the contractor. In case these inspections have to be repeated due to reasons attributable to the contractor and fees have to be paid again, the contractor has to pay such additional charges.

8.13.5

It shall be the responsibility of contractor to obtain license from chief electrical inspector, Maharashtra for carrying out high voltage work. Contractor shall also comply with the provisions of the latest Electricity Act, including the amendments thereof.

8.13.6

The contractors shall pay all fees connected with testing of his welders/workers and testing, inspection & calibration of his MMD and T&P.

8.14.0

The quality management system of BHEL, Power Sector – Western Region (PSWR) has already been certified and accredited under ISO 9002 standards in this regard. The basic philosophy of the quality management system is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product/procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of such non-conformities, & maintain the relevant quality records. The non-conformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers/vendors of various products/services contributing in the work are also considered as part of the quality management system. As such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.

8.15.0 Field Quality Assurance

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

SECTION-9
SPECIAL CONDITIONS OF CONTRACT

SAFETY, OCCUPATIONAL HEALTH AND ENVIRONMENTAL MANAGEMENT

SPECIAL CONDITIONS OF CONTRACT

Safety, Occupational Health and Environmental Management

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

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

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

9.1 The Contractor shall:

9.1.1

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

9.1.2

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

9.1.3

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

9.1.4

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

9.1.5

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

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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

9.1.6

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

9.1.7

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

9.2 **SPECIAL CONDITIONS**

9.2.1 **Safety**

9.2.1.1 **Safety Plan**

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

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

9.2.1.2

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

9.2.1.3

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

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

9.2.1.4

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

9.2.1.5

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 34 of 66

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.

9.2.1.26 **Emergency Response**

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

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

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

9.2.1.27

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

9.2.2 OCCUPATIONAL HEALTH

9.2.2.1

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

9.2.2.2

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

9.2.2.3

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

9.2.2.4

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

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

9.2.2.5

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 40 of 66

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

9.5.6

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

9.6 AUDIT REVIEW AND INSPECTION

9.6.1

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

9.6.2

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

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

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

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

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

9.7 **NON COMPLIANCE:-**

9.7.1

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

Sl. No	Instance of Violation	Fine (in Rs)
01	Not Wearing Safety Helmet	50/-
02.	Not wearing Safety Belt	100/-
03.	Grinding Without Goggles	50/-
04.	Not using 24 V Supply For Internal Work	500/-
05.	Electrical Plugs Not used for hand Machine	100/-
06.	Not 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 _____

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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)

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

IS No	YEAR	Amd upto	DESCRIPTION
IS 1446	1985		CLASSIFICATION OF DANGEROUS GOODS (FIRST REVISION)
IS 1476	1979		REFRIGERATORS
IS 1641	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): GENERAL PRINCIPLES OF FIRE GRADING AND CLASSIFICATION
IS 1642	1989		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS- DETAILS OF CONSTRUCTION
IS 1643	1988		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): EXPOSURE HAZARD
IS 1646	1997		CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): ELECTRICAL INSTALLATIONS
IS 1904	1986		CODE OF PRACTICE FOR DESIGN AND CONSTRUCTION OF FOUNDATIONS IN SOIL
IS 1905	1987		STRUCTURAL SAFETY OF BUILDINGS MASONARY WALLS
IS 2082	1985		ELECTRICAL GEYSERS
IS 2171	1985		PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CARTRIDGE)
IS 2309	1989		PRACTICE FOR THE PROTECTION OF BUILDINGS AND ALLIED BUILDINGS AGAINST LIGHTENING
IS 2312	1967		EXHAUST FANS
IS 2361	1994		SPECIFICATION FOR BUILDING GRIPS - FIRST REVISION
IS 2418	1977		TUBULAR FLUORSCENT LAMPS IS 2418 (FT-1)
IS 2750	1964		STEEL SCAFFOLDINGS
IS 2762	1964		SAFE WORKING LOADS IN KGS FOR WIRE ROPE SLINGS
IS 2878	1986		FIRE EXTINGUISHERS CARBON DIOXIDE TYPE (PORTABLE AND TROLLEY MOUNTED)
IS 2925	1984		SPECIFICATION FOR INDUSTRIAL SAFETY HELMETS
IS 3016	1982		CODE OF PRACTICE FOR FIRE PRECAUTIONS IN WELDING AND CUTTING OPERATIONS- FIRST REVISION
IS 3315	1974		DESERT COOLERS
IS 3521	1989		INDUSTRIAL SAFETY BELTS AND HARNESS
IS 368	1983		IMMERSION WATER HEATERS
IS 3696	1991		SAFETY CODE OF SCAFFOLDS AND LADDERS PART 1 TO 2
IS 3737	1996		LEATHER SAFETY BOOTS FOR WORKERS IN HEAVY METAL INDUSTRIES
IS 374	1979		CEILING FANS INCLUDING REGULATORS
IS 3764	1992		EXCAVATION WORK - CODE OF SAFETY
IS 3786	1983		METHOD FOR COMPUTATION OF FREQUENCY AND SEVERITY RATES FOR INDUSTRIAL INJURIES AND CLASSIFICATION OF INDUSTRIAL ACCIDENTS
IS 3935	1966		CODE OF PRACTICE FOR COMPOSITE CONSTRUCTION
IS 4014	1967		CODE OF PRACTICE FOR STEEL TUBULAR SCAFFOLDING
IS 4081	1986		SAFETY CODE FOR BLASTING AND RELATED DRILLING OPERATIONS
IS 4082	1977	1996	STACKING AND STORAGE OF CONSTRUCTION MATERIALS AND COMPONENTS AT SITE
IS 4130	1991		DEMOLITION OF BUILDINGS - CODE OF SAFETY PART 1 TO 2
IS 4138	1977		SAFETY CODE FOR WORKING IN COMPRESSED AIR (FIRST REVISION)

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 44 of 66

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 45 of 66

IS No	YEAR	Amd upto	DESCRIPTION
IS 8978	1985		INSTANTANEOUS WATER HEATERS
IS 8989	1978		SAFETY CODE FOR ERECTION OF CONCRETE FRAMED STRUCTURES
IS 940	1989		PORTABLE FIRE EXTINGUISHERS WATER TYPE (GAS CARTRIDGE)
IS 9457	1980		SAFETY COLOURS AND SIGNS
IS 9679	1980		CODE OF SAFETY FOR WORK ENVIRONMENTAL MONITORING
IS 9706	1997		CODE OF PRACTICE FOR THE CONSTRUCTION OF AERIAL RPEWAYS FOR THE TRANSPORTATION OF MATERIAL
IS 9759	1981		GUIDELINES FOR DEWATERING DURING CONSTRUCTION
IS 9815	1989		SERVO MOTOR OPERATED LINE VOLTAGE CORRECTOR (SERVO STABILISER)
IS 9944	1992		RECOMMENDATIONS ON SAFE WORKING LOAD FOR NATURAL AND MAN-MADE FIBRE ROPE SLINGS
IS 996	1979		SINGLE PHASE ELECTRIC MOTORS
ISO 3873	1977		SAFETY HELMET

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 46 of 66

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 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 36 MONTHS. CONTRACT PERIOD SHALL BE CONSIDERED AS 36 **(THIRTY SIX) 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 6 (SIX) 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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 SPECIFICATIONS 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 SIX 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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 49 of 66

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.

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 25th of previous calendar month to 24th of the current month.

12.0.2

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

12.0.3

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

The 5% thus remaining shall be on account of workmanship guarantee of work executed. The same will be released after completion of the guarantee period of **12 months** from the date of completion of entire work as certified by BHEL.

However, 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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 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 4,000 Nos OF WOODEN/ CONCRETE SLEEPERS AT SITE
- (iv) 1.0% OF THE TOTAL AMOUNT ON DEPLOYMENT OF BALANCES 4,000 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 AFTER AVAILING SUCH 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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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)

60% OF THE ACCEPTED ITEM RATE ON PRORATA BASIS FOR RESPECTIVE WORK COMPLETED AND CORESPONDING 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:	05%
B. PRESERVATION:	04%
C. RECORD KEEPING:	07 %
D. SECRETARIAL & OTHER MISC. SERVICES	05 & 04 % RESPECTIVELY

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.

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 53 of 66

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

SPECIAL CONDITIONS OF CONTRACT

14.0 Insurance

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

14.1.1

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

14.2 Reporting Damages and Carrying out Repairs

14.2.1

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

14.2.2

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

14.2.3

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

14.2.4

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

14.2.5

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

14.2.6

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

14.2.7

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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 & BANK GUARANTEE

15.1 Earnest Money Deposit:

- i) EMD for this tender is Rs. 2,00,000/- (Rupees Two lakhs only).
- ii) Bidders who have already deposited One Time EMD of Rs. 2.00 lakh are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' certificate issued by BHEL/PSWR, Nagpur shall be enclosed along with the Offer.
- iii) 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.
- iv) No other form of EMD remittance shall be acceptable to BHEL.

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).

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

- 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 SHALL NOT BE REFUNDED TO THE CONTRACTOR EXCEPT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT

15.3 BANK GUARANTEE

- i. It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be held liable for issue of any reminders regarding expiry of the Bank Guarantees.
- ii. In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly conveyed through the Construction Manager to BHEL PSWR/HQ, Nagpur
- iii. In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- iv. **Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.**
- v. Bidders to ensure that the Bank Guarantees submitted are exactly as per format given in the Tender documents.
- vi. The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due). However, in exceptional cases, where guarantee is directly received by Vendor, the Vendor shall instruct the Bank to send an unstamped duplicate copy of the guarantee directly to BHEL under Registered Post (Acknowledgement Due).

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

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	2	1No. TO BE AVAIALBALE FROM START OF WORK. 2 nd CRANE TO BE AVAILABLE AFTER 3 MONTHS 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	8,000 Nos	DEPLOYMENT SCHEDULE: 2000 NOS – FROM 1 ST MONTH, +2000 Nos – FROM 3 RD MONTH, + 2000 Nos – FROM 5 TH MONTH, +2000 FROM 7 TH MONTH FROM START OF WORK. (TOTAL FROM THE 7 TH MONTHS – 8000 Nos) 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:

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 60 of 66

APPENDIX-III

DETAILS OF SIMILAR WORK DONE DURING THE LAST SEVEN YEARS

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

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

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 61 of 66

APPENDIX –IV

CURRENT COMMITMENTS OF THE TENDERER

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

DATE

SIGNATURE OF TENDERER WITH SEAL

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 62 of 66

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											
03	FOREMAN											
04	STOREKEEPER											
05	COMPUTER OPERATOR											
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

SIGNATURE & SEAL OF BIDDER

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 ON *
01	MOBILE CRANE –40 T CAPACITY											
02	8-10 TON PICK AND CARRY MOBILE CRANE											
03	WOODEN/ CONCRETE SLEEPERS	2000	2000	4000	4000	6000	6000	8000	8000	8000	8000	

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

DATE

SIGNATURE & SEAL OF BIDDER

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 65 of 66

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

SIGNATURE & SEAL OF BIDDER

BHARAT HEAVY ELECTRICALS LIMITED: PSWR:Nagpur

Tender Specs No. BHE/PW/PUR/ PIPVG-MMS/598

Part-I: Technical Bid Specifications

Page 66 of 66