

TENDER SPECIFICATION

Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21

Date: 13.08.2020

**KPCL Raichur TPS Unit#3 (210MW) - R&M of
Instrumentation & Control Systems - E&C of
Station C&I, Boiler C&I and TG C&I Systems with
Field Equipments/Instruments for BTG Package.**

DUE DATE FOR SUBMISSION: 11.00 Hrs. – 25.08.2020

VOLUME-I BOOK-I

TECHNICAL & PRICE BID



BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Power Sector – Southern Region
Services After Sales Division - , Ek Tara Building
39, Sarojini Devi Road, Secunderabad-500 003.

NOTICE INVITING TENDER (NIT)
Submission only through E-Procurement Portal
<https://www.bhel.abcprocure.com>

Note: Bidder may download Tender Documents from web sites

To

Dear Sir / Madam

Sub: NOTICE INVITING TENDER

Online Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned below) **through E-Procurement Portal <https://www.bhel.abcprocure.com> only**, for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

This tender shall be under category of National Competitive Bidding (NCB).

1.0 Salient Features of NIT

Sl. No	ISSUE	DESCRIPTION	
i	TENDER NUMBER	BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21 Date: 13.08.2020	
ii	BROAD SCOPE OF JOB	KPCL Raichur TPS Unit#3 (210MW) - R&M of Instrumentation & Control Systems - E&C of Station C&I, Boiler C&I and TG C&I Systems with Field Equipments/Instruments for BTG Package.	
iii	DETAILS OF TENDER DOCUMENT		
A	VOLUME-I BOOK-I	Technical & Price bid	Applicable
B	VOLUME-I BOOK-II	Volume-IB : Special conditions of Contract, Rev 01 dated 1st June 2012, Amendment 01 dated October 01, 2015 Volume-IC : General conditions of Contract Rev 01 dated 1st June 2012, Amendment 03 dated October 01, 2015 Volume-ID : Forms & Procedures Rev 01 dated 1st June 2012 Amendment 01 dated October 01, 2015	Applicable
iv	Issue of Tender Documents	1. This is an E-tender floated online through our E-Procurement Portal https://www.bhel.abcprocure.com 2. Sale Start: 13.08.2020 3. From BHEL website (www.bhel.com ->)	Applicable

		Tender->Notifications): Tender documents for bidder's reference can be downloaded from this website till due date of submission.	
v	Due Date & Time of Offer Submission	<p>Date : 25.08.2020, Time : 11:00 Hrs</p> <p>The bidder should submit their offer online in e-Procurement portal at</p> <p>https://www.bhel.abcprocure.com</p> <p>Offers are invited in two-parts only.</p> <p>Bidders are requested to upload their offer well in advance in order to avoid last minute congestion at this website.</p> <p>Hard copy bid or bids through E-mail / fax shall not be accepted.</p>	Applicable
vi	Opening of Tender	<p>Date : 25.08.2020, Time :11:30 Hrs</p> <p>Notes:</p> <p>(1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time.</p> <p>(2) Bidder may depute representative to witness the opening of tender (with authorization letter)</p> <p>(3) Technical bids will be opened on above mentioned date & time and price bid opening date & time will be intimated to technically qualified bidder separately after scrutinising the tender.</p>	Applicable
vii	EMD Amount	<p>Rs. 4,75,000/- (Rupees Four Lakhs Seventy Five Thousand only).</p> <p>Notes:</p> <p>(1) EMD Exemption for MSEs is not applicable for this tender.</p> <p>(2) One time EMD not applicable for this tender.</p> <p>Refer clause 2.0 of NIT for mode of deposit of EMD</p>	Applicable
viii	Last Date For Seeking Clarification	Bidders may submit their queries in https://www.bhel.abcprocure.com at least 7 days before the due date of offer submission along with soft version also addressing to Tender issuing department contact details as mentioned below.	Applicable
ix	Reverse Auction	<p>"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.</p> <p>Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of</p>	Applicable

		<p>bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.”</p> <p>Reverse auction shall be conducted within 24 Hrs. from tender opening.</p> <p>Contact person details for participating in reverse auction:</p> <p>Name: _____.</p> <p>Mobile/Phone No.: _____.</p> <p>E-Mail ID: _____.</p>	
x	Latest updates	<p>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com->Tender Notifications), and portal https://www.bhel.abcprocure.com.</p> <p>Bidders to keep themselves updated with all such information. This also form part of tender hence the same shall be enclosed with their offer.</p>	Applicable
xi	Tender issuing department contact details	<p>Routine correspondences regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued shall be posted in https://www.bhel.abcprocure.com. Any other queries may be addressed directly to the tender issuing department as mentioned below:</p> <p>1. Shri.MVN Rambabu Phone: 040 27700565 E-mail: mvnrambabu@bhel.in</p> <p>2. Shri. Virendra Kumar Phone: 040 27700565 E-mail: vir@bhel.in</p>	
xii	PRE QUALIFICATION CRITERIA (TECHNICAL)	<p>Bidder should have executed C&I works for BTG/GT or C&I works consisting of DCS/DDC/Station C&I in one unit of >= 100 MW</p> <p>One (1) work of value not less than Rs. 2,00,00,000/- OR</p> <p>Two (2) works each of value not less than Rs.1,25,00,000/- OR</p> <p>Three (3) works each of value not less</p>	Applicable

		<p>than Rs. 1,00,00,000/- in the last 7 years (from latest date of bid submission) against direct order from BHEL / PSUs / State Electricity Utilities/Multinational companies.</p> <p>The word executed means "Synchronization" of unit (s).</p> <p>Bidder should submit work order copy and work completion certificates. Work completion certificates are not required if works are executed under BHEL.</p>	
xiii	PRE QUALIFICATION CRITERIA (FINANCIAL)	<p>Bidder must have achieved minimum average Turnover of Rs. 72,00,000/- in last three financial years (2016-17, 2017-18 & 2018-19)</p> <p>Net Worth (Only in case of companies) of the bidder should be positive.</p> <p>Bidder must have earned profit in any one of the last three financial years (2016-17, 2017-18 & 2018-19).</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Bidders should submit Audited Balance Sheet and Profit & Loss Account for the three Financial Years (FY) as mentioned above. Turnover for bidders shall be calculated from the Audited Balance Sheet and Profit & Loss Account for the three Financial Years (FY) as mentioned above. 2. In case audited Financial statements have not been submitted for all the three years as indicated above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years. 3. If financial statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant. 4. Net worth shall be calculated based 	Applicable

		<p>on the latest Audited Accounts as furnished for 'C-1' above.</p> <p>Net worth = Paid up share capital* + Reserves</p> <p>(*:Share Capital OR Partnership Capital OR Proprietor Capital as the case may be)</p> <p>5. PROFIT shall be PBT earned during any one year of three financial years as mentioned above.</p>	
xiv	Order Precedence of	<p>In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:</p> <ol style="list-style-type: none"> Amendments / Clarifications / Corrigenda / Errata etc issued in respect of the tender documents by BHEL Notice Inviting Tender (NIT) Price Bid Technical Conditions of Contract (TCC)—Volume-1A Special Conditions of Contract (SCC) —Volume-1B General Conditions of Contract (GCC) —Volume-1C Forms and Procedures —Volume-1D 	Applicable
xv	Validity of offer	The rates should be quoted as given in the tender schedule with validity up to 12 months from the date of tender opening.	Applicable

2.0 **MODE OF DEPOSIT OF EMD**

EMD for this tender shall be **Rs. 4,75,000/-** (Rupees Four Lakhs Seventy Five Thousand only). Offers submitted without EMD will be liable for rejection.

- EMD may be submitted only in the following forms:
 - i) Cash deposit as permissible under the extant Income Tax Act (before tender opening)
 - ii) Electronic Fund Transfer credited in BHEL account (before tender opening)

In case of Electronic Fund Transfer, bank details are as follows:

Account Name: BHARAT HEAVY ELECTICALS LTD,

Account No: 00000030359171259,

IFS CODE: SBIN0008779,

BANK: STATE BANK OF INDIA,

BRANCH: ST. Marys Road branch (Secunderabad)

On transfer of amount through EFT, receipt of the same to be submitted as mentioned in clause no. 4.0.

- iii) Bankers cheque/pay order/demand draft in favor of BHEL.
- vi) In addition to above, the EMD amount in excess of Rs. Two Lakhs may be accepted in the form of Bank Guarantee from Scheduled bank. The Bank Guarantee in such cases shall be valid for at least six months from the scheduled due date of tender submission mentioned in the Notice Inviting Tender.
 - a) Date of Expiry of Claim shall be minimum of 60 days after the validity of Bank Guarantee.
 - b) Proforma for Bank Guarantee for EMD is enclosed with this Tender.
 - c) Bank Details for the purpose of taking EMD BG are mentioned below :-

Name and Address of Beneficiary :	Bharat Heavy Electricals Ltd. Power sector- Southern Region, Service After Sales 39, Sarojini Devi Road, Ek Tara Building, Secunderabad – 500003.(Telangana)
Name of Bank of Client :	State Bank of India, ST. Marys Road branch (Secunderabad)
IFSC Code :	SBIN0008779
Account No. :	00000030359171259

Details for SFMS (Structured Financial Messaging System) transmission of BG

Bank and Branch :	SBI Secunderabad
Branch Code :	0916
SWIFT Code :	SBININBB321
IFSC Code :	SBIN0000916

If EMD is submitted in the mode of (iii) Bankers cheque/pay order/DD or (iv) Bank Guarantee, the same should be forwarded along with covering letter mentioning the tender reference, description & due date for tender submission (mention the same details on envelope also) to the following address so as to reach us on/before due date.

Sr.DGM - Sub Contracts,

Bharat heavy Electrical Ltd.,
 Power Sector Services After Sales,
 EK Tara Building,
 39, Sarojini Devi Road,
 SECUNDERABAD – 500 003.
 Phone: 040 27700565.

EMD will be forfeited as per NIT Conditions, if:

- i) After opening the tender and within the offer validity period, the tenderer revokes his tender or makes a modification in his tender which is not acceptable to BHEL.
- ii) The Contractor fails to deposit the required Security deposit or commence the work within the period as per LOI/Contract.
- EMD given by all the tenderers will be refunded within 15 days of award of work.
- EMD shall not carry any interest.
- EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of extant " Guidelines on Suspension of Business dealings with suppliers/contactors" and forfeited / released based on the action determined under these guidelines.

3.0 **Procedure for Submission of Tenders:** This is an E-tender floated online through our E-Procurement portal <https://www.bhel.abcprocure.com>. The bidder should respond by submitting their offer online only in our e-Procurement portal at <https://www.bhel.abcprocure.com>. Hard copy bid or bids through email/ fax shall not be accepted.

I. Pre-requisite for Offer Submission: -

The process of utilizing e-procurement necessitates usage of DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION) and you are requested to procure the same immediately, if not presently available with you.

The Tenderer should own and use the Digital Signature Certificate (Class 3 – SHA2 – 2048 BIT – Signing & Encryption) (DSC) issued on behalf of their / his - firm/organization/company/proprietor. Tenderer to register with EProcurement Portal <https://www.bhel.abcprocure.com> with their DSC.

Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

The contact details of the DSC Certifying Authority may be obtained from “Bidder Manual”, as available in <https://www.bhel.abcprocure.com>.

II. Digital Signing of e-Tender

Tenders shall be uploaded with all relevant documents in .pdf / zip format. The relevant tender documents should be uploaded by an authorized person having Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION digital signature certificate (DSC).

i) The Requirement:

- a. A PC with Internet connectivity.
- b. DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)

Details of E-procurement service Provider-:

The contact details of the service provider are given below:
e-Procurement Technologies Limited (abcProcure),
B-704 / 705, Wall Street - II, Opp. Orient Club,
Nr. Gujarat College, Ellis Bridge,
Ahmedabad - 380 006, Gujarat (India)

Timings:

Monday to Friday - 10:00AM to 07:00PM
1st, 3rd & 5th Saturday - 10:00AM to 06:00PM
2nd & 4th Saturday – Holiday

Contact Person: BHEL Support Team Ahmedabad
Cell: +91-8160087732

Phone Nos.: +91-79-68136809/871/861/823/872
e-Mail: bhel.Support@abcProcure.com

Further contact details can be obtained by visiting the following webpage: <https://www.bhel.abcprocure.com/EPROC/contactus>

IV. Documents Comprising the e-Tender

The tender shall be submitted online - ONLY EXCEPT EMD (in physical form) as mentioned below:

i) Technical Tender (Un priced Tender)

Bidders shall furnish the following information along with technical bid (preferably in pdf format):

- i). Earnest Money Deposit (EMD) furnished in accordance with Clause 2.0 of NIT.
- ii). All Technical details (eg. Eligibility Criteria requested, Technical Conditions of Contract) should be attached in e-tendering module (As detailed in Clause 4.0 below), failing which the tender stands invalid & may be REJECTED.

ii) Price Bid:

- a. Prices are to be quoted as per the Price Bid format attached online on E-tender portal.
- b. The price should be quoted for the accounting unit indicated in the e-tender document.
- c. The item description, Quantity and Unit of measurement, as mentioned in Price bid uploaded by BHEL and subsequent revisions issued by BHEL, shall be binding on the bidder.
- d. Prices quoted will be taken as the TOTAL PRICE FOR CARRYING OUT THE ENTIRE WORK AS PER THE SCOPE OF WORK SPECIFIED AND ALL THE RELEVANT DETAILS FURNISHED IN THIS TENDER. The rates should be quoted both in figures and in words. All corrections to be initialed. In case of variance between figures and words, the rates advantageous to BHEL shall be taken as final for all purposes.
- e. The rates offered shall be firm inclusive of everything and no variation will be allowed whether in cost of labour or any other factor affecting the price of the contract.
- f. BHEL does not bind itself to accept the lowest tender. BHEL reserves the right to accept or reject the lowest or any other tender without assigning any reason and the work may be allotted to one or more than one contractors.
- g. Incomplete price bid is liable to be rejected.
- h. The offer shall be valid for a period of 12 months from the date of opening of tender.

Note:

- i). It is the responsibility of tenderer to go through the Tender document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by BHEL.

ii). A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.

iii). A tender, which does not fulfil any of the above requirements and / or gives evasive information / reply against any such requirement, shall be liable to be ignored and rejected.

iv). In case offer is sent through hard copy / fax / telex / cable / electronically in place of e-tender, same shall not be considered.

v). Vendors are also requested to go through Bidder Manual for BHEL Bidders available on <https://www.bhel.abcprocure.com>

V. DO NOT'S (Don'ts)

Bidders are requested NOT to submit the hard copy of the Bid. In case offer is sent through hard copy / fax / telex / cable / electronically in place of e-tender, the same shall not be considered.

4.0 DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING in EPROCUREMENT PORTAL <https://www.bhel.abcprocure.com> SHALL BE AS DETAILED BELOW:

Sl. No	Description	Remarks
A	<u>Techno-Commercial Bid CONTAINING THE FOLLOWING:-</u>	
i	Covering letter / Offer forwarding letter of Tenderer.	
ii	Signed Copy of Tender document along with UNPRICED PRICE BID (without disclosing rates/price, but mentioning only 'QUOTED' or 'NOT QUOTED') along with Annexure-A	
iii	No deviation duly filled and signed	
iv	All Amendments / Correspondences / Corrigenda / Clarifications / Changes / Errata etc pertinent to this NIT.	To be uploaded under the form Techno-commercial Bid.
v	EMD Remittance Proof	
vi	PF Code No. (enclose copy of PF code allotment letter of EPF authority)	
vii	ESI Code No. (enclose copy of ESI code allotment letter of ESI authority)	
viii	PAN No.(enclose copy of PAN Card)	

ix	GST Registration No. (enclose copy of GST Registration certificate)	
x	Declaration by bidder for price opening through Reverse Auction.	
xi	Declaration by bidder regarding NIL Insolvency proceedings.	
xii	EFT Registration Form On bidder letter head duly signed by Banker	
xiii	Work order copies & work completion certificates as mentioned in pre-qualification criteria	
xiv	Audited Balance Sheet and Profit & Loss Account duly certified by qualified Chartered Accountant: Viz. 2016-17, 2017-18 & 2018-19	
xv	Any other details preferred by bidder with proper indexing.	
B	PRICE BID shall be as mentioned below:	
i	Total Amount corresponding to the total works is to be quoted in the Price Bid Form available in e-Procurement portal. Bidders to note that documents uploaded under the form Price Bid shall be considered for commercial evaluation of offer only if they are in above format	To be uploaded under the form Price Bid. Refer “Bidder Manual for BHEL Bidders” available at https://bhel.abcprocure.com

SPECIAL NOTE:

- i) All documents / annexures submitted with the offer shall be properly attached / entered / uploaded in the respective sections. BHEL shall not be responsible for any missing documents.
- ii) Your offer & documents submitted along with offer shall be signed & stamped in each page by your authorized representative. No overwriting / correction in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.

5.0 Deviation with respect to tender clauses and additional clauses / suggestions / in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.

6.0 Bid should be free from correction, over writings using corrective fluid etc. Any interlineation, cutting erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.

7.0 **TOTAL PRICE:**

Prices quoted will be taken as the TOTAL PRICE FOR CARRYING OUT THE ENTIRE WORK AS PER THE SCOPE OF WORK SPECIFIED AND ALL THE RELEVANT DETAILS FURNISHED IN THIS TENDER. The rates should be quoted both in figures and in words. All corrections to be initialed. In case of variance between figures and words, the rates advantageous to BHEL shall be taken as final for all purposes.

- 7.1 The rates offered shall be firm inclusive of everything and no variation will be allowed whether in cost of labour or any other factor affecting the price of the contract.
- 7.2 BHEL does not bind itself to accept the lowest tender. BHEL reserves the right to accept or reject the lowest or any other tender without assigning any reason and the work may be allotted to one or more than one contractors.

8.0 **DEFECT LIABILITY/WORKMANSHIP GUARANTEE:**

- 8.1 Defect liability/workmanship guarantee is for period of 12 months from the date of satisfactory commissioning of unit. Any defects noticed during this period shall be rectified by the successful bidder free of cost immediately or during the next available opportunity (shutdown).
- 8.2 Defect Liability Period of 12 (Twelve) months will again be calculated from the date of attending defects noticed during defect liability period.
- 8.3 In the event of the successful bidder failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works at the successful bidder's risk and cost, without prejudice to any other rights and recover the same from any of the dues payable to successful bidder.

9.0 **COMMENCEMENT OF WORK-EXPECTED:**

Successful bidder has to mobilize the site immediately to start pre-shutdown works on receipt of communication from BHEL for fulfilling all statutory requirements like., Police verification, Medical fitness, Gate/Entry pass formalities etc. However, in case of urgency, bidder may be asked to mobilise the site immediately on getting intimation from BHEL. We shall inform to the successful bidder through any available mode of communication. The successful bidder has to specifically confirm that all required resources and manpower will be mobilized immediately after intimation.

In view of the Post COVID scenario, successful bidder must abide by the statutory requirement and guidelines issued by central government and respective state governments (from time to time) during mobilisation and execution of the work. BHEL shall not compensate against any claim of the successful bidder on above account.

10.0 The entire work shall be carried out by the successful bidder as decided by Resident Manager / BHEL / SAS with the best skills and know how available. The scope of work is only an indicated and not exhaustive. However, successful bidder should abide by the decision of the Resident Manager for any variations of the work.

11.0 COMPLETION PERIOD FOR THIS CONTRACT:

11.1 The entire work covered under the scope of this contract is to be completed within 60 days from the date of shutdown and release of the unit for erection of C&I systems for R&M works by KPCL. The work shall be deemed to have been completed only after commissioning of the equipment and taken over by KPCL. However, for any additional work the completion period shall be proportionately increased.

11.2 For any other additional works as mutually agreed between BHEL & Successful bidder, completion period will be suitably increased.

12.0 LIQUIDATED DAMAGES / PENALTY:

12.1 If the successful bidder fails to maintain the required progress of work which results in delay in the completion of the work as per the contractual completion period, BHEL shall have the right to impose Liquidated Damages/ Penalty @ 0.5% of the contract value per day delay subject to a maximum of 10% of contract value for delay attributable to successful bidder. Contract value for this purpose shall be final executed value including optional works.

12.2 **Compulsory Three shift operation** to be taken up as decided by BHEL/Site In-charge: All the works are to be taken up round the clock (i.e. 24 hours) in three shift operation. Hence all the works are to be planned round the clock without any break. No extra claim will be entertained for three shift operation, idling of manpower due to delay in arrangement of inputs etc. The entire work is to be taken up on war footing with maximum effort. Successful bidder has to engage sufficient manpower to ensure work with equal pace in all the three shifts.

13.0 TERMS OF PAYMENT:

13.1 **Activity- wise breakup has been indicated against each activity in the scope of work as per attached Annexure-A. In case of reduction in quantum of work at site, payment shall be released only for the activities actually carried out as per the rates arrived. Contract value shall be revised accordingly.**

13.2 GST compliant tax invoice **as per clause 14.2 (Taxes and Duties)** is mandatory for releasing of payment: -

13.3 Filling up the enclosed EFT format duly signed by your bankers is also mandatory for releasing your payment, as payments will be effected through EFT only.

13.4 **GST remittance proof as per clause 14.2 (Taxes and Duties)** has to be enclosed for reimbursement of GST.

13.5 Payment will be made up to a maximum of 90% of CV against 2 progressive bills towards Dismantling, Erection and commissioning

13.5.1 80 % of the value executed shall be payable progressively along with all applicable taxes and duties on completion of dismantling activities and erection of components mentioned in Annexure - A on prorate basis supported by measurement of work done duly certified by BHEL/SAS Resident Manager.

- Documents mentioned in check list (**CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL**) attached with this tender shall be submitted with each running bill.

13.5.2 10% of the value executed on completion of commissioning of components mentioned in Annexure - A on prorate basis. Supported by measurement of work done duly certified by BHEL/SAS Resident Manager. **10% of value executed** for item Sl. No. 201 & 202 (dismantling of components) can also be claimed at this stage.

- Documents mentioned in check list (**CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL**) attached with this tender shall be submitted with each running bill.

13.6 Balance 10% of the executed contract value (Final bill) on completion of entire work, successful commissioning of unit and taking over of unit by KPCL. In addition, the following are to be complied and necessary documents are to be submitted along with the bill.

- Documents mentioned in check list (**CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL**) attached with this tender shall be submitted with each running bill.

13.7 Refund of Security Deposit:

Security Deposit amount shall be refunded on successful completion of defect liability period. Successful bidder has to submit WAM-10 along with covering letter for refund of SD.

14.0 TAXES AND DUTIES

14.1 All taxes and duty other than GST & Cess and BOCW Cess

The successful bidder shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tolls, royalty, commissions, Stamp Duties, or other charges / levies, 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.

14.2 **Goods and service Tax (GST) & Cess**

Bidder's price/rates shall be exclusive of GST & Cess (if applicable) (herein after termed as GST). Successful bidder shall submit to BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which BHEL will claim the input tax credit in its return.

Agency shall furnish proof of GST registration with GSTN Portal covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.

Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules wherein the 'Bill To' details as per Clause 16.0.

GST charged in the tax invoice/debit note/revised tax invoice by the successful bidder shall be released separately to the successful bidder only after successful bidder files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with corresponding details of outward supply of the successful bidder and has paid the GST at the time of filing the monthly return.

In case BHEL has to incur any liability (like interest etc.) due to denial/reversal of input tax credit in respect of the invoice submitted by the successful bidder, for the reasons attributable to the successful bidder, the same shall be recovered from the successful bidder.

In case BHEL is deprived of the Input tax credit due to any reason attributable to successful bidder, the same shall not be paid to the successful bidder. Tax invoice/debit Note/revised tax invoice shall contain the particulars as prescribed in GST law.

TDS under GST is applicable and shall be deducted at prevailing rates on gross invoice value from the running bills. E-way bills / Transit passes / Road Permits, if required for materials / T&P etc., bought into the project site is to be arranged by the successful bidder only.

14.3 The successful bidder shall furnish proof of GST registration with GSTN Portal in the State in which the Project is being executed, covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project / work.

14.4 **Statutory Variations**

Statutory variations are applicable under the GST Acts, against production of proof. The changes implemented by the Central / State Government during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision are to be suitably paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favour of BHEL. No other variations shall be allowed during the tenure of the contract.

14.5 **Modalities of Tax Incidence on BHEL:**

Where GST law permits more than one option or methodology for discharging liability of tax/ levy/ duty; the contractor shall approach BHEL before choosing any option to discharge his tax liability. BHEL shall have the right to direct the contractor to adopt the appropriate option

considering the amount of tax liability on BHEL 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.

14.6 BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998

In case any portion of work involves execution through building or construction workers, then compliance to the above titled Acts shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances it may be ensured as under:-

It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a licence to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate of licence / permission to BHEL within a period of one month from the date of award of contract.

It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these act and rules including that of payment / deposit of 1% cess on gross payment made for value of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.

It shall be the responsibility of the sub-contractor to furnish the receipts /challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the sub-contractor during the preceding month.

It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923. The contractor shall, however ensure before deposit of any BOCW Cess, that customer is not depositing the same in order to avoid excess deposit of cess.

The contractor shall bear cost of BOCW cess either by way of deposit or through recovery by BHEL in case the same is deposited by the customer.

In case of failure in above mentioned compliances, BOCW Cess @ 1% as well as applicable penalty as specified in BOCW Act/Rules shall be deducted from the contractor.

14.7 Direct Tax

BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing rates shall be effected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act.

15.0 DEMOBILIZATION AND REMOBILIZATION

Whatever may be the reason/reasons, no extra payment will be made for the idle labour or any other charges including demobilization and remobilization of the site.

16.0 INVOICE SUBMISSION:

The bills are to be submitted through BHEL/Resident Manager addressed to

PLACE OF SUPPLY:

KARNATAKA POWER CORPORATION LIMITED,
RAICHUR THERMAL POWER STATION, UNIT#3 (210MW),
SHAKTHINAGAR-584140,
RAICHUR DISTRICT, KARNATAKA STATE.

BILLING ADDRESS:

BHEL PSSR, YERMARUS THERMAL POWER PLANT,
RAICHUR GROWTH CENTRE,
YERMARUS, Raichur, Karnataka, 584134

BHEL GST Registration No is: 29AAACB4146P1ZB

17.0 SAFETY / PENALTY:

17.1 The bidder will be fully responsible for the safety of his workmen and shall provide necessary safety appliances like safety Helmets, Safety Shoes, Safety belts, Safety goggles and Safety apron, etc., to all workmen as per Safety Rules as enforced by BHEL / **Customer** at site without any additional cost.

17.2 Luminous safety jackets should be provided to all the Engineers, Supervisors and Workers deployed by contractor at site. All the contractor manpower should use the luminous safety jackets inside the plant premises.

17.3 In view of COVID-19, sufficient number of PPEs like face masks, disposable gloves, facility for frequent sanitization etc., for the contractor manpower shall be arranged by the contractor at work location.

17.4 Contractor shall strictly follow the guidelines/standard operating procedures regarding COVID-19 issued by State Government, Central Government, Local authorities and Customer.

17.5 Separate experienced supervisors are needed to be provided round the clock for supervising the safety practices.

17.6 Penalty will be imposed for not wearing the safety appliances, which are as follows:

- Safety Helmets = Rs. 2500/-
- Safety Shoes = Rs. 2500/-
- Safety Belt at heights = Rs. 2500/-
- Safety Goggles during grinding / gas cutting = Rs. 2500/-

18.0 For office and stores accommodation, open site will be given. Any other facilities required have to be arranged at the bidder's cost.

- 19.0 The bidder should obtain statutory permission if any required for carrying out the contract at his own cost.
- 20.0 The bidder's personnel should follow all the rules in vogue at site.
- 21.0 In case of doubt, clarification or ambiguity, decision of BHEL will be final.
- 22.0 The bidder should execute the work to the satisfaction of concerned BHEL officials as per the job requirement as decided by BHEL. In case the work carried out is not satisfactory, BHEL reserves the right to terminate the contract with 3 days advance notice and get the balance works carried out by any other agency and recover the entire extra cost if any from any of the amounts of the bidder available with BHEL.
- 23.0 No part of the contract shall be sublet without written permission of BHEL/SAS nor shall transfer be made by power of attorney authorizing others to receive the payment on behalf of the bidder.

24.0 CALIBRATION OF IMTE:

All measuring instruments including temperature and pressure measuring devices used at site are to be duly calibrated and certified by recognized agency with traceability to NPL or equivalent standards which should be valid during the entire period of execution of work at site. The calibration certificate having validity shall be produced at the time of establishment of site, and as and when required by BHEL.

25.0 HIRE CHARGES FOR T&P, INSTRUMENTS ETC., PROVIDED FROM BHEL OR THROUGH BHEL:

- 25.1 If the bidder fails to supply the required fit for use T&Ps, measuring instruments etc., during the execution of work, and if the same are provided by BHEL or through BHEL, the hire charges as decided by BHEL, will be levied on the basis of certification from BHEL/Resident Manager at site. Further on return of the items after usage, if BHEL is to incur any expenditure due to any damage/loss/repair/rectification on the above items, charges incurred and as decided by BHEL on this account will be levied in addition to the hire charges.

26.0 ADDITIONAL INFORMATION TO BE NOTED BY THE BIDDER:

26.1 Completion on emergency:

In case if the work has to be completed by compressing the completion schedule if so decided by BHEL on emergency, the bidder has to arrange immediately on intimation all required necessary inputs and additional efforts at no extra cost. In the event of any failure on the part of the bidder to meet such requirements on emergency, BHEL reserves the right to arrange all the inputs at its discretion and deduct the entire cost from the bidder as per BHEL procedures.

26.2 Safe custody of Components:

All the dismantled components should be stored safely in polythene covering with proper identification tags for easy traceability required polythene covers and identification tags to be arranged by the bidder. Bidder has to take care of all the components including the dismantled items under his custody and ensure the immediate safe availability of all

those items as and when required by BHEL, till commissioning of the equipment or for handing over to the concerned before vacation of the site as decided by BHEL. In case of any loss, damage or theft of these materials/components, BHEL will have the right to impose total recovery along with all charges including penalty in arranging the materials.

- 26.3 The entire work is time bound, and most of the activities are precision jobs. Hence, bidder has to deploy highly qualified skilled Engineers/ Supervisors/Fitters/ technicians as per site requirement as advised by BHEL. Any delay or failure by the bidder to meet such manpower requirements at site will be viewed seriously. Any suitable remedial action from BHEL side including manpower deployment will be at the cost of the bidder to the extent of charging entire cost including BHEL Daily Service Rates for manpower deployed.
- 26.4 List of tools, jigs & fixtures, testing kits available with the bidder in fit for use condition and which can be provided by the bidder during the execution of work. If some special fixtures are required, bidder has to fabricate the same and hand over to customer. Material for the same will be provided but welding rods and machining is in bidder's scope.
- 26.5 Bidder has to make payment to his workmen/employees as per the provisions of state/central laws.
- 26.6 **HSE requirements to be fulfilled by the sub-contractor (Integration of ISO 15001 environmental management system and OHSAS 18001 for Occupational Health and Safety Management System).**

27.0 STATUTORY REQUIREMENT:

- 27.1 *Bidder should obtain the labour license from labour inspector of respective state. Labour insurance coverage for all the workmen before start of the work. Insurance coverage should be obtained for all the workmen and not for a few workmen. It is the responsibility of contractor to provide medical insurance for all the workmen engaged for COVID-19 ailments.*
- 27.2 *Bidder should obtain the PF clearance certificate and ESI clearance certificate from the concerned Authorities.*
- 27.3 *Any deductions made by customer from BHEL towards non-compliance of statutory requirement, safety requirement, etc. by the contractor engaged by BHEL, will be recovered from any of the dues payable to contractor.*
- 28.0 The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site "www.bhel.com → tender notification".
- 29.0 "The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com>

and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."

- 30.0 If any of the above clauses are contradicting with clauses of General conditions of the contract the above conditions will prevail.
- 31.0 The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site "www.bhel.com → tender notification".
- 32.0 "The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."
- 33.0 If any of the above clauses are contradicting with clauses of General conditions of the contract the above conditions will prevail.
- 34.0 All pages of this Tender and especially the Scope of Work (Annexure-3) and Price Schedule-(Annexure-4) should be returned after duly signed and stamped along with the quotation by the bidder.

35.0 SUSPENSION OF BUSINESS DEALINGS

"BHEL reserves the right to take action against contractors who either fail to perform or Tenderers/Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time".

36.0 PVC AND ORC ARE NOT APPLICABLE FOR THIS CONTRACT.

- 37.0 ***BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).***

Thanking you.

**Yours faithfully,
For and on behalf of BHEL,**

Sd/-

**(Virendra Kumar)
Sr.DGM/SCT**

ANNEXURE – 1**SPECIAL CONDITIONS FOR KPCL Raichur TPS Unit#3 (210MW) - R&M of Instrumentation & Control Systems - E&C of Station C&I, Boiler C&I and TG C&I Systems with Field Equipments/Instruments for BTG Package.**

1. Statutory requirements like labour license from labour Inspector, Labour insurance, PF and ESI clearance certificates from statutory authority are need to be submitted.
2. Major consumables like Organ, Acetylene, Oxygen gases, general purpose Electrodes (6013) shall be arranged by the bidder.
3. Required Platform materials/scaffolding shall be arranged by the bidder.
4. You shall deploy experienced personal for carrying out the works. If any person found not fit or not having suitable experience for the job, our Resident Manager has the discretion to remove and bidder has to replace the person immediately with suitable experienced person.
5. Transportation of the new materials from stores and returning of the removed materials to the notified area of the customer shall be arranged by the bidder.
6. Exclusively a safety supervisor having diploma in safety should be arranged by the bidder for supervising the safety activities.
7. Machining of small components/coupling bolts shall be done by the bidder.
8. Supply of material which do not go into the equipment being overhauled permanently is in bidder's scope.
9. All tools & tackles as per site requirement are to be arranged by bidder
10. Calibrated instruments are to be arranged by bidder for carrying out the tests in bidder's scope. of bidder.
11. Any repair /modification work and minor works required for the successful commissioning shall be done by the bidder without any additional cost.
12. The bidder has to co-ordinate with principal customer for arranging of EOT crane available at work location for lifting of Panels. Necessary co-ordination with EOT operators shall be done by contractor.
13. Portable cabin for safe custody of T&P near the work place to be arranged by the bidder.

IMPORTANT NB : STATUTORY REQUIREMENTS LIKE PF, ESI CLEARANCE AS PER TELANGANA GOVT. AND AS PER KPCL-RAICHUR HRD TO BE FULLY COMPLIED WITH. ANY SPECIAL RULES OR ALLOWANCES APPLICABLE AS PER KPCL-RAICHUR-HRD TO BE FULLY COMPLIED WITH

ANNEXURE-2**MAN POWER REQUIREMENT**

1. Customer has insisted to provide experienced diploma holders and engineers. This should be strictly adhered. It may strictly be noted that if experienced engineers and diploma holders are not deployed, accordingly recovery shall be made from your bill based on recommendation by Resident Manager. Recovery amount shall be as per the rates mentioned below.

High Skilled:	Rs. 919.97/- per manday of 8 hours.
Skilled :	Rs. 787.35/- per manday of 8 hours.
Semiskilled :	Rs. 654.74/- per manday of 8 hours.
Unskilled :	Rs. 560.21/- per manday of 8 hours.

2. Resident Engineer – 1 – 10 to 15 years' experience, must be an Engineering Graduate. Supervisors must be diploma holders with sufficient experience in C&I Erection and commissioning works.
3. **Exclusively two qualified safety supervisors (for day and night shifts) having diploma in safety, should be arranged by the contractor mandatorily for supervising the safety activities. If not deployed, accordingly recovery shall be made from your bill based on recommendation by Resident Manager.** Recovery amount shall be as per the high skilled rates mentioned above.
4. The sub-contractor man power deployed shall handover the gate passes to the security through the Resident Manger / BHEL.
5. Laptop in latest configuration, printer with scanner, with internet data card/dongle and operator must be provided at BHEL site office. In case this facility is not provided, BHEL will recover reasonable amount as per RM's recommendation.
6. Recovery towards non-provision of facilities shown in clause 5 above shall be Rs. 25,000/- per month.
7. Office boy must be provided for RM/BHEL at site office.
8. Office furniture such as table, chairs, almirahs etc., shall be provided by bidder in case if the customer is not in position to provide such facility.
9. Safety of the equipment to be given utmost attention.
10. You should make sufficient man power available for taking up this work with accent on quality.

ANNEXURE-3**SCOPE OF WORK****KPCL Raichur TPS Unit#3 (210MW) - R&M of Instrumentation & Control Systems - E&C of Station C&I, Boiler C&I and TG C&I Systems with Field Equipments/Instruments for BTG Package.**

The scope of work includes removal of old equipment/cables and erection of new equipment, testing and commissioning of all the equipment listed below. Any other work required to be carried out to commission the unit not specifically mentioned also is to be carried out to complete system. Erection & commissioning of any instrument/equipment/panel means installation, laying of impulse line & tubing, calibration, cabling, termination, carrying out necessary pre-commissioning checks, testing, commissioning and putting the system in operation.

- A. Dismantling of the existing STATION (C&I), BOILER (C&I) and TG (C&I) panels with HMI components.
- B. Erection and Commissioning of complete STATION (C&I), BOILER (C&I) and TG (C&I) system supplied under R&M works for new DDCMIS system.
- C. Dismantling of existing Field equipments, which will be replaced with new equipments, supplied under R&M scope.
- D. Erection, Commissioning and Calibration of Field Equipments and Instruments supplied under R&M scope.
- E. Dismantling of existing 110V AC UPS system with battery and 24 V DC Battery chargers.
- F. Erection and Commissioning of new UPS system with battery, which will be Supplied under R&M scope.
- G. Dismantling of cables, trays and junction boxes which will be replaced with new cables, trays and junction boxes supplied under R&M scope
- H. Erection of cables, trays and junction boxes
 - 1. Laying and termination of Max net cables between cabinets and to HMI.
 - 2. Laying and termination of cables between existing control desk and DCS Cabinets.
 - 3. Laying and termination of all types of cable covered (supplied) in R&M scope.
 - 4. Laying and termination of PTFE cables between TG Field Instruments and Field Junction Box.
 - 5. Laying and termination of Instrument cables between GAMP panel and corresponding local field for acquiring signals for interlock protection and controlling and monitoring of generator DCS .
 - 6. Laying and termination of cables from offered Station (C&I), Boiler (C&I) and TG (C&I) to annunciation and SOE system supplied under R&M scope. KPC1 shall furnish list of signals during detail engineering.
 - 7. New electronic earthing for the proposed control panels and HMI components shall be included in the scope of supply under R&M work.
 - 8. Existing Electronic earth pit shall be used.

9. Laying and termination of power cables from UPS to new ACDB's and from ACDB's to respective control cabinets and HMI peripherals and few field applications as per enquiry.
10. Laying and termination of inter panel cab ling between new 11QV AC CSP and 220V DC CSP supplied under R&M works and FSSS panel.
11. Laying Instrumentation cables from STLD sensor to panel.
12. Existing field cables shall be retained. However, for new field Instruments Supplied under R&M scope and other application. The proposal Includes laying and termination of new cables.
13. Erection of sub trays for new field instruments supplied under R&M scope and other application.

I. Drawing material from store and Transporting to site.

J. Handing over of all the dismantled items to KPCI stores.

K. Handing over of Total system to KPCI.

14. Grouting / Chipping of floor / making floor cut out as required during erection of panels and also during alignment of panels to be arranged / done by the contractor.

1 Impulse Pipe Welding (If Required)
 Welding of impulse pipe and fitting shall be carried out by TIG / socket welding as may be the case. Welding shall be performed by qualified welders only. High Pressure impulse line must be welded by qualified welder only. All consumables like normal Electrodes and also special type electrode as per BHEL has to be arranged by the contractor. Incase of Thermowell removal/erection -insulation removal and re erection by Contractor along with Thermowell grinding,welding included in scope.

2 Removal of old cables from existing panels, boards, control desks, local JBs & field instruments. Dismantling of instruments, JBs, local control panels.

3 Cable laying, tagging and terminations have to be carried out as per the cable schedules provided by BHEL/Customer.

4 Contractor has to arrange IBR welder and Boiler liaisoning (if required) for mechanical works/valves wherever required as per BHEL's instruction.

Detailed BOQ is mentioned below.

SL. NO.	ITEM	QTY	UOM
1	Steam Generator contorls comparising of Electronic system Cabinets of size. (800 mm x 800 mm x 2000 mm)SG	20	Nos
2	Steam Turbine contorls comparising of Electronic system Cabinets of size. (800 mm x 800 mm x 2355 mm)TG	16	Nos
3	Station C&I:Electronic system Cabinets of size. (800 mm x 800 mm x 2355 mm)BOP	35	Nos
Human Machine Interface & Plant Information (Common for SG/TG/Station C&I)			
5	Operator Workstations	8	Nos
6	Shift Incharge OWS	1	Nos

7	Engineer's station	2	Nos
8	Historical Storage & Retrieval Station	2	Nos
9	LVS (laser type . 67 inch with resolution of 1400x1050)	5	Nos
10	maxLiNK Station in Computer room	1	Nos
11	A3 Color Laser Printer with scanner	2	Nos
12	A3 81W Laser Printer with scanner	2	Nos
13	Network panel with Ethernet Switches & other hardware etc.	1	Set
14	Optic Fibre cable (for CWPHE Remote Control) Single Mode	6000	Mtr
15	Unit Control desk(UCB) / operator desk for OWS	1	Nos
16	Modular Furniture including tables & chairs for above HMI peripherals	1	Set
17	Emergency Back-up console (including FSSS Console,TG Critical Drives and Station C&I critical drive operation for safe shut-down along with minimum annunciation facia/window for critical alarms.	1	Set
18	Storage Almirah (For storing Mandatory Spares & O&M Manuals)including all T&P and Consumables	10	Set
19	Lab Test Bench ,incl T&P and necessary Consumables.	1	Nos
	TURBO SUPERVISORY SYSTEM-Erection and Commissioning		
20	Bearing vibration new sensors(in X & Y direction for turbine Bearing nos 1,2,3&4 while for 5,6&7 new sensors shall be as per existing measurements philosophy)	1	Set
21	Relative shaft vibration new sensors as per existing measurements philosophy	1	Set
22	Overall Expansion Pick-Ups for LPT as per existing philosophy	1	Set
23	Axial Shift Pick-Ups as per existing philosophy	1	Set
24	Junction Boxes & Conduit Etc	1	Set
25	UPS (uninterrupted Power Supply) with battery banks (60 minute battery back-up)	1	Set
26	ACDB panel	1	Set
	ERCTION and COMMISSIONING OF LOCAL / FIELD MOUNTED INSTRUMENTS		
27	Ultrasonic Level Transmitter	9	Nos
28	Complete set Oxygen Analyser	8	Nos
29	Smoke Density Monitoring System	2	Nos
30	Mass Flow meter at CST inlet (0.85 T/Hr)-1No ,HFO Flow Meter-2Nos	3	Nos
31	Pressure Transmitter	88	Nos
32	Differential Pressure Transmitters	21	Nos

33	Displacement type Level Transmitter	9	Nos
34	Thermocouples with Thermowell	179	Nos
35	RTD with Thermowell	92	Nos
36	Pressure Switches	5	Nos
37	Pressure Gauges	22	Nos
38	Temperature Gauges	17	Nos
39	Air filter regulator with auto drain	276	Nos
40	E/P Convertor (Type 1-69Nos ,Type 2-17Nos)	86	Nos
41	Purge meter circuit	14	Nos
42	1/2 inch Ball valve (with locking system)	262	Nos
43	Transmitter Rack (LIR)	34	Nos
Cable Trays (50mm, 100mm, 150mm)			
44	Perforated (type)50 mm x 25 mm without cover	3625	Mtr
45	Perforated (type)100 mm x 25 mm without cover	3000	Mtr
46	Perforated (type)150 mm x 40 mm without cover	2875	Mtr
JUNCTION BOX			
47	12 way	100	Nos
48	24 way	50	Nos
49	48 way	40	Nos
50	CJC Boxes - 12 way / 24 way	40	Nos
51	CJCB for TG area	20	Nos
52	SHEET STEEL JUNC. BOX-24 WAY	15	Nos
53	SHEET STEEL JUNC. BOX-48 WAY	35	Nos
54	SHEET STEEL JUNC. BOX-72 WAY	25	Nos
55	SHEET STEEL JB - DIN RAIL MOUNTED 6TT	12	Nos
IMPULSE PIPE			
56	IMPULSE PIPE A 106 GR C 1/2" NB SCH 160	900	Mtr
57	IMPULSE PIPE A 106 GR C 1/2" NB SCH 80	2700	Mtr
58	IMPULSE PIPE A 106 GR C 3/4" NB SCH 80	2900	Mtr
59	IMPULSE PIPE A 335 P22 1/2" NB SCH XXS	900	Mtr
60	GI PIPE-1/2" NB	3000	Mtr
61	GI PIPE-1" NB	100	Mtr
62	Conduit 1"& 1/2" as per requirement	2000	Mtr
CABLE LAYING AND TERMINATION OF POWER / CONTROL / INSTRUMENTATION CABLES-EDN SCOPE			
63	1CX35 sq.mm, Al, PVC-FRLS, Arm, 1100 V	3700	Mtr
64	2C x 95 sq.mm Al, PVC-FRLS, Arm, 1100 V	500	Mtr
65	2CX120 sq.mm, Al, PVC-FRLS, Arm, 1100 V	600	Mtr
66	2CX50 sq.mm, Al, PVC-FRLS, Arm, 1100 V	150	Mtr
67	2CX25 sq.mm, Al, PVC-FRLS, Arm, 1100 V	750	Mtr
68	2CX10 sq.mm, Al, PVC-FRLS, Arm, 1100 V	4000	Mtr

69	2CX2.5 sq.mm, Copper, PVC-FRLS, 1100 V	15000	Mtr
70	2CX6 sq.mm, Cu, PVC-FRLS, Arm, 1100 V	5000	Mtr
71	4PX0.5 mm ² ; N - type, OA shlded, armred	125000	Mtr
72	8PX0.5 mm ² ; N- type ,OA shlded, armred	36000	Mtr
73	12PX0.5 mm ² ; N- type OA shlded, armred	5000	Mtr
74	2TX0.5SQMM, M- Type, ARM I&OA	4000	Mtr
75	1PX0.5SQMM, M- Type, ARM I&OA	500	Mtr
76	CBL 2PX0.5 mm ² ; M- Type, I&OA shlded, armred	17000	Mtr
77	CBL 4PX0.5 mm ² ; M - Type,I&OA shlded, armrd	28000	Mtr
78	CBL 8PX0.5 mm ² ;M- Type, I&OA shlded, armrd	22000	Mtr
79	CBL 12PX0.5 mm ² ; M- Type, I&OA shlded, armrd	1500	Mtr
80	16P, 0.5 mm ² ,Cu,M- Type PVC-FRLS,I&OA,Arm	500	Mtr
81	CBL FRLS PVC SHLDD 4P;0.5SQMM GREY	2000	Mtr
82	PTFE EXTRD 7/0.3 600V 2/2X0.5MM ² IT-	500	Mtr
83	Single core FRLS PVC 0.5 Sqmm Grey Cable	500	Mtr
84	Cable CAT5e UTP 24AWG (LAN Cable for Networking)	12000	Mtr
85	CBL PVC 440V;4C;1SQMM BLACK	500	Mtr
86	2 pair K-type Thermocouple Comp. Cable, 1 Sq.mm	5000	Mtr
87	2 pair T-typeThermocouple Comp. Cable, 1 Sq.mm	1700	Mtr
88	3Cx2.5sq.mm (Al/CU conductor)	9000	Mtr
89	5Cx2.5sq.mm(Al/CU conductor)	35000	Mtr
	Air Filter Regulator		
90	i) 0-2.1 Kg/Cm ² (112 Nos) ii) 0-4.2 Kg/Cm ² (131 Nos) iii) 0-7 Kg/Cm ² (25 Nos) iv) 0-7 Kg/Cm ² (08 Nos)	276	Nos
	Valve manifolds		
91	2 VM SS316 ,1/2" NPT(F) 6000 PSI	10	Nos
92	2 VM SS316 ,1/2" NPT(F) 3000 PSI	16	Nos
	FABRICATION AND INSTALLATION OF STRUCTURAL STEEL		
93	MS Channel 100 x 50 x 5 mm.	10.35	Tons
94	MS Angle 50 X 50 X6 mm IS 2062	5.55	Tons
95	MS Plate 10 mm Thick IS 2062	2.2	Tons
96	HR Sheet 2.5 mm IS 1079	1.5	Tons
97	FLAT 50 X 6 - IS2062GRA	0.3	Tons
	BHEL TRICHY SCOPE		
98	Pressure Transmitters	2	Nos
99	DP Transmitters	2	Nos
100	Air filter regulator	63	Nos
101	E/P Convertor for SADC application	17	Nos
102	Pressure Transmitters	3	Nos

103	Flow Transmitter	1	Nos
104	Temperature Elements	12	Nos
105	Pressure Transmitter (to replace existing ProSwitch)	40	Nos
106	DP Transmitter (to replace existing OP Switch)	30	Nos
107	Temp. Transmitter (to replace existing Temp. Switch)	4	Nos
108	HEA ignitors (complete set) 12 Nos	12	Set
109	Seal boxes for ASLD - 400 Kg	18	Nos
110	ASLD asav(Tube,flange bolt&nut,link chain)- 150 kg	18	Nos
111	Water wall tube bends for furnace opening(63.5X5.5)- 500 kg	36	Nos
112	Fin plate	400	Kgs
113	Heat flux sensor and water wall tubes for Smart soot blowing system.	45	Nos
114	Electromagenetic relief valve 2.5 along with Solenoid assv 2.5 BWF Auto ERV	2	Nos
115	ERV control station and controller	2	Nos
116	ERV pressure switches	2	Nos
117	Mechanical items for feeders Maindrive motor with Gear Box & 2 tachometer output to be erected and commissioned.	6	Nos
	Complete Control valves with positioner, position feedback transmitter, EIP converter, AFR.(Slno 118-123)		
118	Soot Blowing Pressure Control valve	1	Nos
119	Atomizing pressure control valve	1	Nos
120	Wall Blowing drain temp. control valve (L & R)	2	Nos
121	APH Soot Blowing drain temp. Control valve (L & R)	2	Nos
122	HFO Pressure control valve	1	Nos
123	HFO Temperature control valve	1	Nos
124	110V AC solenoid valves	60	Nos
125	220V DC Solenoid valves	5	Nos
126	HP BYPASS Proportional valves for BP1, BP2, BPE1, BPE2 & BD valves (Proportional type Electro hydraulic servomechanism) and Position F/B for BP1, BP2, BPE1, & SOvalves BPE2 1 Set make of Proportional valves :Wandfluh Switzerland .	1	Set
127	DC Control Supply panel with changeover circuit to N/E supply	1	Nos
128	AC Control Supply pane 1 with changeover circuit to N/E supply .	1	Nos
129	BHEL GRAVIMETRIC FEED Remote Power Cabinet	6	Nos
130	BHEL GRAVIMETRIC FEED Feeder Integral Cabinet Including Load Cells, Micro switches for Coal on Belt and Feeder discharge Pluggage.	6	Set

131	Microcontroller based digital flame scanner system with visible light scanners (Complete set including field equipment, cabling, field sensors, etc.)		
132	Flame scanner pig tail cables with connector	20	Nos
133	Flame scanner head assembly	20	Nos
134	Flame scanner amplifier chasis	5	Nos
135	Flame scanner shielded cables	5300	Mtr
136	Miniature junction boxes	20	Nos
137	Electronic cabinet for Steam leak detection system (Complete set, including 01 Set equipment Panel,Purge Line ,cabling, field sensors, etc.)along with Sonic tube leak detection system (18 channel BHELSONIC system)	1	Set
138	Electronic cabinet for Smart Soot Blowing System (Complete set, including fie ld equipment, cabling, etc.)& heat flux sensors	1	Nos
139	Pressure gauges in HFO, LDO, Atomizing air,Atomizing steam and Mill Lube oil system	63	Nos
140	Pressure gauges in Soot Blowing Main Line	4	Nos
141	Temperature gauges in HFO and Atomizing Steam line	7	Nos
142	Temperature gauges in Soot Blowing Drain Line	6	Nos
143	Temperature Transmitters for Smart wall Blowing	1	Set
	CABLE LAYING AND TERMINATION CONTROL / INSTRUMENTATION CABLES-TRICHY SCOPE		
144	4P X 0.5 SQMM O/A SHIELDED INST.CABLE	4500	Mtr
145	8P X 0.5 SQMM O/A SHIELDED INST.CABLE	5500	Mtr
146	12P X 0.5 SQMM O/A SHIELDED INST.CABLE	5000	Mtr
147	2P X 1.5 SQMM P/O SHIELDED INST.CABLE	5500	Mtr
148	2P X 0.5 SQMM P/O SHIELDED INST.CABLE	1500	Mtr
149	4P X 0.5 SQMM P/O SHIELDED INST.CABLE	3500	Mtr
150	12P X 0.5 SQMM P/O SHIELDED INST.CABLE	1500	Mtr
151	2C X 1.5 SQ.MM. ARM. CONTROL CABLE	2500	Mtr
152	3C X 1.5 SQ.MM. ARM. CONTROL CABLE	1000	Mtr
153	5C X 1.5 SQ.MM. ARM. CONTROL CABLE	1500	Mtr
154	7C X 1.5 SQ.MM. ARM. CONTROL CABLE	1500	Mtr
155	9C X 1.5 SQ.MM. ARM. CONTROL CABLE	8500	Mtr
156	12C X 1.5 SQ.MM. ARM. CONTROL CABLE	2600	Mtr
157	3C X 2.5 SQ.MM(CU.) ARM. XLPE POWER CABL	2000	Mtr
158	3C X 16 SQ.MM(AL.) ARM. XLPE POWER CABL	2000	Mtr
159	2P X 0.5 SQ.MM HEAT FLUX SENSOR CABLE	1000	Mtr
160	FLAME SCANNER CABLE-P/O SHIELDED	5300	Mtr
	BHEL HWR scope		
161	Pipe 13.5X2.9, Length=4MTR (1 No= 4 Mtr)	25	Nos
162	Globe Valve NB=8, NP=2.5	10	Nos
163	Speed Probe	4	Nos

164	Mechical Works for Speed Probe Toothed Wheel Erection -Removal/Assembly of HP Pedestal Front Cover opening/closing ,dismantling the coupling of MOP etc Including consumables.	1	Set
165	MOT level indicator	1	Nos
166	GWR Level transmitter, S=1500	4	Nos
167	Remote Trip Solenoid Valve NB50	2	Nos
168	Gauge Valve	6	Nos
169	Pressure Switch-1.0 BAR	6	Nos
170	Hotwell level switches for CFP Protection (2 out of 3) level switch	3	Nos
171	Standard Orifice	3	Nos
172	Flow Transmitter for H2	3	Nos
173	Pressure Transmitters for H2 pressure	2	Nos
174	Conductivity measurement Transmitter with sensor	2	Nos
175	Globe Valve BW NB=8,NP=2.5	10	Nos
176	3-Valve Manifold NB8 NP4 VAR-2	2	Nos
177	Differential Pressure Transmitter for Seal Oil/H2	2	Nos
178	PR Gauge valve NP 250 VAR 01	1	Nos
179	Pressure Transmitter for DC SOP	1	Nos
180	Pressure Switch 0.5 TO 10 Bar	2	Nos
181	Pressure Switch 0 TO 16 Bar	2	Nos
182	Capacitance Level Switches for SOT IOT	10	Nos
183	Thermocouple D4-10CRMO910	9	Nos
184	Local Generator Instrument Cabinet (GIC)	1	Nos
185	H2 Dew point Transmitter	1	Nos
186	Position Feedback Transmitter for HP and IP Control valves	4	Nos
187	Pin Taper -ST INCLUDING 47	4	Nos
188	Transmitter for HPT front Bearing	4	Nos
189	Transmitter for HPT Rear Bearing	8	Nos
190	Transmitter for IPT Rear Bearing	2	Nos
191	Transmitter for LPT Rear Bearing	4	Nos
192	TSE thermocouples for ESV	1	Nos
193	TSE thermocouples for HPC outer	1	Nos
194	TSE thermocouples for IPC inner	3	Nos
195	Position Feedback Transmitter for seal steam supply valve	1	Nos
196	Servo Valve for seal steam supply valve	1	Nos
197	Position Feedback Transmitter for Leak off steam supply valve	1	Nos
198	Servo Valve for Leak off steam supply valve	1	Nos

199	Instrumentation and Control portion for EHG converter unit for LPBP Governing System(TURBINE SUPERVISORY INSTRUMENT)	1	Set
200	Plunger Coil for EHG Converter for Main Governing System,including E &C	1	Set
201	Dismantling of Existing all TG,BOP,SG,HMI Control panels and shifting to costumer stores including transportation &Hydra,trailer manpower within quoted price	70	Nos
202	Dismantling of all field Instruments incl transmitters,switches,pressure transmitters,DP transmitters,pressure switches,DPS,Thermo couple,RTD,level switches,pressure guage,temperature gauge etc.	300	Nos
203	SS Copper Tube - and Necessary fitting for Pneumatic tubing to control Valves,Transmitters,Guages.,etc	2500	Mtr

Best effort has been made to give maximum details of the work to be carried out in the scope of work. The contractor is advised to visit site and assess the jobs before quoting. Since it is an R&M job quantities specified are only approximate and subject to variation.

Special Notes:

- 1) The quantities indicated in the Rate Schedule are only indicative, not exhaustive and given for guidance of the contractor.
- 2) Tenderers are requested to quote their rates, only in the rate schedule provided by BHEL. Quoting of rates in any other form/format will not be entertained. The total rate should be properly and arithmetically calculated and added.
- 3) Please note that the rate schedule is for billing purpose only. Any items, quantities not covered in the billing schedule but appearing in detailed scope of work and required for completion of the work as per the contract, shall be executed by Bidder without additional cost.
- 4) Any activity not covered in above scope of work but required to be executed as per site requirement for successful completion of overhauling works is in the scope of the successful bidder. No extra payment will be made towards execution of such activities.
- 5) Any consumables not specifically mentioned in above scope of work/special conditions but required to be arranged for successful completion of overhauling works is to be arranged by the successful bidder without any additional cost.

WASTAGE & CUTTING ALLOWANCES

The contractor shall make every effort to minimize wastage during erection work. The wastage allowances as permissible for various items are indicated in the following table. Cutting and wastage allowance shall be computed on the lengths and weight of materials actually used, measured and accepted. In any case, the wastage shall not exceed the following limits.

Sl.No.	Item	% wastage on issued quantity
a)	Fabrication Steel	2
b)	Each size of power cables	1
c)	Each size of control / instrumentation cables	2
d)	Impulse pipe / tubes / GI pipes / copper tube	1

ANNEXURE-4**PRICE SCHEDULE FORMAT****Tender Specification No: T-08/2020-21 Dt: 13.08.2020****Time & Date of submission Before 11:00 Hrs. on 25.08.2020**

DESCRIPTION	TOTAL AMOUNT (excl. GST) (in Rs.[Figs. And words])
Total amount for KPCL Raichur TPS Unit#3 (210MW) - R&M of Instrumentation & Control Systems - E&C of Station C&I, Boiler C&I and TG C&I Systems with Field Equipments/Instruments for BTG Package.	100% } Rs. _____

In words: Rupees

COMPLETION PERIOD : The entire work covered under the scope of this contract is to be completed within 60 days from the date of shutdown and release of the unit for erection of C&I systems for R&M works by KPCL.

GST SHALL BE TREATED AS EXTRA

Note:

1. Work to be taken up as advised by BHEL/SAS in line with customer schedule.
2. Payment shall be on completion of works as per terms of payment envisaged in the Tender.
3. The price quoted will be FIRM for a period of 12 months from the date of tender opening
4. The rates should be quoted **both in figures and in words.**

We have quoted in line with the tender specification and we confirm our acceptance to the above mentioned conditions.

Signature of Bidder with Seal



Bharat Heavy Electricals Limited

Power Sector – Southern Region – SAS

39, Sarojini Devi Road, Secunderabad – 500 003

Phone : 050-27717836, Fax : 050-27701768, Email : rg@bhel.in

No. PS-SR-SAS/F&A/

Date:

Dear Sirs,

Sub: Requirement of information for E-Payment.

We have received guidelines from our HQ for making maximum payments through E-remittance only. We have been instructed to implement the E-Payment system at the earliest. To comply with this instruction, we require details regarding your bank details in the format given below.

Please note that the details are to be furnished **on your letter head duly attested by your Bankers**

FORMAT

DETAILS OF CONTRACTOR FOR E-REMITTANCE OF PAYMENT BY BHEL/SAS

1. Name & Address of the Contractor :
2. Bank Account No :
3. Type of A/c (CC/Current) :
4. Name of Bank :
5. Name of Branch :
6. Branch Code :
7. Banker's Address(Branch) :
8. MICR No. of the Branch :
9. IFSC Code of the Branch :

CERTIFICATE FOR NO DEVIATION

I, _____ OF
M/s. _____ hereby certify that
there is no deviation from the Tender conditions either technical or
commercial and I am agreeing to all the terms and conditions
mentioned in the Tender Specification.

SIGNATURE OF THE BIDDER

DECLARATION BY BIDDER FOR PRICE OPENING THROUGH REVERSE AUCTION

(To be typed and submitted in the Letter Head of the Company / Firm of Bidder)

To,

The General Manager/SAS,
Bharat Heavy Electricals Limited,
PSSR-SAS Secunderabad,
EK Tara Building,
39, SD Road,
Secunderabad – 500 003.

Dear Sir,

Sub: Declaration by Bidder for Price opening through Reverse Auction

Ref: 1) NIT / Tender Specification No.....,

I have studied and understood the clauses of Reverse Auction Guidelines published at <http://www.bhel.com>. I, hereby declare that we shall be participating in the Reverse Auction in case BHEL opts for opening the price bid through Reverse auction.

Below are the contact person details for participating in reverse auction:

Name : _____.

Mobile/Phone No. : _____.

E-Mail ID : _____.

Yours faithfully,

(Signature, Date & Seal of Authorized Signatory of the Bidder)

Date:

DECLARATION BY BIDDER REGARDING NIL INSOLVENCY PROCEEDINGS

(To be typed and submitted in the Letter Head of the Company / Firm of Bidder)

To,

The General Manager/SAS,
Bharat Heavy Electricals Limited,
PSSR-SAS Secunderabad,
EK Tara Building,
39, SD Road,
Secunderabad – 500 003.

Dear Sir,

Sub: Declaration by Bidder regarding NIL Insolvency proceedings

Ref: 1) NIT / Tender Specification No,

I, Mr _____ (Designation _____) hereby declare that, our company has not filed/does not have any Insolvency proceedings/NCLT proceedings pending under Competent Authority as on date of submission of this offer. Any Insolvency / NCLT proceedings regarding the company in future will be communicated immediately to BHEL.

Yours faithfully,

Date: _____ (Signature, Date & Seal of Authorized Signatory of the Bidder)



BHEL-PSSR, SAS Secunderabad
CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL (R&M WORKS)

Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21

Date. 13.08.2020

Work Order Ref.	Name of the Agency		
Brief Description of Work :		RA Bill No. & date :	
Sl.No.	DESCRIPTION	Check list (Tick in the box)	Remarks

1) Documents to be submitted by the Contractor with each RA Bill

1.1	GST number and billing address should be as per work order. BHEL GST and vendor GST should be present in invoice. HSN Code to be specified in the invoice.		
1.2	Bill/Execution period to be mentioned in Invoice		
1.3	Valid Labour License		
1.4	Validity of Bank guarantee/FD etc., submitted towards security deposit to be verified before forwarding invoice		
1.5	Supporting Doc-Wage Sheets (with bank confirmation copy) corresponding to bill execution period.		
1.6	Supporting Doc-PF corresponding to bill execution period.		
1.7	Supporting Doc-ESI/Insurance corresponding to bill execution period.		
1.8	Supporting Doc-HR Format		
1.9	Form-14s for the period corresponding to bill execution period.		
1.10	Measurement sheet duly signed by contractor with certification from Resident engineer and Site In-charge.		
1.11	Control Register duly signed by contractor. Soft copy in Microsoft excel format to be forwarded to SAS-Finance department.		
1.12	Protocols related to works as mentioned in invoice. Protocols for milestone activities in case billing is done towards milestone activities.		
1.13	GST Remittance proof		
1.14	Contractor signed in M-Book with "Measurement accepted" with stamp.		
1.15	If the contract period has expired during execution period, vendor to give request for work order extension so that delay note proposal can be initiated by Resident Engineer. As far as possible, M Book entry / Invoice, should be made only after extension of contract to avoid delay in further processing of the bills.		

2) Additional documents to be submitted by the Contractor (in addition to listed at sl. No. 1.1 to 1.15) with First RA Bill

2.1	Labour license application copy/Labour license		
2.2	Proof of SD remittance (copies of BG, FD, EFT etc.,)		
2.3	Contract agreement copy		
2.4	Letter regarding date of start of works certified by resident engineer		
2.5	Power of attorney for contractor representative		
2.6	E Remittance letter		

3) Additional documents to be submitted by the Contractor (in addition to listed at sl. No. 1.1 to 1.15) with Final RA Bill

3.1	Material reconciliation duly signed by contractor and BHEL resident engineer.		
3.2	No Dues certificate from customer.		



BHEL-PSSR, SAS Secunderabad
CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL (R&M WORKS)

Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21

Date. 13.08.2020

Work Order Ref.		Name of the Agency	
Brief Description of Work :		RA Bill No. & date :	
Sl.No.	DESCRIPTION	Check list (Tick in the box)	Remarks
3.3	No further claim certificate from contractor and certification of no further claim in M-book		
3.4	Date of completion of works (MOM)/ Date of handing over of unit (customer protocol) for considering completion date.		
3.5	Indemnity bond as per the SCC & GCC.		

Signature of contractor

Sl.No.	DESCRIPTION	Check list (Tick in the box)	Remarks
4. Certifications to be done by BHEL Resident Engineer / Site Incharge			
4.1	To ensure Compliance of all the points listed at Sl. No. 1, 2 & 3 above		
4.2	Ensure Invoice is as per the WO payment terms. Part payments not allowed without approvals. Recoveries/amount to be withheld if any, with reasons to be specified in M-book and claim to be generated accordingly with supporting documents. In case of recommendations for recoveries/amount to be withheld, Vendor's acceptance should also be taken in M-Book to avoid dispute at later stage.		
4.3	If there is any delay in completion of works w.r.t work order completion period, request for work order extension should be taken from the vendor and delay note proposal should be initiated. It has been observed that delay note approval is taking approx. one month time as the same is to be scrutinised at various level before final approval by Competent authority. Therefore, Proactive action should be taken to initiate delay note around one month prior to contract expiration date.		
4.4	Execution period corresponding to invoice to be certified in M-book.		
4.5	RAB No. & WO Ref. to be certified in M-book.		
4.6	Certification regarding payment, deployment of T&P as per the work order in M-book duly signed by Resident Engineer & Site Incharge.		
4.7	Certification on original invoice.		
4.8	Claim generated and signed by Resident Engineer & Site Incharge.		
4.9	Entry to be made in Payables Management System (PMS) & acknowledgment number generated in PMS to be mentioned in the claim generated.		

BHEL Resident Engineer/Site Incharge

Form WAM 10

BHARAT HEAVY ELECTRICALS LIMITED
**DIVISION
 Claim for Refund of Security Deposit
 (Para 4.7.4 of Works Accounts Manual)**

Ref No.:

Date:

- 1 Name and address of the contractor
- 2 Contract Agreement/Work Order No.
- 3 Date of contract agreement/work order
- 4 Name of the work undertaken
- 5 Date of commencement of the work
- 6 Date of completion of the work
- 7 Period of Maintenance
- 8 Date on which the final bill was paid
- 9 Last date of making good the defect, if any, during maintenance period
- 10 Expenditure incurred by BHEL during maintenance period, if any, recoverable
- 11 Date on which security deposit refund falls due as per contract
- 12 Amount deposited/recovered

Details	Mode	Amount

- 13 LESS amounts recoverable (with details)
 - (i) Amount spent by BHEL on maintenance:
 - (ii) Payments made on behalf of contractor :
 - (iii) Court dues / penalties / compensation :
 - (iv) Other recoveries for services etc. :
 - (v) Security deposit released with final bill (%):
- 14 Net amount recommended for release (12-13):

Details	Mode	Amount

Date:

Signature of Engineer in Charge

Form WAM 10 (Contd.)

(Contd.) Form WAM 10

CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR

I/We have no claim or demand outstanding against BHELfor the work done or for labor or material supplied or any other account arising out of or connected with the contract agreement/work order (No.....datedand the payment of this bill shall be in full and final

Date: _____ **Signature of Contractor**

CERTIFICATE TO BE FURNISHED BY SENIOR ENGINEER

Certified that

- The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the contractor;
- The maintenance period as per the contract agreement is over and the contractor has carried out the works required to be carried out by him during the period of maintenance to our satisfaction, and all expenses incurred by the company on carrying out such works have been included for adjustment;
- All the objections raised so far have been settled;
- A note of refund of security deposit has been made in the measurement book and contract agreement/work order.

Date: _____ **Signature of Senior Engineer**

FOR USE IN FINANCE DEPARTMENT

Passed for

Rs.....(Rupees.....
.....only)

Accountant

Accounts Officer

Sub Agency Letter Head

.....
Ref. No: BHEL/PS/SR/SAS/No Due/SITE:DATE:.....

To,

The engineer Incharge,

Dept:

Project:.....

Unit:.....

(Through BHEL Site In-charge)

Sub : Request for issuance of "NO DUES CERTIFICATE "

Ref : 1) Customer P.O/LOI :
2) BHEL P.O/LOI :

Dear Sir,

With reference to the above we request for issuance of "NO DUES CERTIFICATE" for the works for the Project:
....., Unit:

Kindly do the needful at your end please.

Thanking you

Yours faithfully,

(Name:)

Site In-charge

Company: M/s.....

Project:....., Unit No:

.....
Kindly issue "No Due certificate" for the above subject works after due verification of your stores.

With thanks and regards

Site In-charge

BHEL/PSSR/SAS

PROJECT: Unit:

NO DUES CERTIFICATE

Date:

Ref:1) P.O No:

2) Your Lr .No: BHEL/PS/SR/SAS/No Due/Site: Dtd:

This is to certify that, with the above references, M/s
....., Sub contractor of M/s BHEL/PSSR/SAS returned all the T&P and materials in
healthy condition which were received during execution of the works :

..... at project :

..... of unit No : in the period of

This "No dues certificate" issued after due verification of our stores.

Signature of principal customer

Dept :

Seal :

BHEL:	Site,	State
HR Clearance for releasing of First and subsequent Monthly Bill (Details check list)		

(To be enclosed along with First and subsequent Monthly Running Bills)

1. LABOUR LICENCE	AVL/NOT AVL/NA
LABOUR LICENCE – VALIDITY	CURRENT/OLD/NA
DISPLAY OF LICENCE	DONE/ NOT DONE/NA
NOTICE OF COMMENCEMENT (FORM VI A)	SENT/ NOT SESENT/NA
2. NOTICE BOARD	AVL/NOT AVL/NA
3. ABSTRA OF CL (R & A) ACT /MINIMUM	DISPLAYED /
WAGES ACT/CHILD LABOUR ACT	NOT DISPLAYED/NA
4. REGISTERS TO BE MAINTAINED	
WAGES REGISTER	YES / NO/NA
MUSTER ROLL	YES / NO/NA
FINES REGISTER	YES / NO/NA
DEDUCTIONS REGISTER	YES / NO/NA
OVER TIME REGISTER	YES / NO/NA
LIST OF PERSONS EMPLOYED	YES / NO/NA
5. EMPLOYMENT CARD	ISSUED/ NOT ISSUED/NA
6. WAGE SLIPS	ISSUED/ NOT ISSUED/NA
7. FIRST AID FACILITY	AVL/NOT AVL/NA
8. LATRINES/ URINALS	AVL/NOT AVL/NA
9. DRINKING WATER PROVISION	AVL/NOT AVL/NA
10. WASHING FACILITIES	AVL/NOT AVL/NA
11. NOTICE OF COMMENCEMENT OF WORK	SENT/ NOT SENT/NA
12. HALF YEARLY RETURN – CL (R & A) ACT	SENT/ NOT SENT/NA
13. ANNUAL RETURN – MIN. WAGES ACT	SENT/ NOT SENT/NA
14. REGISTRATION UNDER BOCW(RE & CS) Act	AVAIABLE/NOT AVAILABLE
15. BOCW CESS PAID IN THE MONTH	YES/NO/NA
16. PF RECOVERY / REMITTANCES (*)	DONE / NOT DONE/NA
17. ESI RECOVERY / REMITTANCE (*)- IF APPLICABLE	DONE / NOT DONE/NA
18. WC INSURANCE AVAILABILITY / VALIDITY	AVL/NOT AVL/ VALIDITY EXPIRED/NA

Certified that the details furnished above are true and correct. Further wages / other payments due to the workmen deployed by us are paid full and in time.

Sing. Of Contractor
Seal

The above details have been verified and found to be correct. In addition, payment of wages to the workmen witnessed and certified that correct wages are paid.

(Sign. Of Resident Engineer)

(Sign. Of HR In-charge)

(Sign. Of Head/Services)

PROFORMA STATEMENT TO BE OBTAINED FROM THE CONTRACTOR (36B)

NAME & ADDRESS OF THE PRINCIPAL EMPLOYER

TN/7835

MONTH

NAME & ADDRESS OF THE CONTRACTOR

TN/

SL NO	Name of the Employee	Father's name	Date of joining (DD/MM/YY)	PF A/c no	No.of days	Total wages paid	Wages for PF (in Rupees)	Contribution

I/We certify that all the above employees who were actually deployed in your establishment during _____ 2020, have all been covered under EPF & MP Act 2852 and the contributions in respect of them for the month of _____ 2020 have been remitted by me/us under Code No.TN/_____ maintained at _____ RO/SRO on _____

DATE:

SIGNATURE OF THE CONTRACTOR

**CORRECTIONS / REVISIONS IN SPECIAL CONDITIONS OF CONTRACT,
GENERAL CONDITIONS OF CONTRACT AND FORMS & PROCEDURES**

S1 No: 1

Clause 4.1.11 of SCC is deleted.

S1 No: 2:

**OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/
QUALITY ASSURANCE PROGRAMME**

The following clauses in Occupational Health, Safety & Environment Management /Quality Assurance Programme published in Chapter-IX of Special Conditions of Contract (Volume I Book-II) is revised as under.

Chapter IX Clause 9.1 is modified as below:

Contractor will comply with HSE (Health, Safety & Environment) requirements of BHEL as per the "HSE Plan for Site Operations by Subcontractor" (Document No. HSEP: 14 Rev00) enclosed.

Chapter IX Clause 9.1.1 to 9.1.25 stands deleted.

Chapter IX Clause 9.2 to 9.62 stands deleted.

S1 No: 3:

**Clause No. 10.5 on RA Bill Payments, in Special Conditions of Contract (SCC),
Volume-IB, Book-II, is revised as under:**

The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc., and other dues in the meanwhile.

S1 No: 4

**The EARNEST MONEY DEPOSIT (EMD) clause 1.9 published in General
Conditions of Contract (Volume I Book-II) is revised as under.**

Void.

S1 No: 5

**SECURITY DEPOSIT The SECURITY DEPOSIT (SD) clause 1.10 published in
General Conditions of Contract (Volume I Book-II) is revised as under.**

1.10 Security Deposit:

1.10.1 Upon acceptance of Tender, the successful Tenderer should deposit the required amount of Security Deposit for satisfactory completion of work, as given below:

1.10.2 The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.

1.10.3 The security Deposit should be furnished before start of the work by the contractor.

1.10.4 Modes of deposit:

1.10.4.1 The balance amount to make up the required Security Deposit of 5% of the contract value may be furnished in any one of the following forms

- i. Cash (as permissible under the extant Income Tax Act)
- ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
- iii. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Deposit shall be in the prescribed formats.
- iv. 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.
- v. Securities available from Indian 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 endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL and discharged on the back)

(Note: 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)

1.10.5 At least 50% of the Security Deposit including the EMD should be deposited in any form as prescribed before start of the work and the balance 50% of the Security Deposit will be recovered by deducting 10% of the gross amount progressively from each running bills of the contractor till the total amount of the required Security Deposit is collected.

1.10.6 The recoveries made from running bills (cash deduction towards balance SD amount) will be released against submission of equivalent Bank Guarantee in the prescribed formats, but only once, before completion of work.

1.10.7 The Security Deposit shall not carry any interest.

1.10.8 If the value of work done at any time exceeds the contract value, the amount of Security Deposit shall be correspondingly enhanced and the excess Security Deposit due the enhancement shall be immediately deposited by the Contractor or recovered from payment/s due to the Contractor.

1.10.9 The validity of Bank Guarantees towards Security Deposit shall be initially upto the completion period as stipulated in the Letter of Intent/Award + 3 months, and the same shall be kept valid by proper renewal till the acceptance of Final Bills of the Contractor, by BHEL

1.10.10 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of the Contractor's failure to fulfil any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL.

1.10.11 Penalty for Delayed Remittance of Security Deposit If the contractor fails to furnish SD before start of work, in line with 1.10.3 above, Simple Interest against delayed remittance of the Security Deposit shall be deducted from the sub-contractor at the rate of SBI PLR + 2% on the value of 50% SD of the contract, for the delayed period (i.e., period between start of work and date of remittance of Initial SD, i.e., atleast 50% of SD). In case, the delayed period has different SBI PLR rates, Simple Interest shall be calculated based on different rates by considering the corresponding time period. On similar lines Penalty shall be levied for delayed remittance of Additional Security Deposit (if applicable).

Note: - Bank details & SFMS details provided in clause 2.0 of NIT (Earnest Money Deposit) may be used for the purpose of arranging Bank Guarantees towards Security Deposit / Additional Security Deposit also.

Security deposit & ASD will be released only after completion of workmanship guarantee/Defect liability period of the total contract.

S1 No: 6

Clause 2.7.2 and 2.7.3 in GCC regarding Rights of BHEL is revised as under:

2.7.2.

2.7.2.1 To terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

i. Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of work does not appear to be executable within balance available period considering its performance of execution.

ii. Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.

iii. Non-completion of work by the Contractor within scheduled completion period as per Contract or as extended from time to time, for the reasons attributable to the contractor.

iv. Termination of Contract on account of any other reason (s) attributable to Contractor.

v. Assignment, transfer, subletting of Contract without BHEL's written permission.

vi. Non-compliance to any contractual condition or any other default attributable to Contractor.

Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows: Risk & Cost Amount= $[(A-B) + (A \times H/100)]$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

* Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount. Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose
and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: Incase portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with LD clause no. 2.7.9 of GCC, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract. Method for calculation of "LD against delay in executed work in case of termination of contract" is given below.

i). Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1

- ii). Let the value of executed work till the time of termination of contract= X
- iii). Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
- iv). Delay in executed work attributable to contractor i.e. $T2=[1-(X/Y)] \times T1$
- v). LD shall be calculated in line with LD clause (clause 2.7.9) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

2.7.2.2 In case Contractor fails to deploy the resources as per requirement, BHEL can deploy own/hired/otherwise arranged resources at the risk and cost of the contractor and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads or as defined in TCC.

2.7.3 Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Following sequence shall be applicable for recoveries from contractor:

- a) Dues available in the form of Bills payable to contractor, SD, BGs against the same contract.
- b) Demand notice for deposit of balance recovery amount shall be sent to contractor, if funds are insufficient to effect complete recovery against dues indicated in (a) above.
- c) If contractor fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery:
 - i) Dues payable to contractor against other contracts in the same Region shall be considered for recovery.
 - ii) If recovery cannot be made out of dues payable to the contractor as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills/Running Bills/SD/BGs/Final Bills of contractor.
 - iii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

SL No: 7

In addition to clause 2.7.9 of General Conditions of Contract (GCC), a New clause 2.7.9.1 is added as below.

Void. Intermediate Milestones are not applicable for this contract

SL No: 8**OVERRUN COMPENSATION (ORC)**

The **OVERRUN COMPENSATION (ORC)** clause 2.12 published in General Conditions of Contract (Volume I Book-II) is revised as under.

Void. ORC is not applicable for this contract.

S1 No: 9**Clauses 2.13.1, 2.13.6 & 2.13.7 in GCC on Interest Bearing Recoverable Advances**

Void. Interest Bearing Recoverable Advances is not applicable for this contract.

S1. No: 10**Clause 2.14.1 on in General Conditions of Contract (GCC), Volume-IC, Book-II, is revised as under:**

2.14.1 The quantities given in the contract are tentative and may change to any extent (both in plus side and minus side). The quoted rates for individual items shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limit of Minus (-) 30% of awarded contract value.”

S1 No: 11**PRICE VARIATION COMPENSATION (PVC)****The PRICE VARIATION COMPENSATION (PVC) clause 2.17 published in General Conditions of Contract (Volume I Book-II) is revised as under.**

Void. PRICE VARIATION COMPENSATION (PVC) is not applicable for this contract.

S1 No: 12**Clauses 2.21 in GCC regarding Arbitration is amended as below****2.21 ARBITRATION & CONCILIATION****2.21.1 ARBITRATION:**

2.21.1.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause

2.21.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the

Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice'). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Power

Sector Region issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English.

The Arbitrator shall pass a reasoned award. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder as in force from time to time shall apply to the

arbitration proceedings under this clause. The seat of arbitration shall be **Chennai** (the place from where the contract is Issued). The Contract shall be governed by and be construed as per provisions of the laws of India. Subject to this provision 2.21.1.1 regarding ARBITRATION, the principal civil court exercising ordinary civil jurisdiction over the area where the seat of arbitration is located shall have exclusive jurisdiction over any
DISPUTE to the exclusion of any other court.

2.21.1.2 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs

Disputes) as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time.

2.21.1.3 The cost of arbitration shall initially be borne equally by the Parties subject to the final allocation thereof as per the award/order passed by the Arbitrator.

2.21.1.4 Notwithstanding the existence of any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner unless the dispute inter-alia relates to cancellation, termination or shortclosure of the Contract by BHEL.

2.21.2 CONCILIATION:

If at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee (IEC) to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.

2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Procedure 2.3 to this GCC. The Procedure 2.3 together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC.

The Contractor hereby agrees that BHEL may make any amendments or modifications to the provisions stipulated in the Procedure 2.3 to this GCC from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure 2.3 with effect from the date as intimated by BHEL to it.

2.21.3 No Interest payable to Contractor

Notwithstanding anything to the contrary contained in any other document comprising in the Contract, no interest shall be payable by BHEL to Contractor on any moneys or balances including but not limited to the Security Deposit, EMD, Retention Money, RA Bills or the Final Bill, or any amount withheld and/or appropriated by BHEL etc., which becomes or as the case may be, is adjudged to be due from BHEL to Contractor whether under the Contract or otherwise.

S1 No: 13

Clause 2.22 in GCC regarding Retention Amount is revised as under

Void. Retention Amount is not applicable for this contract.

S1 No: 14

The chapter Reverse auction procedure published in 'Forms and Procedures' of Volume I Book-II stands deleted. Reverse Auction Guidelines available in the website <http://www.bhel.com> shall be applicable.

S1 No: 15

Existing format on MONTHLY PLAN & REVIEW WITH CONTRACTOR, as available in Form No F-14 of Volume ID Forms and procedure stands Deleted. Form No. - F-14 (Rev 01) is enclosed.

S1 No: 16

Existing format on MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR, as available in Form No F-15 of Volume ID Forms and procedure stands Deleted. Form No. - F-15 (Rev 02) is enclosed.

S1 No: 17

Revised Integrity Pact format.

Void. Integrity pact is not applicable for this contract.

S1 No: 18

Existing format for BANK GUARANTEE FOR SECURITY DEPOSIT, as available in Form No. F-11 (Rev 00) of Volume ID Forms and procedures stands deleted. Refer Proforma of Bank Guarantee (in lieu of Security Deposit)-Form WAM 22 (provided in Annexures) .

S1 No: 19**Clause 2.15.5 of GCC in Extra Works is revised as under:**

2.15.5: After eligibility of extra works is established and finally accepted by BHEL engineer / designer, payment will be released on competent authority's approval at the following rate.

MAN-HOUR RATE FOR ELIGIBLE EXTRA WORKS:

Single composite average labour man-hour rate, including overtime if any, supervision, use of tools and tackles and other site expenses and incidentals, consumables for carrying out any major rework / repairs / rectification/ modification / fabrication as certified by site as may arise during the course of erection, testing, commissioning or extra works arising out of transit, storage and erection damages, payment, if found due will be at Rs 108/- per man hour.

All other terms & condition shall be as per GCC.

Annexures

S1.No.	Description	Annexure	Pages
1	Itemwise Weightages	Annexure-A	07
2	Health Safety and environment plan	Annexure-B	81
3	Monthly plan & review with contractor	Form14	06
4	Monthly performance evaluation of contractor	Form-15	06
5	Proforma of Bank Guarantee (In Lieu Of Earnest Money)-Form WAM 23	WAM 23	03
6	Proforma of Bank Guarantee (In Lieu Of Security Deposit)-Form WAM 22	WAM 22	03

PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21				Date: 13.08.2020		
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
1	Steam Generator controls comprising of Electronic system Cabinets of size. (800 mm x 800 mm x 2000 mm)SG	20	Nos	0.0274338		
2	Steam Turbine controls comprising of Electronic system Cabinets of size. (800 mm x 800 mm x 2355 mm)TG	16	Nos	0.0213347		
3	Station C&I:Electronic system Cabinets of size. (800 mm x 800 mm x 2355 mm)BOP	35	Nos	0.0476486		
	Human Machine Interface & Plant Information (Common for SG/TG/Station C&I)					
5	OperatorWorkstations	8	Nos	0.0005074		
6	Shift Incharge OWS	1	Nos	0.0000765		
7	Engineer's station	2	Nos	0.0002386		
8	Historical Storage & Retrieval Station	2	Nos	0.0002386		
9	LVS (laser type . 67 inch with resolution of 1400x1050)	5	Nos	0.0057908		
10	maxLiNK Station in Computer room	1	Nos	0.0001352		
11	A3 Color Laser Printer with scanner	2	Nos	0.0001001		
12	A3 81W Laser Printer with scanner	2	Nos	0.0001084		
13	Network panel with Ethernet Switches & other hardware etc.	1	Set	0.0013194		
14	Optic Fibre cable (for CWPW Remote Control) Single Mode	6000	Mtr	0.0091837		
15	Unit Control desk(JCB) / operator desk for OWS	1	Nos	0.0032578		
16	Modular Furniture including tables & chairs for above HMI peripherals	1	Set	0.0004049		
17	Emergency Back-up console (including FSSS Console,TG Critical Drives and Station C&I critical drive operation for safe shut-down along with minimum annunciation facia/window for critical alarms.	1	Set	0.0043647		
18	Storage Almirah (For storing Mandatory Spares & O&M Manuals)including all T&P and Consumables	10	Set	0.0020966		
19	Lab Test Bench ,incl T&P and necessary Consumables.	1	Nos	0.0002726		
	TURBO SUPERVISORY SYSTEM- Erection and Commissioning					
20	Bearing vibration new sensors(in X & Y direction for turbine Bearing nos 1,2,3&4 while for 5,6&7 new sensors shall be as per existing measurements philosophy)	1	Set	0.0001435		
21	Relative shaft vibration new sensors as per existing measurements philosophy	1	Set	0.0001008		
22	Overall Expansion Pick-Ups for LPT as per existing philosophy	1	Set	0.000089		
23	Axial Shift Pick-Ups as per existing philosophy	1	Set	0.0000941		
24	Junction Boxes & Conduit Etc	1	Set	0.0000739		

PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21				Date: 13.08.2020		
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
25	UPS (uninterrupted Power Supply) with battery banks (60 minute battery back-up)	1	Set	0.0034533		
26	ACDB panel	1	Set	0.0014016		
	ERCTION and COMMISSIONING OF LOCAL / FIELD MOUNTED INSTRUMENTS					
27	Ultrasonic Level Transmitter	9	Nos	0.0016587		
28	Complete set Oxygen Analyser	8	Nos	0.0086683		
29	Smoke Density Monitoring System	2	Nos	0.0021671		
30	Mass Flow meter at CST inlet (0.85 T/Hr)- 1No ,HFO Flow Meter-2Nos	3	Nos	0.0018464		
31	Pressure Transmitter	88	Nos	0.0010832		
32	Differential Pressure Transmitters	21	Nos	0.0002585		
33	Displacement type Level Transmitter	9	Nos	0.0001108		
34	Thermocouples with Thermowell	179	Nos	0.0034579		
35	RTD with Thermowell	92	Nos	0.0017773		
36	Pressure Switches	5	Nos	0.0001744		
37	Pressure Gauges	22	Nos	0.0008124		
38	Temperature Gauges	17	Nos	0.0006278		
39	Air filter regulator with auto drain	276	Nos	0.0101919		
40	E/P Convertor (Type 1-69Nos ,Type 2-17Nos)	86	Nos	0.0031757		
41	Purge meter circuit	14	Nos	0.000517		
42	1/2 inch Ball valve (with locking system)	262	Nos	0.0128999		
43	Transmitter Rack (LIR)	34	Nos	0.0046314		
	Cable Trays (50mm, 100mm, 150mm)					
44	Perforated (type)50 mm x 25 mm without cover	3625	Mtr	0.0135725		
45	Perforated (type)100 mm x 25 mm without cover	3000	Mtr	0.0157064		
46	Perforated (type)150 mm x 40 mm without cover	2875	Mtr	0.0217166		
	JUNCTION BOX					
47	12 way	100	Nos	0.0017233		
48	24 way	50	Nos	0.0008616		
49	48 way	40	Nos	0.0009847		
50	CJC Boxes - 12 way / 24 way	40	Nos	0.0026161		
51	CJCB for TG area	20	Nos	0.0013081		
52	SHEET STEEL JUNC. BOX-24 WAY	15	Nos	0.0002585		
53	SHEET STEEL JUNC. BOX-48 WAY	35	Nos	0.0008616		
54	SHEET STEEL JUNC. BOX-72 WAY	25	Nos	0.0006155		
55	SHEET STEEL JB - DIN RAIL MOUNTED 6TT	12	Nos	0.0002954		
	IMPULSE PIPE					
56	IMPULSE PIPE A 106 GR C 1/2" NB SCH 160	900	Mtr	0.0062064		
57	IMPULSE PIPE A 106 GR C 1/2" NB SCH 80	2700	Mtr	0.0146657		
58	IMPULSE PIPE A 106 GR C 3/4" NB SCH 80	2900	Mtr	0.0239706		
59	IMPULSE PIPE A 335 P22 1/2" NB SCH XXS	900	Mtr	0.0059513		
60	GI PIPE-1/2" NB	3000	Mtr	0.008346		
61	GI PIPE-1" NB	100	Mtr	0.0005715		
62	Conduit 1"& 1/2" as per requirement	2000	Mtr	0.0024618		

PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21				Date: 13.08.2020		
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
	CABLE LAYING AND TERMINATION OF POWER / CONTROL / INSTRUMENTATION CABLES-EDN SCOPE					
63	1CX35 sq.mm, Al, PVC-FRLS, Arm, 1100 V	3700	Mtr	0.0063166		
64	2C x 95 sq.mm Al, PVC-FRLS, Arm, 1100 V	500	Mtr	0.0012309		
65	2CX120 sq.mm, Al, PVC-FRLS, Arm, 1100 V	600	Mtr	0.0014771		
66	2CX50 sq.mm, Al, PVC-FRLS, Arm, 1100 V	150	Mtr	0.0002954		
67	2CX25 sq.mm, Al, PVC-FRLS, Arm, 1100 V	750	Mtr	0.0014771		
68	2CX10 sq.mm, Al, PVC-FRLS, Arm, 1100 V	4000	Mtr	0.006893		
69	2CX2.5 sq.mm, Copper, PVC-FRLS, 1100 V	15000	Mtr	0.0147708		
70	2CX6 sq.mm, Cu, PVC-FRLS, Arm, 1100 V	5000	Mtr	0.0071133		
71	4PX0.5 mm ² ; N - type, OA shlded, armred	125000	Mtr	0.1331487		
72	8PX0.5 mm ² ; N- type ,OA shlded, armred	36000	Mtr	0.0643245		
73	12PX0.5 mm ² ; N- type OA shlded, armred	5000	Mtr	0.0128285		
74	2TX0.5SQMM, M- Type, ARM I&OA	4000	Mtr	0.0058905		
75	1PX0.5SQMM, M- Type, ARM I&OA	500	Mtr	0.0003693		
76	CBL 2PX0.5 mm ² ; M- Type, I&OA shlded, armred	17000	Mtr	0.0125552		
77	CBL 4PX0.5 mm ² ; M - Type,I&OA shlded, armrd	28000	Mtr	0.0488727		
78	CBL 8PX0.5 mm ² ;M- Type, I&OA shlded, armrd	22000	Mtr	0.0396283		
79	CBL 12PX0.5 mm ² ; M- Type, I&OA shlded, armrd	1500	Mtr	0.0038485		
80	16P, 0.5 mm ² ,Cu,M- Type PVC-FRLS,I&OA,Arm	500	Mtr	0.0012828		
81	CBL FRLS PVC SHLDD 4P;0.5SQMM GREY	2000	Mtr	0.0031652		
82	PTFE EXTRD 7/0.3 600V 2/2X0.5MM ² IT-	500	Mtr	0.0002845		
83	Single core FRLS PVC 0.5 Sqmm Grey Cable	500	Mtr	0.0003693		
84	Cable CAT5e UTP 24AWG (LAN Cable for Networking)	12000	Mtr	0.0181367		
85	CBL PVC 440V;4C;1SQMM BLACK	500	Mtr	0.0008756		
86	2 pair K-type Thermocouple Comp. Cable, 1 Sq.mm	5000	Mtr	0.0088495		
87	2 pair T-typeThermocouple Comp. Cable, 1 Sq.mm	1700	Mtr	0.0025378		
88	3Cx2.5sq.mm (Al/CU conductor)	9000	Mtr	0.0132937		
89	5Cx2.5sq.mm(Al/CU conductor)	35000	Mtr	0.0516978		
	Air Filter Regulator					
90	i) 0-2.1 Kg/Cm ² (112 Nos) ii) 0-4.2 Kg/Cm ² (131 Nos) iii) 0-7 Kg/Cm ² (25 Nos) iv) 0-7 Kg/Cm ² (08 Nos)	276	Nos	0.0101919		
	Valve manifolds					

PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21				Date: 13.08.2020		
KPCL Raichur TPS Unit#3 Renovation and Modernisation of Instrumentation and Control systems - E&C of SG (C&I), TG (C&I), Station (C&I) Works						
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
91	2 VM SS316 ,1/2" NPT(F) 6000 PSI	10	Nos	0.0003235		
92	2 VM SS316 ,1/2" NPT(F) 3000 PSI	16	Nos	0.0005177		
	FABRICATION AND INSTALLATION OF STRUCTURAL STEEL					
93	MS Channel 100 x 50 x 5 mm .	10.35	Tons	0.0050959		
94	MS Angle 50 X 50 X6 mm IS 2062	5.55	Tons	0.0027326		
95	MS Plate 10 mm Thick IS 2062	2.2	Tons	0.0010832		
96	HR Sheet 2.5 mm IS 1079	1.5	Tons	0.0007385		
97	FLAT 50 X 6 - IS2062GRA	0.3	Tons	0.0001477		
	BHEL TRICHY SCOPE					
98	Pressure Transmitters	2	Nos	0.0000246		
99	DP Transmitters	2	Nos	0.0000246		
100	Air filter regulator	63	Nos	0.0023264		
101	E/P Convertor for SADC application	17	Nos	0.0006278		
102	Pressure Transmitters	3	Nos	0.0000369		
103	Flow Transmitter	1	Nos	0.0000492		
104	Temperature Elements	12	Nos	0.0004431		
105	Pressure Transmitter (to replace existing ProSwitch)	40	Nos	0.0004924		
106	DP Transmitter (to replace existing OP Switch)	30	Nos	0.0003693		
107	Temp. Transmitter (to replace existing Temp. Switch)	4	Nos	0.0000492		
108	HEA ignitors (complete set) 12 Nos	12	Set	0.0058951		
109	Seal boxes for ASLD - 400 Kg	18	Nos	0.0044313		
110	ASLD asav(Tube,flange bolt&nut,link chain)- 150 kg	18	Nos	0.0044313		
111	Water wall tube bends for furnace opening(63.5X5.5)-500 kg	36	Nos	0.0044313		
112	Fin plate	400	Kgs	0.0009847		
113	Heat flux sensor and water wall tubes for Smart soot blowing system.	45	Nos	0.0016617		
114	Electromagenetic relief valve 2.5 along with Solenoid assv 2.5 BWF Auto ERV	2	Nos	0.0062899		
115	ERV control station and controller	2	Nos	0.0002462		
116	ERV pressure swiches	2	Nos	0.0001231		
117	Mechanical items for feeders Maindrive motor with Gear Box & 2 tachometer output to be erected and commissioned.	6	Nos	0.0094517		
	Complete Control valves with positioner, position feedback transmitter, EIP converter, AFR.(Slno118-123)					
118	Soot Blowing Pressure Control valve	1	Nos	0.0002462		
119	Atomizing pressure control valve	1	Nos	0.0002462		
120	Wall Blowing drain temp. control valve (L & R)	2	Nos	0.0004924		
121	APH Soot Blowing drain temp. Control valve (L & R)	2	Nos	0.0004924		
122	HFO Pressure control valve	1	Nos	0.0002462		
123	HFO Temperature control valve	1	Nos	0.0002462		
124	110V AC solenoid valves	60	Nos	0.0022156		
125	220V DC Solenoid valves	5	Nos	0.0001846		

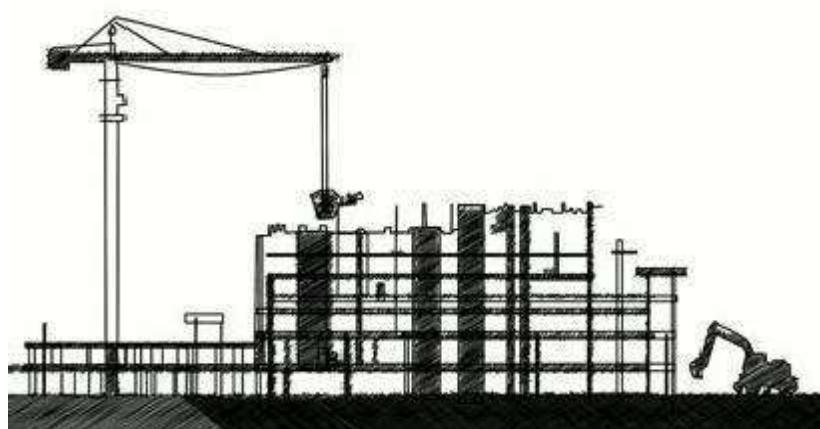
PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21				Date: 13.08.2020		
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
126	HP BYPASS Proportional valves for BP1, BP2, BPE1, BPE2 & BD valves (Proportional type Electro hydraulic servomechanism) and Position F/B for BP1, BP2, BPE1, & SOvalvesBPE2 1 Set make of Proportional valves :Wandfluh Switzerland	1	Set	0.002813		
127	DC Control Supply panel with changeover circuit to N/E supply	1	Nos	0.0007032		
128	AC Control Supply pane 1 with changeover circuit to N/E supply .	1	Nos	0.0007032		
129	BHEL GRAVIMETRIC FEED Remote Power Cabinet	6	Nos	0.0059083		
130	BHEL GRAVIMETRIC FEED Feeder Integral Cabinet Including Load Cells, Micro switches for Coal on Belt and Feeder discharge Pluggage.	6	Set	0.0036927		
131	Microcontroller based digital flame scanner system with visible light scanners (Complete set including field equipment, cabling, field sensors, etc.)					
132	Flame scanner pig tail cables with connector	20	Nos	0.0007385		
133	Flame scanner head assembly	20	Nos	0.0007385		
134	Flame scanner amplifier chassis	5	Nos	0.0001846		
135	Flame scanner shielded cables	5300	Mtr	0.0065238		
136	Miniature junction boxes	20	Nos	0.0009847		
137	Electronic cabinet for Steam leak detection system (Complete set, including 01 Set equipment Panel,Purge Line ,cabling, field sensors, etc.)along with Sonic tube leak detection system (18 channel BHELSONIC system)	1	Set	0.0017142		
138	Electronic cabinet for Smart Soot Blowing System (Complete set, including fie ld equipment, cabling, etc.)& heat flux sensors	1	Nos	0.0014138		
139	Pressure gauges in HFO, LDO, Atomizing air,Atomizing steam and Mill Lube oil system	63	Nos	0.0023264		
140	Pressure gauges in Soot Blowing Main Line	4	Nos	0.0001477		
141	Temperature gauges in HFO and Atomizing Steam line	7	Nos	0.0002585		
142	Temperature gauges in Soot Blowing Drain Line	6	Nos	0.0002216		
143	Temperature Transmitters for Smart wall Blowing	1	Set	0.0000942		
	CABLE LAYING AND TERMINATION CONTROL / INSTRUMENTATION CABLES-TRICHY SCOPE					
144	4P X 0.5 SQMM O/A SHIELDED INST.CABLE	4500	Mtr	0.0047934		
145	8P X 0.5 SQMM O/A SHIELDED INST.CABLE	5500	Mtr	0.0100115		
146	12P X 0.5 SQMM O/A SHIELDED INST.CABLE	5000	Mtr	0.0128285		

PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21				Date: 13.08.2020		
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
147	2P X 1.5 SQMM P/O SHIELDED INST.CABLE	5500	Mtr	0.004062		
148	2P X 0.5 SQMM P/O SHIELDED INST.CABLE	1500	Mtr	0.0011078		
149	4P X 0.5 SQMM P/O SHIELDED INST.CABLE	3500	Mtr	0.0037282		
150	12P X 0.5 SQMM P/O SHIELDED INST.CABLE	1500	Mtr	0.0038485		
151	2C X 1.5 SQ.MM. ARM. CONTROL CABLE	2500	Mtr	0.0024618		
152	3C X 1.5 SQ.MM. ARM. CONTROL CABLE	1000	Mtr	0.0009847		
153	5C X 1.5 SQ.MM. ARM. CONTROL CABLE	1500	Mtr	0.0022156		
154	7C X 1.5 SQ.MM. ARM. CONTROL CABLE	1500	Mtr	0.0025849		
155	9C X 1.5 SQ.MM. ARM. CONTROL CABLE	8500	Mtr	0.0146477		
156	12C X 1.5 SQ.MM. ARM. CONTROL CABLE	2600	Mtr	0.0044805		
157	3C X 2.5 SQ.MM(CU.) ARM. XLPE POWER CABL	2000	Mtr	0.0029542		
158	3C X 16 SQ.MM(AL.) ARM. XLPE POWER CABL	2000	Mtr	0.0039389		
159	2P X 0.5 SQ.MM HEAT FLUX SENSOR CABLE	1000	Mtr	0.0007385		
160	FLAME SCANNER CABLE-P/O SHIELDED	5300	Mtr	0.0065238		
BHEL HWR scope						
161	Pipe 13.5X2.9, Length=4MTR (1 No= 4 Mtr)	25	Nos	0.0011929		
162	Globe Valve NB=8,NP=2.5	10	Nos	0.0003235		
163	Speed Probe	4	Nos	0.0004924		
164	Mechical Works for Speed Probe Toothing Wheel Erection -Removal/Assembly of HP Pedestal Front Cover opening/closing ,dismantling the coupling of MOP etc Including consumables.	1	Set	0.0132736		
165	MOT level indicator	1	Nos	0.0000989		
166	GWR Level transmitter, S=1500	4	Nos	0.0008445		
167	Remote Trip Solenoid Valve NB50	2	Nos	0.0016891		
168	Gauge Valve	6	Nos	0.0001941		
169	Pressure Switch-1.0 BAR	6	Nos	0.0002093		
170	Hotwell level switches for CFP Protection (2 out of 3) level switch	3	Nos	0.0009501		
171	Standard Orifice	3	Nos	0.0003693		
172	Flow Transmitter for H2	3	Nos	0.0008868		
173	Pressure Transmitters for H2 pressure	2	Nos	0.0005912		
174	Conductivity measurement Transmitter with sensor	2	Nos	0.0005912		
175	Globe Valve BW NB=8,NP=2.5	10	Nos	0.0003235		
176	3-Valve Manifold NB8 NP4 VAR-2	2	Nos	0.0000647		
177	Differential Pressure Transmitter for Seal Oil/H2	2	Nos	0.0005067		
178	PR Gauge valve NP 250 VAR 01	1	Nos	0.0000324		
179	Pressure Transmitter for DC SOP	1	Nos	0.0000942		
180	Pressure Switch 0.5 TO 10 Bar	2	Nos	0.0002955		

PRICE BREAK-UP						
Tender Ref: BHEL/PSSR/SAS/SCT/PR31516-043/T-08/2020-21					Date: 13.08.2020	
SL.NO.	ITEM	QTY (A)	UOM	Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount (B)	Unit Rate (C)	Amount (D)
181	Pressure Switch 0 TO 16 Bar	2	Nos	0.0002955		
182	Capacitance Level Switches for SOT IOT	10	Nos	0.0012887		
183	Thermocouple D4-10CRMO910	9	Nos	0.0003323		
184	Local Generator Instrument Cabinet (GIC)	1	Nos	0.0024163		
185	H2 Dew point Transmitter	1	Nos	0.0002956		
186	Position Feedback Transmitter for HP and IP Control valves	4	Nos	0.0003767		
187	Pin Taper -ST INCLUDING 47	4	Nos	0.0001294		
188	Transmitter for HPT front Bearing	4	Nos	0.0003767		
189	Transmitter for HPT Rear Bearing	8	Nos	0.0007533		
190	Transmitter for IPT Rear Bearing	2	Nos	0.0001883		
191	Transmitter for LPT Rear Bearing	4	Nos	0.0003767		
192	TSE thermocouples for ESV	1	Nos	0.0004433		
193	TSE thermocouples for HPC outer	1	Nos	0.0004433		
194	TSE thermocouples for IPC inner	3	Nos	0.0013299		
195	Position Feedback Transmitter for seal steam supply valve	1	Nos	0.0000942		
196	Servo Valve for seal steam supply valve	1	Nos	0.0015753		
197	Position Feedback Transmitter for Leak off steam supply valve	1	Nos	0.0000942		
198	Servo Valve for Leak off steam supply valve	1	Nos	0.0015753		
199	Instrumentation and Control portion for EHG converter unit for LPBP Governing System(TURBINE SUPERVISORY INSTRUMENT)	1	Set	0.0002097		
200	Plunger Coil for EHG Converter for Main Governing System,including E &C	1	Set	0.0020966		
201	Dismantling of Existing all TG,BOP,SG,HMI Control panels and shifting to customer stores including transportation &Hydra,trailer manpower within quoted price	70	Nos	0.0082874		
202	Dismantling of all field Instruments incl transmitters,switches,pressure transmitters,DP transmitters,pressure switches,DPS,Thermo couple,RTD,level switches,pressure guage,temperature gauge etc.	300	Nos	0.0022156		
203	SS Copper Tube - and Necessary fitting for Pneumatic tubing to control Valves,Transmitters,Guages.,etc	2500	Mtr	0.0049596		
Total amount payable for each item of the BOQ shall be derived based on the following formula Total amount for each item of the BOQ (D) = Final award price x weightage allocated for the activity (B) Further, Individual item rate shall be derived based on the following formula and the same shall be deemed as contracted rates for activities specified in BOQ for all purposes. Individual item rate (C) = (D)/(A)						



HEALTH, SAFETY and ENVIRONMENT PLAN



**for
SITE
OPERATIONS
by
SUB-
CONTRACTORS**

POWER SECTOR

HSE PLAN FOR SITE OPERATIONS BY BHEL'S SUBCONTRACTORS

AT A GLANCE

BEFORE START

SIGNING OF MOU

Agree to comply to HSE requirement- Statutory and BHEL's

PLAN

HSE ORGANISATION

Manpower

- 1 (one) safety officer for every 500 workers or part thereof
- 1(one) safety-steward/ supervisor for every 100 workers

HSE Roles and responsibilities

- Site In-charge- As per clause 7.2.1
- Safety officer- As per clause 7.2.2

Qualification

As per Cl. 7.1

PROVIDE

HSE Planning

for Man, Machinery/Equipment/Tools & Tackles

HSE INFRASTRUCTURE

- PPEs
- Drinking Water
- Washing Facilities
- Latrines and Urinals
- Provision of shelter for rest
- Medical facilities

- Canteen facilities
- Labour Colony
- Emergency Vehicle
- Pest Control
- Scrapyard
- Illumination

TRAIN

HSE TRAINING , AWARENESS & PROMOTION

Training

- Induction training
- Height work and other critical areas
- Tool Box talk & Pep Talk

Awareness & Promotion

- Signage
- Poster
- Banner
- Competition
- Awards

COMMUNICATE

HSE COMMUNICATION

Incident Reporting

- Accident- Fatal & Major
- Property damage
- Near Miss

Event Reporting

- Celebrations
- Training
- Medical camp

NON CONFORMANCE

CHECKS

EXECUTE SAFELY

OPERATIONAL CONTROL PROCEDURES

PERMIT TO WORK

Height work (above 2 metres), Hot Work, Heavy Lifting, Confined Space, Radiography, excavation (More than 4 metres)

SAFETY DURING WORK EXECUTION

<ul style="list-style-type: none">• Welding• Rigging• Cylinder- storage & Movement• Demolition work• T&Ps• Chemical Handling• Electrical works	<ul style="list-style-type: none">• Fire• Scaffolding• Height work• Working Platform• Excavation• Ladder• Lifting• Hoisting appliance
--	--

HOUSE KEEPING

WASTE MANGEMENT

TRAFFIC MANAGEMENT

ENVIRONMENTAL CONTROL

EMERGENCY PREPAREDNESS AND RESPONSE PLAN

HSE AUDITS & INSPECTION

<ul style="list-style-type: none">• Daily Checks• Inspection of PPEs• Inspection of T& Ps• Inspection of Cranes & Winches	<ul style="list-style-type: none">• Inspection of Height work• Inspection of Welding and Gas cutting• Inspection of elevators etc.
--	--

HSE PERFORMANCE EVALUATION PARAMETERS

PENALTY for NON CONFORMANCE

Refer Clause 16

Incremental penalty

For repeated violation by the same person, the penalty would be double of the previous penalty

For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.

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	POWER SECTOR	
	Date: 20.01.2020	

REVISION HISTORY SHEET

Date	Revision No.	Details of Changes	Reason	Prepared	Reviewed	Approved
12.08.2014	00	First Issue	First Issue	S. B. Jayant, Dy Manager- FQA & Safety	A. K. Sinha, GM-FQA & Safety	Anuj Bhatnagar, ED-FQA & Safety
20.01.2020	01	Formats added: HSEP:14-F30 – Monthly HSE Planning & Review (Page 11, Clause 8.0 - updated) HSEP:14-F13E-Excavation Inspection Format (part of F30)) HSEP:14-F32B – Job Safety Analysis Format (part of F30) HSEP:14-F31A – Daily HSE Reporting (Page 18, Clause 10.3 – added) HSEP:14-F33 – HSE Performance Evaluation (Page 31, Clause 13 – revised)	IOM No. PSHQHSE/M ONREP/02 Dated 08-Jan-2020	Rohit Kumar		Santosh Nair, GM (MSX & HSE)



**HEALTH, SAFETY AND ENVIRONMENT
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POWER SECTOR

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1.0 PURPOSE

- 1.1 The purpose of this HSE Plan is to provide for the systematic identification, evaluation, prevention and control of general workplace hazards, specific job hazards, potential hazards and environmental impacts that may arise from foreseeable conditions during installation and servicing of industrial projects and power plants.
- 1.2 This document shall be followed by BHEL's subcontractors at all installation and servicing sites. In case customer specific documents are to be implemented, this document will be followed in conjunction with customer specific documents.
- 1.3 Although every effort has been made to make the procedures and guidelines in line with statutory requirements, in case of any discrepancy relevant statutory guidelines must be followed.
- 1.4 In case the customer has any specific requirement, the same is to be fulfilled.

2.0 SCOPE

The document is applicable for BHEL's Subcontractors at all installation / servicing activities of BHEL Power Sector as per the relevant contractual obligations.

3.0 OBJECTIVES AND TARGETS

The HSE Plan reflects that BHEL places high priority upon the Occupational Health, Safety and Environment at workplaces.

- Ensure the Health and Safety of all persons at work site is not adversely affected by the work.
- Ensure protection of environment of the work site.
- Comply at all times with the relevant statutory and contractual HSE requirements.
- Provide trained, experienced and competent personnel. Ensure medically fit personnel only are engaged at work.
- Provide and maintain plant, places and systems of work that are safe and without risk to health and the environment.
- Provide all personnel with adequate information, instruction, training and supervision on the safety aspect of their work.
- Effectively control, co-ordinate and monitor the activities of all personnel on the Project sites including subcontractors in respects of HSE.
- Establish effective communication on HSE matters with all relevant parties involved in the Project works.
- Ensure that all work planning takes into account all persons that may be affected by the work.
- Ensure fitness testing of all T&Ps/Lifting appliances like cranes, chain pulley blocks etc. are to be certified by competent person.
- Ensure timely provision of resources to facilitate effective implementation of HSE requirements.
- Ensure continual improvements in HSE performance
- Ensure conservation of resources and reduction of wastage.
- Capture the data of all incidents including near misses, process deviation etc. Investigate and analyze the same to find out the root cause.
- Ensure timely implementation of correction, corrective action and preventive action.



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HSE TARGETS

EXPLOSION	ZERO
FATALITY	ZERO
LOST TIME INJURY	ZERO
FIRE	ZERO
VEHICLE INCIDENTS	ZERO
ENVIRONMENTAL INCIDENTS	ZERO

4.0 BHEL POWER SECTOR HEALTH, SAFETY & ENVIRONMENT POLICY

Health, Safety & Environment Policy of BHEL

In BHEL, Health, Safety and Environment (HSE) responsibilities are driven by our commitment to protect our employees and people we work with, community and environment. BHEL believes in zero tolerance for unsafe work/non-conformance to safety and in minimizing environmental footprint associated with all its business activities. We commit to continually improve our HSE performance by:

- Developing safety and sustainability culture through active leadership and by ensuring availability of required resources.
- Ensuring compliance with applicable legislation, regulations and BHEL systems.
- Taking up activities for conservation of resources and adopting sound waste management by following Reduce/Recycle/Reuse approach.
- Continually identifying, assessing and managing environmental impacts and Occupational Health & Safety risks of all activities, products and services adopting approach based on elimination/substitution/reduction/control.
- Incorporating appropriate Occupational Health, Safety and Environment criteria into business decisions, design of products & systems and for selection of plants, technologies and services.
- Imparting appropriate structured training to all persons at workplace and promoting awareness amongst customers, contractors and suppliers on HSE issues.
- Reviewing periodically this policy and HSE Management Systems to ensure its relevance, appropriateness and effectiveness.
- Communicating this policy within BHEL and making it available to interested parties.

sd/-

CMD, BHEL

	HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS	Doc no.: HSEP: 14 REV: 01
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5.0 MEMORANDUM OF UNDERSTANDING:

After award of work, subcontractors are required to enter into a memorandum of understanding as given below:

Memorandum of Understanding

BHEL, Power Sector _____ Region is committed to Health, Safety and Environment Policy (HSE Policy).

M/s _____ do hereby also commit to comply with the same HSE Policy while executing the Contract Number _____

M/s _____ shall ensure that safe work practices as per the HSE plan. Spirit and content therein shall be reached to all workers and supervisors for compliance.

In addition to this, M/S _____ shall comply to all applicable statutory and regulatory requirements which are in force in the place of project and any special requirement specified in the contract document of the principal customer.

M/s _____ shall co-operate in HSE audits/inspections conducted by BHEL /customer/ third party and ensure to close any non-conformity observed/reported within prescribed time limit.

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

Name : _____

Place & Date:

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6.0 TERMS AND DEFINITIONS

6.1 DEFINITIONS

6.1.1 INCIDENT

Work- related or natural event(s) in which an injury, or ill health (regardless of severity), damage to property or fatality occurred, or could have occurred.

6.1.2 NEAR MISS

An incident where no ill health, injury, damage or other loss occurs, but it had a potential to cause, is referred to as "Near-Miss".

6.1.3 MAN-HOURS WORKED

The total number of man hours worked by all employees including subcontractors working in the premises. It includes managerial, supervisory, professional, technical, clerical and other workers including contract labours. Man-hours worked shall be calculated from the payroll or time clock recorded including overtime. When this is not feasible , the same shall be estimated by multiplying the total man-days worked for the period covered by the number of hours worked per day. The total number of workdays for a period is the sum of the number of men at work on each day of period. If the daily hours vary from department to department separate estimate shall be made for each department and the result added together.

6.1.4 FIRST AID CASES

First aids are not essentially all reportable cases, where the injured person is given medical treatment and discharged immediately for reporting on duty, without counting any lost time.

6.1.5 LOST TIME INJURY

Any work injury which renders the injured person unable to perform his regular job or an alternative restricted work assignment on the next scheduled work day after the day on which the injury occurred.

6.1.6 MEDICAL CASES

Medical cases come under non-reportable cases, where owing to illness or other reason the employee was absent from work and seeks Medical treatment.

6.1.7 TYPE OF INCIDENTS & THEIR REPORTING:

The three categories of Incident are as follows:

Non-Reportable Cases:

An incident, where the injured person is given medical help and discharged for work without counting any lost time.

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Reportable Cases:

In this case the injured person is disable for 48 hours or more and is not able to perform his duty.

Injury Cases:

These are covered under the heading of non-reportable cases. In these cases the incident caused injury to the person, but he still continues his duty.

6.1.8 TOTAL REPORTABLE FREQUENCY RATE

Frequency rate is the number of Reportable Lost Time Injury (LTI) per one Million Man hours worked. Mathematically, the formula read as:

$$\frac{\text{Number of Reportable LTI} \times 1,000,000}{\text{Total Man Hours Worked}}$$

6.1.9 SEVERITY RATE

Severity rate is the Number of days lost due to Lost Time Injury (LTI) per one Million Man hours worked. Mathematically, the formula reads as:

$$\frac{\text{Days lost due to LTI}}{\text{Total Man Hours Worked}} \times 1,000,000$$

6.1.10 INCIDENCE RATE

Incidence Rate is the Number of LTI per one thousand manpower deployed. Mathematically, the formula reads as:

$$\frac{\text{Number of LTI} \times 1000}{\text{Average number of manpower deployed}}$$

7.0 HSE ORGANISATION

Number of safety officers:

The subcontractor must deploy one safety officer for every 500 workers or part thereof in each package. In addition, there must be one safety-steward/safety-supervisor for every 100 workers.

Deployment: The subcontractor should deploy sufficient safety officers and safety-steward/Safety-supervisor, as per requirement given above, since initial stage and add more in proportion to the added strength in work force. Any delay in deployment will attract a penalty of Rs.30,000/- per man month for the delayed period.

7.1 QUALIFICATION FOR HSE PERSONNEL

Sl.no	Designation	Qualification	Experience
1	Safety officer (Construction Agency)	Degree or Diploma in Engineering with full time diploma in Industrial Safety with construction safety as one of the subjects	Minimum two years for degree holder and five years for diploma holder in the field of Construction of power plant/ major industries

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2	Safety-Steward/ Safety-Supervisor	Degree or diploma in any discipline with full time diploma in Industrial Safety with construction safety as one of the subjects	Minimum two years
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7.2 RESPONSIBILITIES

7.2.1 SITE IN -CHARGE OF SUBCONTRACTOR

- Shall sign Memorandum of Understanding (MoU) for compliance to BHEL's HSE Plan for Site Operations as per clause 5.0
- Shall engage qualified safety officer(s) and steward (s) as per clause 7.0
- Shall adhere to the rules and regulations mentioned in this code, practice very strictly in his area of work in consultation with his concerned engineer and the safety coordinator.
- Shall screen all workmen for health and competence requirement before engaging for the job and periodically thereafter as required.
- Shall not engage any employee below 18 years.
- Shall arrange for all necessary PPEs like safety helmets, belts, full body harness, shoes, face shield, hand gloves etc. before starting the job. Shall ensure that no working men/women carry excessive weight more than stipulated in Factory Rule Regulation R57.
- Shall ensure that all T&Ps engaged are tested for fitness and have valid certificates from competent person.
- Shall ensure that provisions stipulated in contract Labour Regulation Act 1970, Chapter V C.9, canteen, rest rooms/washing facilities to contracted employees at site.
- Shall adhere to the instructions laid down in Operation Control Procedures (OCPs) available with the site management.
- Shall ensure that person working above 2.0 meter should use Safety Harness tied to a life line/stable structure.
- Shall ensure that materials are not thrown from height. Cautions to be exercised to prevent fall of material from height.
- Shall report all incidents (Fatal/Major/Minor/Near Miss) to the Site engineer /HSE officer of BHEL.
- Shall ensure that Horseplay is strictly forbidden.
- Shall ensure that adequate illumination is arranged during night work.
- Shall ensure that all personnel working under subcontractor are working safely and do not create any Hazard to self and to others.
- Shall ensure display of adequate signage/posters on HSE.
- Shall ensure that mobile phone is not used by workers while working.
- Shall ensure conductance of HSE audit, mockdrill, medical camps, induction training and training on HSE at site.
- Shall ensure full co-operation during HQ/External /Customer HSE audits.



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- Shall ensure submission of look-ahead plan for procurement of HSE equipment's and PPEs as per work schedule.
- Shall ensure good housekeeping.
- Shall ensure adequate valid fire extinguishers are provided at the work site.
- Shall ensure availability of sufficient number of toilets /restrooms and adequate drinking water at work site and labour colony.
- Shall ensure adequate emergency preparedness.
- Shall be member of site HSE committee and attend all meetings of the committee
- Power source for hand lamps shall be maximum of 24 v.
- Temporary fencing should be done for open edges if Hand – railings and Toe-guards are not available.

7.2.2 HEALTH, SAFETY AND ENVIRONMENT OFFICER OF SUBCONTRACTOR

- Carry out safety inspection of Work Area, Work Method, Men, Machine & Material, P&M and other tools and tackles.
- Facilitate inclusion of safety elements into Work Method Statement.
- Highlight the requirements of safety through Tool-box / other meetings.
- Help concerned HOS to prepare Job Specific instructions for critical jobs.
- Conduct investigation of all incident/dangerous occurrences & recommend appropriate safety measures.
- Advice & co-ordinate for implementation of HSE permit systems, OCPs & MPs.
- Convene HSE meeting & minute the proceeding for circulation & follow-up action.
- Plan procurement of PPE & Safety devices and inspect their healthiness.
- Report to PS Region/HQ on all matters pertaining to status of safety and promotional program at site level.
- Facilitate administration of First Aid
- Facilitate screening of workmen and safety induction.
- Conduct fire Drill and facilitate emergency preparedness
- Design campaigns, competitions & other special emphasis programs to promote safety in the workplace.
- Apprise PS- Region on safety related problems.
- Notify site personnel non-conformance to safety norms observed during site visits / site inspections.
- Recommend to Site In charge, immediate discontinuance of work until rectification, of such situations warranting immediate action in view of imminent danger to life or property or environment.
- To decline acceptance of such PPE / safety equipment that do not conform to specified requirements.
- Encourage raising Near Miss Report on safety along with, improvement initiatives on safety.
- Shall work as interface between various agencies such customer, package-in-charges, subcontractors on HSE matters

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8.0 PLANNING BY SUBCONTRACTOR

Monthly planning and review of HSE activities shall be carried out by subcontractor as per format No. HSEP:14-F30 jointly along with BHEL.

8.1 MOBILISATION OF MACHINERY/EQUIPMENT/TOOLS BY SUBCONTRACTOR

- As a measure to ensure that machinery, equipment and tools being mobilized to the construction site are fit for purpose and are maintained in safe operating condition and complies with legislative and owner requirement, inspection shall be arranged by in-house competent authority for acceptance as applicable.
- The machinery and equipment to be embraced for this purpose shall include but not limited to the following:
 - Mobile cranes.
 - Side Booms.
 - Forklifts.
 - Grinding machine.
 - Drilling machine.
 - Air compressors.
 - Welding machine.
 - Generator sets.
 - Dump Trucks.
 - Excavators.
 - Dozers
 - Grit Blasting Equipment.
 - Hand tools.
- Subcontractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the subcontractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.

8.2 MOBILISATION OF MANPOWER BY SUBCONTRACTOR

- The subcontractor shall arrange induction and regular health check of their employees as per schedule VII of BOCW rules by a registered medical practitioner.
- The subcontractor shall take special care of the employees affected with occupational diseases under rule 230 and schedule II of BOCW Rules. The employees not meeting the fitness requirement should not be engaged for such job.
- Ensure that the regulatory requirements of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
- Appropriate accommodation to be arranged for all workmen in hygienic condition.



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8.3 PROVISION OF PPEs

- Personnel Protective Equipment (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured
- The following matrix recommends usage of minimum PPEs against the respective job.

Sl. No	Type of work	PPEs
1	Concrete and asphalt mixing	Nose mask, hand glove, apron and gum boot
2	Welders/Grinders/ Gas cutters	Welding/face screen, apron, hand gloves, nose mask and ear muffs if noise level exceeds 90dB. Helmet fitted with welding shield is preferred for welders
3	Stone/ concrete breakers	Ear muffs, safety goggles, hand gloves
4	Electrical Work	Rubber hand glove, Electrical Resistance shoes
5	Insulation Work	Respiratory mask, Hand gloves, safety goggles
6	Work at height	Double lanyard full body harness, Fall arrestor (specific cases)
7	Grit/Sand blasting	Blast suit, blast helmet, respirator, leather gloves
8	Painting	Plastic gloves, Respirators (particularly for spray painting)
9	Radiography	As per BARC guidelines

- The PPEs shall conform to the relevant standards as below and bear ISI mark.

Relevant is-codes for personal protection

IS: 2925 – 1984	Industrial Safety Helmets.
IS: 4770 – 1968	Rubber gloves for electrical purposes.
IS: 6994 – 1973 (Part-I)	Industrial Safety Gloves (Leather & Cotton Gloves).
IS: 1989 – 1986 (Part-I-II)	Leather safety boots and shoes.
IS: 5557 – 1969	Industrial and Safety rubber knee boots.
IS: 6519 – 1971	Code of practice for selection, care and repair of Safety footwear.
IS: 11226 – 1985	Leather Safety footwear having direct molding sole.
IS: 5983 – 1978	Eye protectors.
IS: 9167 – 1979	Ear protectors.
IS: 1179-1967	Eye & Face protection during welding
IS: 3521 – 1983	Industrial Safety Belts and Harness
IS:8519 -1977	Guide for selection of industrial Safety equipment for body protection
IS:9473-2002,14166-1994,14746-1999	Respiratory Protective Devices

The list is not exhaustive. The safety officer may demand additional PPEs based on specific requirement.

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- Where workers are employed in sewers and manholes, which are in use, the subcontractor shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into manhole, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent incident to the public
- Besides the PPEs mentioned above, the persons shall use helmet and safety shoe. The visitors shall use Helmet and any other PPEs as deemed appropriate for the area of work.

Colour scheme for Helmets:

1. Workmen: Yellow
2. Safety staff: Green or white with green band
3. Electrician: Red
4. Others including visitors: White

- All the PPEs shall be checked for its quality before issue and the same shall be periodically checked. The users shall be advised to check the PPEs themselves for any defect before putting on. The defective ones shall be repaired/replaced.
- The issuing agency shall maintain register for issue and receipt of PPEs.
- The Helmets shall have logo or name (abbreviation of agency name permitted) affixed or printed on the front.
- The body harnesses shall be serial numbered.

8.4 ARRANGEMENT OF INFRASTRUCTURE

8.4.1 DRINKING WATER

- Drinking water shall be provided and maintained at suitable places at different elevations.
- Container should be labeled as "Drinking Water"
- Cleaning of the storage tank shall be ensured atleast once in 3 months indicating date of cleaning and next due date.
- Potability of water should be tested as per IS10500 at least once in a year.

8.4.2 WASHING FACILITIES

- In every workplace, adequate and suitable facilities for washing shall be provided and maintained.
- Separate and adequate cleaning facilities shall be provided for the use of male and female workers. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition and dully illuminated for night use.
- Overalls shall be supplied by the subcontractor to the workmen and adequate facilities shall be provided to enable the painters and other workers to wash during the cessation of work.

8.4.3 LATRINES AND URINALS

- Latrines and urinals shall be provided in every work place.
- Urinals shall also be provided at different elevations.
- They shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times, by appointing designated person.
- Separate facilities shall be provided for the use of male and female worker if any.

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8.4.4 PROVISION OF SHELTER DURING REST

Proper Shed & Shelter shall be provided for rest during break

8.4.5 MEDICAL FACILITIES

8.4.5.1 MEDICAL CENTRE (As per Schedule V, X and XI of BOCW central Rules, 1998)

- A medical centre shall be ensured/identified at site with basic facilities for handling medical emergencies. The medical center can be jointly developed on proportionate sharing basis with permission from BHEL
- A qualified medical professional, not less than MBBS, shall be deployed at the medical centre
- The medical centre shall be equipped with one ambulance, with trained driver and oxygen cylinder.
- Medical waste shall be disposed as per prevailing legislation (Bio-Medical Waste –Management and Handling Rules, 1998)

8.4.5.2 FIRST AIDER

- Ensure availability of Qualified First-aider throughout the working hours.
- Every injury shall be treated, recorded and reported.
- Refresher course on first aid shall be conducted as necessary.
- List of Qualified first aiders and their contact numbers should be displayed at conspicuous places.

8.4.5.3 FIRST AID BOX (as per schedule III of BOCW)

- The subcontractor shall provide necessary first aid facilities as per schedule III of BOCW. At every work place first aid facilities shall be provided and maintained.
- The first aid box shall be kept by first aider who shall always be readily available during the working hours of the work place. His name and contact no to be displayed on the box.
- The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time.
- The first aid box shall be distinctly marked with a Green Cross on white background.
- Details of contents of first aid box is given in Annexure No. 01
- Monthly inspection of First Aid Box shall be carried out by the owner as per format no. HSEP:14-F01
- The subcontractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.

8.4.5.4 HEALTH CHECK UP (As per schedule VII and Form XI)

The persons engaged at the site shall undergo health checkup as per the format no. HSEP:14-F02 before induction. The persons engaged in the following works shall undergo health checkup at least once in a year:

- a. Height workers
- b. Drivers/crane operators/riggers

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- c. Confined space workers
- d. Shot/sand blaster
- e. Welding and NDE personnel

8.4.6 PROVISION OF CANTEEN FACILITY

- Canteen facilities shall be provided for the workmen of the project inside the project site.
- Proper cleaning and hygienic condition shall be maintained.
- Proper care should be taken to prevent biological contamination.
- Adequate drinking water should be available at canteen.
- Fire extinguisher shall be provided inside canteen.
- Regular health check-up and medication to the canteen workers shall be ensured.

8.4.7 PROVISION OF ACCOMODATION/LABOUR COLONY

- II The subcontractor shall arrange for the accommodation of workmen at nearby localities or by making a labour colony.
- II Regular housekeeping of the labour colony shall be ensured.
- II Proper sanitation and hygienic conditions to be maintained.
- II Drinking water and electricity to be provided at the labour colony.
- II Bathing/ washing bay
- II Room ventilation and electrification.

8.4.8 PROVISION OF EMERGENCY VEHICLE

- Dedicated emergency vehicle shall be made available at workplace by each subcontractor to handle any emergency

8.4.9 PEST CONTROL

Regular pest control should be carried out at all offices, mainly laboratories, canteen, labour colony and stores.

8.4.10 SCRAPYARD

- In consultation with customer, scrapyard shall be developed to store metal scrap, wooden scrap, waste, hazardous waste.
- Scrap/Waste shall be segregated as Bio-degradable and non-bio-degradable and stored separately.

8.4.11 ILLUMINATION

- The subcontractor shall arrange at his cost adequate lighting facilities e.g. flood lighting, hand lamps, area lighting etc. at various levels for safe and proper working operations at dark places and during night hours at the work spot as well as at the pre-assembly area.
- Adequate and suitable light shall be provided at all work places & their approaches including passage ways as per IS: 3646 (Part-II). Some recommended values are given below:



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S. No.	Location	Illumination (Lux)
A. Construction Area		
1.	Outdoor areas like store yards, entrance and exit roads	20
2.	Platforms	50
3.	Entrances, corridors and stairs	100
4.	General illumination of work area	150
5.	Rough work like fabrication, assembly of major items	150
6.	Medium work like assembly of small machined parts rough measurements etc.	300
7.	Fine work like precision assembly, precision measurements etc.	700
8.	Sheet metal works	200
9.	Electrical and instrument labs	450
B. Office		
1.	Outdoor area like entrance and exit roads	20
2.	Entrance halls	150
3.	Corridors and lift cars	70
4.	Lift landing	150
5.	Stairs	100
6.	Office rooms, conference rooms, library reading tables	300
7.	Drawing table	450
8.	Manual telephone exchange	200

- Lamp (hand held) shall not be powered by mains supply but either by 24V or dry cells.
- Lamps shall be protected by suitable guards where necessary to prevent danger, in case of breakage of lamp.
- Emergency lighting provision for night work shall be made to minimise danger in case of main supply failure.

If the subcontractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the subcontractor

9.0 HSE TRAINING& AWARENESS

9.1 HSE INDUCTION TRAINING

All persons entering into project site shall be given HSE induction training by the HSE officer of BHEL /subcontractor before being assigned to work.

In-house induction training subjects shall include but not limited to:

- Briefing of the Project details.
- Safety objectives and targets.
- Site HSE rules.
- Site HSE hazards and aspects.
- First aid facility.
- Emergency Contact No.
- Incident reporting.
- Fire prevention and emergency response.
- Rules to be followed in the labour colony (if applicable)

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- Proper safety wear & gear must be issued to all the workers being registered for the induction (i.e., Shoes/Helmets/Goggles/Leg guard/Apron etc.)
- They must arrive fully dressed in safety wear & gear to attend the induction.
- Any one failing to conform to this safety wear & gear requirement shall not qualify to attend.
- On completing attending subcontractor's in-house HSE induction, each employee shall sign an induction training form (format no. HSEP:14-F03) to declare that he had understood the content and shall abide to follow and comply with safe work practices. They may only then be qualified to be issued with a personal I.D. card, for access to the work site.

9.2 HSE TOOLBOX TALK

- HSE tool Box talk shall be conducted by frontline foreman/supervisor of subcontractor to specific work groups prior to the start of work. The agenda shall consist of the followings:
 - Details of the job being intended for immediate execution.
 - The relevant hazards and risks involved in executing the job and their control and mitigating measures.
 - Specific site condition to be considered while executing the job like high temperature, humidity, unfavorable weather etc.
 - Recent non-compliances observed.
 - Appreciation of good work done by any person.
 - Any doubt clearing session at the end.
- Record of Tool box talk shall be maintained as per format no. HSEP:14-F04
- Tool box talk to be conducted at least once a week for the specific work.

9.3 TRAINING ON HEIGHT WORK

Training on height work shall be imparted to all workers working at height by in-house/external faculty at least twice in a year. The training shall include following topics:

- Use of PPEs
- Use of fall arrester, retractable fall arrester, life line, safety nets etc.
- Safe climbing through monkey ladders.
- Inspection of PPEs.
- Medical fitness requirements.
- Mock drill on rescue at height.
- Dos & Don'ts during height work.

9.4 HSE TRAINING DURING PROJECT EXECUTION

- Other HSE training shall be arranged by BHEL/ subcontractor as per the need of the project execution and recommendation of HSE committee of site.
- The topics of the HSE training shall be as follows but not limited to:
 - Hazards identification and risk analysis (HIRA)
 - Work Permit System
 - Incident investigation and reporting
 - Fire fighting
 - First aid
 - Fire-warden training
 - EMS and OHSMS
 - T & Ps fitness and operation



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- Electrical safety
- Welding, NDE & Radiological safety
- Storage, preservation & material handling.
- A matrix shall be maintained to keep an up-to-date record of attendance of training sessions carried out.

9.5 HSE PROMOTION-SIGNAGE, POSTERS, COMPETITION, AWARDS ETC

9.5.1 Display of HSE posters and banners

- Site shall arrange appropriate posters, banners, slogans in local/Hindi/English languages at work place

9.5.2 Display of HSE signage

- Appropriate HSE signage shall be displayed at the work area to aware workmen and passersby about the work going on and do's and don'ts to be followed

9.5.3 Competition on HSE and award

- Site will arrange different competition (slogan, poster, essay etc.) on HSE time to time (Safety day, BHEL day, World Environment Day etc.) and winners will be suitably awarded.

9.5.4 HSE awareness programme

- Subcontractor shall arrange HSE awareness programme periodically on different topics including medical awareness for all personnel working at site

10.0 HSE COMMUNICATION

10.1 INCIDENT REPORTING

- The subcontractor shall submit report of all incidents, fires and property damage etc to the Engineer immediately after such occurrence, but in any case not later than 24 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. (Refer HSE procedure for incident investigation, analysis and reporting for details)
- In addition, periodic reports on safety shall also be submitted by the subcontractor to BHEL from time to time as prescribed by the Engineer. Compiled monthly reports of all kinds of incidents, fire and property damage to be submitted to BHEL safety officer as per prescribed formats.
- HSE incidents of site shall be reported to BHEL site Management as per Procedure for Incident Investigation and Reporting in format no. HSEP:14-F15. Corrective action shall be immediately implemented at the work place and compliance shall be verified by BHEL HSE officer and until then, work shall be put on hold by Construction Manager.

10.2 HSE EVENT REPORTING

- Important HSE events like HSE training, Medical camp etc. organized at site shall be reported to BHEL site management in detail with photographs for publication in different in-house magazines
- Celebration of important days like National Safety Day, World Environment Day etc. shall also be reported as mentioned above.

10.3 DAILY HSE ACTIVITY REPORTING

Daily HSE activities shall be reported by subcontractor to BHEL as per Format No. HSEP:14-F31A



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11.0 OPERATIONAL CONTROL

All applicable OCPs (Operational control procedures) will be followed by subcontractor as per BHEL instructions. This will be done as part of normal scope of work. List of such OCPs is given below. In case any other OCP is found to be applicable during the execution of work at site, then subcontractor will follow this as well, within quoted rate. These OCPs (applicable ones) will be made available to subcontractor during work execution at site. However for reference purpose, these are kept with Safety Officer of BHEL at the Power Sector Regional HQ, or available in downloadable format in the website, which may be refereed by subcontractor, if they so desire.

LIST OF OCPs

Safe handling of chemicals	Safety in use of cranes	Hydraulic test
Electrical safety	Storage and handling of gas cylinders	Spray insulation
Energy conservation	Manual arc welding	Trial run of rotary equipment
Safe welding and gas cutting operation	Safe use of helmets	Stress relieving
Fire safety	Good house keeping	Material preservation
Safety in use of hand tools	Working at height	Cable laying/tray work
First aid	Safe excavation	Transformer charging
Food safety at canteen	Safe filling of hydrogen in cylinder	Electrical maintenance
Illumination	Vehicle maintenance	Safe handling of battery system
Handling and erection of heavy metals	Safe radiography	Computer operation
Safe acid cleaning	Waste disposal	Storage in open yard
Safe alkali boil out	Working at night	For sanitary maintenance
Safe oil flushing	Blasting	Batching
Steam blowing	DG set	Piling rig operation
Safe working in confined area	Handling & storage of mineral wool	Gas distribution test
Safe operation of passenger lift, material hoists & cages	Drilling, reaming and grinding(machining)	Cleaning of hotwell / deaerator
Electro-resistance heating	Compressor operation	O&M of control of AC plant & system
Air compressor	Passivation	Safe Loading of Unit
Safe EDTA Cleaning	Safe Chemical cleaning of Pre boiler system	Safe Boiler Light up
Safe Rolling and Synchronization		

11.1 HSE ACTIVITIES

HSE activities shall be conducted at site based on the HSEMSM developed by Power Sector and issued to site by Regions.

While planning for any activity the following documents shall be referred for infrastructural requirements to establish control measures:

- 1) HSE Procedure for Register of OHS Hazards and Risks
- 2) HSE Procedure for Register of Environmental Aspects and Impacts
- 3) HSE Procedure for Register of Regulations

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- 4) Operational Control Procedures
- 5) HSE Procedure for Emergency Preparedness and Response Plan
- 6) Contract documents

11.2 WORK PERMIT SYSTEM

- II The following activities shall come under Work Permit System
 - a. Height working above 2 metres
 - b. Hot working at height
 - c. Confined space
 - d. Radiography
 - e. Excavation more than 4 meter depth
 - f. Heavy lifting above 50 ton
Refer Annexure 05 for Work permit formats.
- "HSE Procedure for Work Permit System" shall be followed while implementing permit system. Where customer is having separate Work Permit System the same shall be followed.
- II Permit applicant shall apply for work permit of particular work activity at particular location before starting of the work with Job Hazard Analysis.
- II Permit signatory shall check that all the control measures necessary for the activity are in place and issue the permit to the permit holder.
- II Permit holder shall implement and maintain all control measures during the period of permit .He will close the permit after completion of the work. The closed permit shall be archived in HSE Department of site.

11.3 SAFETY DURING WORK EXECUTION

Respective OCPS are to be followed and adherence to the same would be contractually binding

11.3.1 WELDING SAFETY

All safety precautions shall be taken for welding and cutting operations as per IS-818. All safety precautions shall be taken for foundation and other excavation marks as per IS-3764.

11.3.2 RIGGING

Rigging equipment shall not be loaded in excess of its recommended safe working load. Rigging equipment, when not in use, shall be removed from the original work area so as not to present a hazard to employees.

11.3.3 CYLINDERS STORAGE AND MOVEMENT

All gas cylinders shall be stored in upright position. Suitable trolley shall be used. There shall be flash-back arrestors conforming to IS-11006 at both cylinder and burner ends. Damaged tube and regulators must be immediately replaced. No of cylinders shall not exceed the specified quantity as per OCP

Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dragged, struck or permitted to strike each other violently.



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When cylinders are transported by powered vehicle they shall be secured in a vertical position.

11.3.4 DEMOLITION WORK

Before any demolition work is commenced and also during the process of the work the following shall be ensured:

- All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- No electric cable or apparatus which is liable to be a source of danger nor a cable or an apparatus used by the operator shall remain electrically charged.
- All practical steps shall be taken to prevent danger to persons employed from the risks of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render them unsafe.

11.3.5 T&Ps

All T&Ps/ MMEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL..Subcontractor to also submit monthly reports of T&Ps deployed and validity test certificates to BHEL safety Officer as per the format/procedure of BHEL.

11.3.6 CHEMICAL HANDLING

Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place. Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the subcontractor shall be responsible for carrying out such provision / storage in accordance with the rules & regulations laid down in the relevant petroleum act, explosive act and petroleum and carbide of calcium manual, published by the chief inspector of explosives of India. All such storage shall have prior approval if necessary from the chief inspector of explosives or any other statutory authority. The subcontractor shall be responsible for obtaining the same.

11.3.7 ELECTRICAL SAFETY

- Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
- Fulfilling safety requirements at all power tapping points.
- High/ Low pressure welders to be identified with separate colour clothings. No welders will be deployed without passing appropriate tests and holding valid welding certificates. Approved welding procedure should be displayed at work place.
- The subcontractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes, turbine casings, condensers etc.
- All portable electric tools used by the subcontractor shall have safe plugging system to source of power and be appropriately earthed. Only electricians licensed by appropriate statutory authority shall be employed by the subcontractor to carry out all types of electrical works. Details of earth resource ad their test date to be given to BHEL safety officer as per the prescribed formats of BHEL
- The subcontractor shall use only properly insulated and armored cables which conform to the requirement of Indian Electricity Act and Rules for all wiring, electrical applications at site.



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- BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the subcontractor.
- All electrical appliances used in the work shall be in good working condition and shall be properly earthed.
- No maintenance work shall be carried out on live equipment.
- The subcontractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations.
- Area wise Electrical safety inspection is to be carried out on monthly basis as per "Electrical Safety Inspection checklist" and the report is to be submitted to BHEL safety officer
- Adequate precautions shall be taken to prevent danger for electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public
- The subcontractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.

11.3.8 FIRE SAFETY

- Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
- Subcontractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labor colony etc. Such fire protection equipment shall be easy and kept open at all times.
- The fire extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders.
- All other fire safety measures as laid down in the "codes for fire safety at construction site" issued by safety coordinator of BHEL shall be followed.
- Non-compliance of the above requirement under fire protection shall in no way relieve the subcontractor of any of his responsibility and liabilities to fire incident occurring either to his materials or equipment or those of others.
- Emergency contacts nos must be displayed at prominent locations
- Tarpaulin being inflammable should not be used (instead, only non-infusible covering materials shall be used) as protective cover while preheating, welding, stress relieving etc. at site.

11.3.9 SCAFFOLDING

- Suitable scaffolds shall be provided for workman for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration of work which can be done safely from ladders.
- When a ladder is used, it shall be of rigid construction made of steel. The steps shall have a minimum width of 45 cm and a maximum rise of 30 cm. Suitable handholds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than 1/4 horizontal and 1 vertical.
- Scaffolding or staging more than 3.6 m above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 90 cm above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from saver, from swaying, from the building or structure.

11.3.10 WORK AT HEIGHT:

- Guardrails and toe-board/barricades and sound platform conforming to IS:4912-1978 should be provided.



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- Wherever necessary, life-line (pp or metallic) and fall arrestor along with Polyamide rope or Retractable lifeline should be provided.
- Safety Net as per IS:11057:1984 should be used extensively for prevention/ arrest of men and materials falling from height. The safety nets shall be fire resistant, duly tested and shall be of ISI marked and the nets shall be located as per site requirements to arrest or to reduce the consequences of a possible fall of persons working at different heights.
- Reaching beyond barricaded area without lifeline support, moving with support of bracings, walking on beams without support, jumping from one level to another, throwing objects and taking shortcut must be discouraged.
- Use of Rebar steel for making Jhoola and monkey-ladder (Rods welded to vertical or inclined structural members), temporary platform etc. must be avoided.
- Monkey Ladder should be properly made and fitted with cages.
- Jhoola should be made with angles and flats and tested like any lifting tools before use.
- Lanyard must be anchored always and in case of double lanyard, each should be anchored separately.
- In case of pipe-rack, persons should not walk on pipes and walk on platforms only.
- In case of roof work, walking ladder/ platform should be provided along with lifeline and/ or fall arrestor.
- Empty drums must not be used.
- For chimney or structure painting, both hanging platform and men should be anchored separately to a firm structure along with separate fall arrestor. Rope ladder should be discouraged.

11.3.11 WORKING PLATFORM

Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform gangways provided is more than 3.6 m above ground level or floor level, they shall be closely boarded and shall have adequate width which shall not be less than 750 mm and be suitably fenced as described above. Every opening in the floor or a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.

11.3.12 EXCAVATION

Wherever there are open excavation in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.

11.3.13 LADDER SAFETY

Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in the length while the width between side rails in rung ladder shall in no case be less than app. 29.2 cm for ladder upto and including 3 m in length. For longer ladders this width shall be increased at least $\frac{1}{4}$ " for each additional foot of length.

A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.

11.3.14 LIFTING SAFETY

- It will be the responsibility of the subcontractor to ensure safe lifting of the equipment, taking due precaution to avoid any incident and damage to other equipment and personnel.



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- All requisite tests and inspection of handling equipment, tools & tackle shall be periodically done by the subcontractor by engaging only the Competent Persons as per law.
- Defective equipment or uncertified shall be removed from service.
- Any equipment shall not be loaded in excess of its recommended safe working load.

11.3.15 HOISTING APPLIANCE

- Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guards.
- Hoisting appliance should be provided with such means as will reduce to the minimum the risk of any part of a suspended load becoming incidentally displaced.
- When workers employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided.
- The worker should not wear any rings, watches and carry keys or other materials which are good conductor of electricity.

11.4 ENVIRONMENTAL CONTROL

Environment protection has always been given prime importance by BHEL. Environmental damage is a major concern of the principal subcontractor and every effort shall be made, to have effective control measures in place to avoid pollution of Air, Water and Land and associated life. Chlorofluorocarbons such as carbon tetrachloride and trichloroethylene shall not be used. Waste disposal shall be done in accordance with the guidelines laid down in the project specification.

Any chemical including solvents and paints, required for construction shall be stored in designated bonded areas around the site as per Material Safety Data Sheet (MSDS).

In the event of any spillage, the principle is to recover as much material as possible before it enters drainage system and to take all possible action to prevent spilled materials from running off the site. The subcontractor shall use appropriate MSDS for clean-up technique

All subcontractors shall be responsible for the cleanliness of their own areas.

The subcontractors shall ensure that noise levels generated by plant or machinery are as low as reasonably practicable. Where the subcontractor anticipates the generation of excessive noise levels from his operations the subcontractor shall inform to Construction Manager of BHEL accordingly so that reasonable &practicable precautions can be taken to protect other persons who may be affected.

It is imperative on the part of the subcontractor to join and effectively contribute in joint measures such as tree plantation, environment protection, contributing towards social upliftment, conversion of packing woods to school furniture, keeping good relation with local populace etc.

The subcontractor shall carry out periodic air and water quality check and illumination level checking in his area of work place and take suitable control measure.

11.5 HOUSEKEEPING

- Keeping the work area clean/ free from debris, removed scaffoldings, scraps, insulation/sheeting wastage /cut pieces, temporary structures, packing woods etc. will be in the scope of the subcontractor. Such cleanings has to be done by

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subcontractor within quoted rate, on daily basis by an identified group. If such activity is not carried out by subcontractor / BHEL is not satisfied, then BHEL may get it done by other agency and actual cost along with BHEL overheads will be deducted from contractor's bill. Such decisions of BHEL shall be binding on the subcontractor

- Proper housekeeping to be maintained at work place and the following are to be taken care of on daily basis.
- All surplus earth and debris are removed/disposed off from the working areas to identified locations.
- Unused/Surplus cables, steel items and steel scrap lying scattered at different places/elevation within the working areas are removed to identified locations.
- All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from workplace to identified locations. Sufficient waste bins shall be provided at
- Different work places for easy collection of scrap/waste. Scrap chute shall be installed to remove scrap from high location.
- Access and egress (stair case, gangways, ladders etc.) path should be free from all scrap and other hindrances.
- Workmen shall be educated through tool box talk about the importance of housekeeping and encourage not to litter.
- Labour camp area shall be kept clear and materials like pipes, steel, sand, concrete, chips and bricks, etc. shall not be allowed in the camp to obstruct free movement of men and machineries.
- Fabricated steel structures, pipes & piping materials shall be stacked properly.
- No parking of trucks/trolleys, cranes and trailers etc. shall be allowed in the camp, which may obstruct the traffic movement as well as below LT/HT power line.
- Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas

11.6 WASTE MANAGEMENT

Take suitable measures for waste management and environment related laws/legislation as a part of normal construction activities. Compliance with the legal requirements on storage/ disposal of paint drums (including the empty ones), Lubricant containers, Chemical Containers, and transportation and storage of hazardous chemicals will be strictly maintained.

11.6.1 BINS AT WORK PLACE

- Sufficient rubbish bins shall be provided close to workplaces.
- Bins should be painted yellow and numbered.
- Sufficient nos. of drip trays shall be provided to collect oil and grease.
- Sufficient qty. of broomsticks with handle shall be provided.
- Adequate strength of employees should be deployed to ensure daily monitoring and service for waste management.

11.6.2 STORAGE AND COLLECTION

- Different types of rubbish/waste should be collected and stored separately.
- Paper, oily rags, smoking material, flammable, metal pieces should be collected in separate bins with close fitting lids.
- Rubbish should not be left or allowed to accumulate on construction and other work places.
- Do not burn construction rubbish near working site.

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11.6.3 SEGREGATION

- Earmark the scrap area for different types of waste.
- Store wastes away from building.
- Oil spill absorbed by non-combustible absorbent should be kept in separate bin.
- Clinical and first aid waste stored and incinerated separately.

11.6.4 DISPOSAL

- Sufficient containers and scrap disposal area should be allocated.
- All scrap bin and containers should be conveniently located.
- Provide self-closing containers for flammable/spontaneously combustible material.
- Keep drainage channels free from choking.
- Make schedule for collection and disposal of waste.

11.6.5 WARNING AND SIGNS

- Appropriate sign to be displayed at scrap storage area
- No toxic, corrosive or flammable substance to be discarded into public sewage system.
- Waste disposal shall be in accordance with best practice.
- Comply with all the requirements of Pollution Control Board (PCB) for storage and disposal of hazardous waste.

11.7 TRAFFIC MANAGEMENT SYSTEM

11.7.1 SAFE WORKPLACE TRANSPORT SYSTEM

- Traffic routes in a work place shall be suitable for the persons or vehicles using them. This shall be sufficient in number and of sufficient size. This shall reflect the suitability of traffic routes for vehicles and pedestrians.
- Where vehicles and pedestrians use the same traffic routes there shall be sufficient space between them. Where necessary all traffic routes must be suitably indicated. Pedestrians or vehicles must be able to use traffic routes without endangering those at work. There must be sufficient separation of traffic routes from doors, gates and pedestrian traffic routes.
- For internal traffic, lines marked on roads / access routes and between buildings shall clearly indicate where vehicles are to pass.
- Temporary obstacles shall be brought to the attention of drivers by warning signs or hazard cones.
- Speed limits shall be clearly displayed. Speed ramps preceded by a warning signs or marker are necessary.
- The traffic route should be wide enough to allow vehicles to pass and re-pass oncoming or parked traffic and it may be advisable to introduce one-way system or parking restrictions.
- Safest route shall be provided between places where vehicles have to call or deliver.
- Avoid vulnerable areas/items such as fuel or chemicals tanks or pipes, open or unprotected edges and structures likely to collapse



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- Safe areas shall be provided for loading and unloading.
- Avoid sharp or blind bends. If this is not possible hazards should be indicated e.g. blind corner.
- Ensure road crossings are minimum and clearly signed.
- Entrance and gateways shall be wide enough to accommodate a second vehicle without causing obstruction.
- Set sensible speed limits which are clearly sign posted.
- Where necessary ramps should be used to retard speed. This shall be preceded by a warning sign or mark on the road.
- Forklift trucks shall not pass over road hump unless of a type capable of doing so.
- Overhead electric cable, pipes containing flammable hazardous chemical shall be shielded by using goal posts height gauge posts or barriers.
- Road traffic signs shall be provided on prominent locations for prevention of incidents and hazards and for quick guidance and warning to employees and public. Safety signs shall be displayed as per the project working requirement and guideline of the state in which project is done. Vehicles hired or used shall not be parked within the 15m radius of any working area. Any vehicle, that is required to be at the immediate/near the vicinity, shall be approved by the person in-charge of the site.

11.7.2 TRAFFIC ROUTE FOR PEDESTRIANS

- Where traffic routes are used by both pedestrians and vehicles road shall be wide enough to allow vehicles and pedestrians safely.
- Separate routes shall be provided for pedestrians to keep them away from vehicles. Provide suitable barriers/guard at entrances/exit and the corners or buildings.
- Where pedestrian and vehicle routes cross, appropriate crossing shall be provided.
- Where crowd is likely to use roadway e.g. at the end of shift, stop vehicles from using them at such times.
- Provide high visibility clothing for people permitted in delivery area.

11.7.3 WORK VEHICLE

Work vehicle shall be as safe stable efficient and roadworthy as private vehicles on public roads. Site management shall ensure that drivers are suitably trained. All vehicle e.g. heavy motor vehicle forklift trucks dump trucks mobile cranes shall ensure that the work equipment conforms to the following:

- A high level of stability.
- A safe means of access/egress.
- Suitable and effective service and parking brakes.
- Windscreens with wipers and external mirrors giving optimum all round visibility.
- Provision of horn, vehicle lights, reflectors, reversing lights, reversing alarms.
- Provision of seat belts.
- Guards on dangerous parts.
- Driver protection - to prevent injury from overturning and from falling objects/materials.
- Driver protection from adverse weather.
- No vehicle shall be parked below HT/LT power lines.
- Valid Pollution Under Control certification for all vehicles

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11.7.4 DAILY CHECK BY DRIVER

- There should also be daily safety checks containing below mentioned points by the driver before the vehicle is used.
 - Brakes.
 - Tires.
 - Steering.
 - Mirrors.
 - Windscreen waters.
 - Wipers.
 - Warning signals.
 - Specific safety system i.e. control interlocks
- Management should ensure that drivers carry out these checks.

11.7.5 TRANSPORTATION OF PERSONNEL AND MATERIALS BY VEHICLES

- All drivers shall hold a valid driving License for the class of vehicle to be driven and be registered as an authorized BHEL driver with the Administration Department.
- Securing of the load shall be by established and approved methods, i.e. chains with patented tightening equipment for steel/heavy loads. Sharp corners on loads shall be avoided when employing ropes for securing.
- All overhangs shall be made clearly visible and restricted to acceptable limits
- Load shall be checked before moving off and after traveling a suitable distance.
- On no account is construction site to be blocked by parked vehicles Drivers of vehicles shall only stop or park in the areas designate by the stringing foreman.
- Warning signs shall be displayed during transportation of material.

All vehicles used by BHEL shall be in worthy condition and in conformance to the Land Transport requirement.

11.7.6 MAINTENANCE

All Vehicles used for transportation of man and material shall undergo scheduled inspections on frequent intervals to secure safe operation. Such inspections shall be conducted in particular for steering, brakes, lights, horn, doors etc. Site management shall ensure that work equipment is maintained in an efficient, working order and in good repair. Inspections and services carried out at regular intervals of time and or mileage. No maintenance shall be carried below HT/LT power lines.

11.8 EMERGENCY PREPAREDNESS AND RESPONSE

- Emergency preparedness and response capability of site shall be developed as per Emergency Preparedness and Response plan issued by Regional HQ
- Availability of adequate number of first aiders and fire warden shall be ensured with BHEL and its subcontractors
- All the subcontractor's supervisory personnel and sufficient number of workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Subcontractor should nominate his supervisor to coordinate and implement the safety measures.
- Assembly point shall be earmarked and access to the same from different location shall be shown
- Fire exit shall be identified and pathway shall be clear for emergency escape.

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- Appropriate type and number of fire extinguisher shall be deployed as per Fire extinguisher deployment plan and validity shall be ensured periodically through inspection
- Adequate number of first aid boxes shall be strategically placed at different work places to cater emergency need. Holder of the first aid box shall be identified on the box itself who will have the responsibility to maintain the same.
- First aid center shall be developed at site with trained medical personnel and ambulance
- Emergency contact numbers (format given in EPRP) of the site shall be displayed at prominent locations.
- Tie up with fire brigade shall be done in case customer is not having fire station.
- Tie up with hospital shall be done in case customer is not having hospital.
- Disaster Management group shall be formed at site
- Mock drill shall be arranged at regular intervals. Monthly report of the above to be given to BHEL safety Officer as per prescribed BHEL formats
- Mock drill shall be conducted on different emergencies periodically to find out gaps in emergency preparedness and taking necessary corrective action

12.0 HSE INSPECTION

Inspection on HSE for different activities being carried out at site shall be done to ensure compliance to HSEMS requirements. The subcontractor shall maintain and ensure necessary safety measures as required for inspection and tests HV test, Pneumatic test, Hydraulic test, Spring test, Bend test etc. as applicable, to enable inspection agency for performing Inspection. If any test equipment is found not complying with proper safety requirements then the Inspection Agency may withhold inspection, till such time the desired safety requirements are met.

12.1 DAILY HSE CHECKS

Both the Site Supervisors and safety officer of Subcontractor are to conduct daily site Safety inspection around work activities and premises to ensure that work methods and the sites are maintained to an acceptable standard. The following are to form the common subjects of a daily safety inspection:

- Personal Safety wears & gear compliance.
- Complying with site safety rules and permit-to-work (PTW).
- Positions and postures of workers.
- Use of tools and equipment etc. by the workers.

The inspection should be carried out just when work starts in beginning of the day, during peak activities period of the day and just before the day's work ends.

12.2 INSPECTION OF PPE

- PPEs shall be inspected by HSE officer at random once in a week as per format no. HSEP:14-F06 for its compliance to standard and compliance to use and any adverse observation shall be recorded in the PPE register.
- The applicable PPEs for carrying out particular activities are listed below.

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12.3 INSPECTION OF T&Ps

- A master list of T&Ps shall be maintained by each subcontractor.
- All T&Ps being used at site shall be inspected by HSE officer once in a month as per format no. HSEP:14-F07 for its healthiness and maintenance.
- The T&Ps which require third party inspection shall be checked for its validity during inspection. The third party test certificate should be accompanied with a copy of the concerned competent person's valid qualification record.
- The validity of T&P shall be monitored as per "Status of T&Ps" format no. HSEP:14-F08

12.4 INSPECTION OF CRANES AND WINCHES

- Cranes and winches shall be inspected by the operator through a daily checklist for its safe condition (as provided by the equipment manufacturer) before first use of the day.
- Cranes and Winches shall be inspected by HSE officer once in a month as per format no. HSEP:14-F09 for healthiness, maintenance and validity of third party inspection.
- The date of third party inspection and next due date shall be painted on cranes and winches.
- The operators/drivers shall be authorized by sub-contractor based on their competency and experience and shall carry the I-card.
- The operator should be above 18 years of age and should be in possession of driving license of HMV man & goods), vision test certificate and should have minimum qualification so that he can read the instructions and check list.

12.5 INSPECTION ON HEIGHT WORKING

- Inspection on height working shall be conducted daily by supervisors before start of work to ensure safe working condition including provision of
 - Fall arrestor
 - Lifelines
 - Safety nets
 - Fencing and barricading
 - Warning signage
 - Covering of opening
 - Proper scaffolding with access and egress.
 - Illumination
- Inspection on height working shall be conducted once in a week by HSE officer as per format no. HSEP:14-F10.
- Medical fitness of height worker shall be ensured.
- Height working shall not be allowed during adverse weather.

12.6 INSPECTION ON WELDING AND GAS CUTTING OPERATION

- Supervisor shall ensure that no flammable items are available in near vicinity during welding and gas cutting activity.
- Gas cylinders shall be kept upright.
- Use of Flash back arrestor shall be ensured at both ends.

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- Inspection during welding and gas cutting operations shall be carried out by HSE officer once a month as per format no. HSEP:14-F11.
- Use of fire blanket to be ensured to avoid falling of splatters during welding or gas cutting operation at height.
- Availability of fire extinguisher at vicinity shall be ensured.

12.7 INSPECTION ON ELECTRICAL INSTALLATION/APPLIANCES

- Ensure proper earthing in electrical installation
- Use ELCB at electrical booth
- Electrical installation shall be properly covered at top where required
- Use appropriate PPEs while working
- Use portable electrical light < 24 V in confined space and potentially wet area.
- Monthly inspection shall be carried out as per format no. HSEP:14-F12.

12.8 INSPECTION OF ELEVATOR

- Elevators shall be inspected by concerned supervisors once in a week as per format no. HSEP:14-F13.
- All elevators shall be inspected by competent person and validity shall be ensured.
- The date of third party inspection and next due date shall be painted on elevator.

12.9 INSPECTION OF EXCAVATION

Excavation activities shall be inspected as per Format HSEP:14-F13A

13.0 HSE PERFORMANCE

- Contractor shall be assessed on monthly basis for HSE Compliance by BHEL Safety In-charge at site. The HSE compliance shall be based on Online HSE Evaluation System of BHEL as per Format No. HSEP:14-F33.
- BHEL shall reserve the right to use this assessment for evaluating bidder's capacity for future tenders
- Suitable HSE reward system shall be developed at site level to promote HSE compliance amongst workmen by the subcontractor.
To decide HSE reward, performance towards HSE shall be evaluated for workmen and it shall be awarded regularly in public gathering.
- If safety record of the subcontractor 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 subcontractor may be considered by BHEL after completion of the job.

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14.0 HSE PENALTIES

- As per contractual provision HSE penalties shall be imposed on subcontractors for non-compliance on HSE requirement as per format no. HSEP:14-F14. The list in the format is only indicative. For any other violation, not listed in the format, the minimum penalty amount is to be decided as per BOCW act.
- If principal customer/statutory and regulatory bodies impose some penalty on HSE due to the non-compliance of the subcontractor the same shall be passed on to them.
- The penalty amount shall be recovered by Site Finance department from subcontractors from the RA/Final bill.

15.0 OTHER REQUIREMENTS

- In case of any delay in completion of a job due to mishaps attributable to lapses by the subcontractor, BHEL shall have the right to recover cost of such delay from the payments due to the subcontractor, after notifying the subcontractor suitably.
- If the subcontractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the subcontractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by BHEL, BHEL shall have the right to take corrective steps at the risk and cost of the subcontractor after giving a notice of not less than 7 days indicating the steps that would be taken by BHEL.
- If the subcontractor succeeds in carrying out its job in time without any fatal or disabling injury incident and without any damage to property BHEL may, at its sole discretion, favorably consider to reward the subcontractor suitably for the performance.
- In case of any damage to property due to lapses by the subcontractor, BHEL shall have the right to recover the cost of such damages from the subcontractor after holding an appropriate enquiry.
- The subcontractor shall take all measures at the sites of the work to protect all persons from incidents and shall be bound to bear the expenses of defense of every suit, action or other proceeding of law that may be brought by any persons for injury sustained or death owing to neglect of the above precautions and to pay any such persons such compensation or which may with the consent of the subcontractor be paid to compromise any claim by any such person, should such claim proceeding be filed against BHEL, the subcontractor hereby agrees to indemnify BHEL against the same.
- The subcontractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, overalls shall be supplied by the subcontractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
- The subcontractor shall notify BHEL of his intention to bring to site any equipment or material which may create hazard.
- BHEL shall have the right to prescribe the conditions under which such equipment or materials may be handled and the subcontractor shall adhere to such instructions.



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- BHEL may prohibit the use of any construction machinery, which according to the organization is unsafe. No claim for compensation due to such prohibition will be entertained by BHEL.

16. NON COMPLIANCE

NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE SUBCONTRACTOR AS UNDER FOR EVERY INSTANCE OF VIOLATION NOTICED:

SN	Violation of Safety Norms	Fine (in Rs)
01	Not Wearing Safety Helmet	200/- *
02.	Not wearing Safety Belt or not anchoring life line	500/-*
03	Not wearing safety shoe	200/-*
04	Not keeping gas cylinders vertically	200/-
05	Not using flash back arrestors	100/-
06	Not wearing gloves	50/- *
07.	Grinding Without Goggles	50/- *
08.	Not using 24 V Supply For Internal Work	500/-
09.	Electrical Plugs Not used for hand Machine	100/-
10.	Not Slinging properly	200/-
11.	Using Damaged Sling	200/-
12.	Lifting Cylinders Without Cage	500/-
13.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
14.	Not Removing Small Scrap From Platforms	500/-
15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	500/-
16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
17.	Improper Earthing Of Electrical T&P	500/-
18	No or improper barricading	500/-
19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-
20.	Incident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
21.	Fatal Incident Resulting in total loss in Earning Capacity	1,00,000/- per victim for first instance #

- Legend:-

*: per head. For repeated violation by the same person, the penalty would be double of the previous penalty. Date of "Repeated violation" will be counted from subsequent days.

#: or as deducted by customer, whichever is higher. For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.

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 subcontractor. The amount collected above will be utilized for giving award to the employees who could avoid incident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

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17.0 HSE AUDIT/INSPECTION

- Regular HSE Audit/inspection shall be carried out by Subcontractor as per Site HSE audit calendar.
- HSE checklist (**Annexure 02**) shall be used for carrying out audit/inspection and report shall be submitted to BHEL site management
- All non-conformities and observations on HSE identified during internal or external HSE audit shall be disposed off by site in a time bound manner and reported back the implementation status
- Corrective action and Preventive action on HSE issues raised by certification body issued by Regional HQs shall be implemented by site and reported to Site management.

18.0 MONTHLY HSE REVIEW MEETING

- II Site shall hold HSE review meeting every month to discuss and resolve HSE issues of site and improve HSE performance. It will also discuss the incidents occurred since previous meeting, its root cause and Corrective action and Preventive action. The agenda is given below:
 - Implementation of earlier MOM
 - HSE performance
 - HSE inspection
 - HSE audit and CAPA
 - HSE training
 - Health check-up camp
 - HSE planning for the erection and commissioning and installation activities in the coming month
 - HSE reward and promotional activities
- II The meeting shall be chaired by Construction Manager, convened by HSE coordinator and attended by all HOS, Site Incharge of Subcontractors and HSE officer of Subcontractors.
- MOM on the discussion will be circulated to the concerned for implementation.

19.0 FORMATS USED (Details available in Annexure-04)

SL. No.	Format Name	Format No.	Rev No.
01	Inspection of First Aid Box	HSEP:14-F01	00
02	Health Check Up	HSEP:14-F02	00
03	HSE Induction Training	HSEP:14-F03	00
04	Tool Box Talk	HSEP:14-F04	00
05	Monthly Site HSE Report	As specified by BHEL	00
06	Inspection of PPE	HSEP:14-F06	00



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07	Inspection of T&Ps	HSEP:14-F07	00
08	Status of T&Ps	HSEP:14-F08	00
09	Inspection of Cranes and Winches	HSEP:14-F09	00
10	Inspection on Height Working	HSEP:14-F10	00
11	Inspection on Welding & Gas Cutting	HSEP:14-F11	00
12	Inspection on Electrical Installation	HSEP:14-F12	00
13	Inspection on Elevator	HSEP:14-F13	00
14	HSE Penalty	HSEP:14-F14	00
15	Accident /incident / property damage /fire incident report	HSEP:14-F15	00



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20.0 ANNEXURES

ANNEXURE 01

As per Contract Labour (Regulation & Abolition Act), Central Rules, 1971,

(1) The first-aid box shall be distinctively marked with a Red Cross on a white background and shall contain the following items, namely:

(a) For establishments in which the number of contract labour employed does not exceed fifty, each first aid box shall contain the following equipment:

(i)	6 small sterilized dressings
(ii)	3 medium size sterilized dressings
(iii)	3 large size sterilized dressings
(iv)	6 pieces of sterilized eye pads in separate sealed packets.
(v)	6 roller bandages 10 cm wide.
(vi)	6 roller bandages 5 cm wide.
(vii)	One tourniquet
(viii)	A supply of suitable splints
(ix)	Three packets of safety pins.
(x)	Kidney tray.
(xi)	3 large sterilized burn dressings.
(xii)	1 (30ml) bottle containing a two percent alcoholic solution of iodine
(xiii)	1 (30 ml) bottle containing Sal volatile having the dose and mode of administration indicated on the label
(xiv)	1 snake bite lancet
(xv)	1 (30gms) bottle of potassium permanganate crystals.
(xvi)	1 pair scissors
(xvii)	1 copy of the First-Aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
(xviii)	A bottle containing 100 tablets (each of 5 grains) of aspirin
(xix)	Ointment for burns
(xx)	A bottle of suitable surgical anti-septic solution

(b) For establishment in which the number of contract labour exceeds fifty each first-aid box shall contain the following equipment:

(i)	12 small sterilized dressings
(ii)	6 medium size sterilized dressings
(iii)	6 large size sterilized dressings.
(iv)	6 large size sterilized burn dressings
(v)	6 (15 grams) packets sterilized cotton wool
(vi)	12 pieces of sterilized eye pads in separate sealed packets.



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(vii)	12 roller bandages 10 cm wide.
(viii)	12 roller bandages 5 cm wide.
(ix)	One tourniquet.
(x)	A supply of suitable splints.
(xi)	Three packets of safety pins.
(xii)	Kidney tray.
(xiii)	Sufficient number of eye washes bottles filled with distilled water or suitable liquid clearly indicated by a distinctive sign which shall be visible at all times.
(xiv)	4 per cent Xylocaine eye drops, and boric acid eye drops and soda by carbonate eye drops.
(xv)	1 (60ml) bottle containing a two percent alcoholic solution of iodine
(xvi)	One (two hundred ml) bottle of mercurochrome (2 per cent) solution in water.
(xvii)	1 (120ml) bottle containing Sal volatile having the dose and mode of administration indicated on the label.
(xviii)	1 roll of adhesive plaster (6 cmX1 meter)
(xix)	2 rolls of adhesive plaster (2 cmX1 meter)
(xx)	A snake bite lancet.
(xxi)	1 (30 grams) bottle of potassium permanganate crystals.
(xxii)	1 pair scissors
(xxiii)	1 copy of the First-Aid leaflet issued by the Director-General, Factory Advice service and labour Institutes, Government of India.
(xxiv)	a bottle containing 100 tablets (each of 5 grains) of aspirin
(xxv)	Ointment for burns
(xxvi)	A bottle of a suitable surgical anti septic solution.

(2) Adequate arrangement shall be made for immediate recouptment of the equipment when necessary.



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ANNEXURE 02

HSE AUDIT/INSPECTION CHECKLIST CUM COMPLIANCE REPORT

PROJECT: _____

SUBCONTRACTOR: _____

DATE : _____

OWNER : _____

INSPECTION BY: _____

Note : write 'NA' wherever the items is not applicable

Item	Y e s	N o	Remarks	Action
HOUSEKEEPING				
Waste containers provided and used				
Passageways and walkways clear				
General neatness of working area				
Other				
PERSONNEL PROTECTIVE EQUIPMENTS				
Goggles; shields				
Face protection				
Hearing protection				
Respiratory masks etc.				
Safety belts				
Other				
EXCAVATIONS / OPENINGS				
Openings properly covered or barricaded				
Excavations shored				
Excavations barricaded				
Overnight lighting provided				
Other				
WELDING, CUTTING				
Gas cylinders chained upright				
Cable and hoses not obstructing				
Fire extinguisher (s) accessible				
Others				
SCAFFOLDING				
Fully decked platforms				
Guard and intermediate rails in place				
Toe boards in place				
Adequate shoring				
Adequate access				
Others				
LADDER				
Extension side rails 1 m above				
Top of landing				
Properly secured				



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Angle + 70° from horizontal				
Other				
HOISTS, CRANES AND DERRICKS				
Condition of cables and sheaf OK				
Condition of slings, chains, hooks OK				
Inspection & maintenance log maintained				
Outriggers used				
Signals observed and understood				
Qualified operators				
Others				
MACHINERY, TOOLS & EQUIPMENT				
Proper instruction				
Safety devices				
Proper cords				
Inspection and maintenance				
Other				
VEHICLE AND TRAFFIC				
Rules and regulations observed				
Inspection and maintenance				
Licensed drivers				
Other				
TEMPORARY FACILITIES				
Emergency instructions posted				
Fire extinguishers provided				
Fire-aid equipment available				
General neatness				
Others				
FIRE PREVENTION				
Personnel instructed				
Fire extinguishers checked				
No smoking in prohibited areas.				
Hydrants				
Clearance				
Others				
ELECTRICAL				
Proper wiring				
ELCB's provided				
Ground fault circuit interrupters				
Protection against damage				
Prevention of tripping hazards				
Other				
HANDLING & STORAGE OF MATERIALS				
Properly stored or stacked				
Passageways clear				
Other				
FLAMMABLE GASES AND LIQUIDS				
Containers clearly identified				
Proper storage				
Fire extinguisher nearby				



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Other				
WORKING AT HEIGHT				
Safety nets				
Safety belts				
Safety helmets				
Anchoring of safety belt to the life line rope				
ENVIRONMENT				
Lubricant waste/engine oils properly dispose.				
Waste from Canteen, offices, sanitation etc. disposed properly.				
Disposal of surplus earth, stripping materials, expired batteries, oily rags and combustible materials done properly.				
HEALTH CHECKS				
Hygienic conditions at labor camps O.K.				
Availability of first-aid facilities				
Proper sanitation at site, office & labor camps.				
Arrangement of medical facilities.				
Measures for dealing with illness.				
Availability of potable drinking water for workmen & staff.				
Provision of crèches for children.				



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ANNEXURE 03

REFERENCES

- Contract documents
- Relevant legislations
- HSEMSM
- Relevant Indian standards as listed below (illustrative only):

SL NO	CODE NAME	TITLE
(1)	IS : 818-1888 (Reaffirmed 2003)	Code of Practice for safety and health requirements in Electric and Gas Welding and Cutting operations.
(2)	IS: 1179-1967 (Reaffirmed 2003)	Specification for Equipment for Eye & Face protection during welding.
(3)	IS : 1989 (Part 2):1986 (Reaffirmed 1997)	Specification for Leather Safety Boots & Shoes
(4)	IS:2925 – 1984 (Reaffirmed 2010)	Specification for Industrial Safety Helmets
(5)	IS:3521 : 1999 (Reaffirmed 2002)	Industrial Safety Belts & Harnesses-Specification
(6)	IS:3646(Part II) – 1966 (Reaffirmed 2003)	Code of Practice for Interior Illumination
(7)	IS:3696 (Part I) – 1987 (Reaffirmed 2002)	Safety Code for Scaffolds and Ladders
(8)	IS: 3696(Part 2) : 1991 (Reaffirmed 2002)	Scaffolds and Ladders-Code of Safety
(9)	IS:3786 – 1983 (Reaffirmed 2002)	Method for Computation of Frequency and Severity Rates for Industrial Injuries and Classification of Industrial Incidents
(10)	IS:4770 : 1991 (Reaffirmed 2006)	Rubber Gloves – Electricals purposes-Specification
(11)	IS:4912 : 1978 (Reaffirmed 2002)	Safety Requirements for Floor and Wall Openings, Railings and Toe Boards
(12)	IS: 5983 – 1980 (Reaffirmed 2002)	Specification for Eye-Protectors
(13)	IS:6519 – 1971 (Reaffirmed 1997)	Code of Practice for Selection, Care and Repair of Safety Footwear
(14)	IS:9167:1979	Specification for Ear-Protectors
(15)	IS:6994(Part I)-1973 (Re affirmed 1996)	Specification for Industrial Safety Gloves Leather and Cotton Gloves
(16)	IS:8519 – 1977 (Reaffirmed 1983)	Guide for Selection of Industrial Safety Equipment for Body Protection.
(17)	IS 11006 : 2011	Flash Back(Flame Arrestor) Specification



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(18)	IS:8520 – 1977 (Reaffirmed 2002)	Guide for Selection of Industrial Safety Equipment for Eye, Face and Ear Protection.
(19)	IS:9473:2002	Respiratory Protective Devices-Filtering Half Masks to protect against Particles-Specification.
(20)	IS:9944:1992 (Reaffirmed 2003)	Natural and Man-made Fiber Rope Slings-Recommendations on Safe working loads.
(21)	IS:11057 – 1884 (Reaffirmed 2001)	Specification for Industrial Safety Nets
(22)	IS:12254:1993 (Reaffirmed 2002)	Polyvinyl Chloride (PVC) Industrial Boots-Specification
(23)	IS:13367(Part 1):1992 (Reaffirmed 20030	Safe Use of Cranes-Code of Practice
(24)	IS:14166:1994 (Reaffirmed 2002)	Respiratory Protective Devices-Full Face Masks Specification
(25)	IS:14746 : 1999 (Reaffirmed 2003)	Respiratory Protective Devices-Half Masks and Quarter Masks - Specification
(26)	IS : 15397 :2003 (Reaffirmed 2008)	Portable Extinguisher Mechanical Foam Type(Stored Pressure)-Specification
(27)	IS: 19011:2002	Guidelines for Quality and/or Environmental Management Systems Auditing



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**ANNEXURE 04 : SAFETY FORMATS
&
ANNEXURE 05 : WORK PERMIT FORMATS**

**POWER SECTOR****INSPECTION OF FIRST AID BOX**

FORMAT NO: HSEP:14-F01
REV NO.: 00
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Name of Site :	
Name of Sub-Contractor :	
Inspected by :	
Date of Inspection :	

Number of employees on the site: - _____

Sl.No.	Item	No. Available	Remarks
1	No. of small sterilized dressings		
2	No of medium sized sterilized dressings		
3	No of large sized sterilized dressings.		
4	No of large sized sterilized burn dressings		
5	No of (15 grams) packets sterilized cotton wool		
6	No of pieces of sterilized eye pads in separate sealed packets.		
7	No of roller bandages 10 cm wide.		
8	No of roller bandages 5 cm wide.		
9	Whether tourniquet available		
10	Whether supply of Suitable splints available.		
11	No of packets of safety pins.		
12	Whether kidney tray available		
13	Whether sufficient number of eye wash bottles, filled with distilled water or suitable liquid, clearly indicated by a distinctive sign which shall be visible at all times, available.		
14	Whether 4%-xylocaine eye drops, and boric acid eye drops and soda by carbonate eye drops available.		
15	Whether (60ml) bottle containing a two percent alcoholic solution of iodine available		
16	Whether (two hundred ml) bottle of mercurochrome (2 per cent) solution in water available.		

**POWER SECTOR****INSPECTION OF FIRST AID BOX**

FORMAT NO: HSEP:14-F01
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Sl.No.	Item	No. Available	Remarks
17	Whether 120ml bottle containing Sal volatile having the dose and mode of administration indicated on the label, available.		
18	Whether roll of adhesive plaster (6 cmX1 meter) available		
19	No of rolls of adhesive plaster (2 cmX1 meter)		
20	Whether snake bite lancet available.		
21	Whether (30 grams) bottle of potassium permanganate crystals available.		
22	Whether a pair scissors available		
23	Whether copy of the First-Aid leaflet issued by the Director-General, Factory Advice service and labour Institutes, Government of India available.		
24	Whether bottle containing 100 tablets (each of 5 grains) of aspirin available		
25	Whether Ointment for burns available		
26	Whether bottle of a suitable surgical anti-septic solution available		

Signature of Subcontractor's Site I/C:

**POWER SECTOR****HEALTH CHECK UP**

FORMAT NO: HSEP:14-F02

REV NO.: 00

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Name of Site :	
Name of Sub-Contractor :	
Name of Employee :	

NAME:

History Of Past Illness	H/O Epilepsy	
	H/O Drug Allergy	
	H/O Diabetics/ Hypertension	
	H/O Unconsciousness	
Personal History		
EXAMINATION	OBSERVATION	
<u>General Physical Examination</u>		
Height	:	
Weight	:	
BMI	:	
Built And nourishment	:	
Pallor	:	
Temperature	:	
Chest Expansion	: Inspiration	Expansion
Lymph Node Enlargement	:	
<u>Ear, Nose, Throat</u>		
Ear	:	
Nose	:	
Throat	:	

**POWER SECTOR****HEALTH CHECK UP**

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EXAMINATION	OBSERVATION	
<u>Cardiovascular System Examination :</u>		
Inspection	:	
Palpation	: Pulse	BP
Auscultation (Heart Sounds)	:	
<u>Respiratory System</u> :		
Inspection	: Respiratory Rate	
Palpation:	:	
Percussion	:	
Auscultation (Breath Sounds)	:	
<u>Examination of Abdomen</u> :		
Inspection	:	
Palpation	:	
Auscultation (Bowel Sounds)	:	
Any Other	:	
<u>Clinical Impression</u>		

Signature of the examining doctor



POWER SECTOR

HSE INDUCTION TRAINING

FORMAT NO: HSEP:14-F03

REV NO.: 00

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Name of Site :	
Name of Sub-Contractor :	
Date :	
Name of Training Co-ordinator	

Signature of Training co-ordinator :



POWER SECTOR

TOOL-BOX TALK

FORMAT NO: HSEP:14-F04

REV NO.: 00

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Name of Site :	
Sub-Contractors Name :	
Date :	

Signature of Site I/C of Subcontractor :

**POWER SECTOR****PERSONAL PROTECTIVE EQUIPMENTS**

FORMAT NO: HSEP:14-F06

REV NO.: 00

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Name of Site :	
Name of Sub-Contractor :	
Inspected by :	
Date of Inspection :	

Item	Issued this Month	Nos. Issued up to the Month	Percentage of usage at site
Safety Helmet			
Safety Shoes			
Full Body Harness			
Fall Arrestor			
Safety Nets			
Other PPEs.			

Signature of Site I/C of Subcontractor :

**POWER SECTOR****INSPECTION OF T&Ps**

FORMAT NO: HSEP:14-F07

REV NO.: 00

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Name of Site :	
Name of Sub-Contractor :	
Date of Inspection :	

Sl.No.	Description	Remarks
1.0	Name of equipment	
2.0	Basic Information of equipment	
2.1	Specification	
2.2	Sr. No. of equipment	
2.3	Make	
2.4	Year of manufacture	
3.0	Major repairs / overhauls(Furnish details of work carried out)	Date(s) of major repair/overhaul
3.1		
3.2		
3.3	Repairs carried out at site	
4.0	Any performance test conducted	Yes/No
5.0	Document Submitted	Yes/No
6.0	Manufacturer's test / guarantee certificate	Available/ Not available
7.0	Performance test	Done/ Not Done
8.0	Acceptance Norms	
9.0	Committee Observations	
10.0	Date of next review (if accepted)	
Signature-Site Safety Officer (BHEL)		Signature-Subcontractor/ Subcontractor's Safety Officer

**POWER SECTOR****STATUS OF T&Ps**

FORMAT NO: HSEP:14-F08

REV NO.: 00

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Name of Site	
Name of Sub-Contractor	
Date of Inspection	

Item	Nos. Deployed	Identification No.	Nos. Tested by competent person	Validity of Test Certificate
Winches				
Chain Blocks				
Wire Rope				
Slings				
Man Cages				
D-Shackles				
Air Compressors				
Crawler Cranes				
Mobile Cranes				
Hydra Cranes				
Others				

Signature of Site I/C of subcontractor:

**POWER SECTOR****INSPECTION OF CRANES AND WINCHES**

FORMAT NO: HSEP:14-F09

REV NO.: 00

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Name of Site :	
Name of Sub-Contractor :	
Inspected by :	
Date of Inspection:	

Crane Reg. No (Make/Model) _____**Name of Driver/Operator** _____

Sl.no.	Description	Observation	Measures
1	Valid Driving license		
2	Hook & Hook Latch		
3	Over Hoist limit switch		
4	Boom limit switch		
5	Boom Angle Indicator		
6	Boom limit cutoff switch		
7	Condition of Boom		
8	Condition of ropes		
9	Number of load lines		
10	Size and condition of the slings		
11	Stability of the cranes		
12	Soil Condition		
13	Swing Break And Lock		
14	Proper Break And Lock		
15	Hoist Break And Lock		
16	Boom Break And Lock		
17	Main Clutch		
18	Leakage in Hydraulic Cylinders		
19	Out riggers fully extendable		
20	Tyre pressure		
21	Condition of Battery And Lamps		

**POWER SECTOR****INSPECTION OF CRANES AND WINCHES**

FORMAT NO: HSEP:14-F09

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Sl.no.	Description	Observation	Measures
22	Guards of moving and rotating parts		
23	Load chart provided		
24	Number and position of pedant ropes		
25	Reverse Horn		
26	Load Test Details		
27	Operator's fitness		
28	Pollution under control certificate		
29	Fire extinguisher of appropriate type.		
30	Training of the operator		

WINCH

Sl. No.	Description	YES	NO	NA	Remarks
1	Has the copy of Third Party Inspection certificate been provided in winch machine shed?				
2	Is winch machine operator experienced enough to operate the winch machine?				
3	Is the winch machine operated by someone other than the winch machine operator?				
4	Is there guard provided in all moving parts like wheel and motor's shaft?				
5	Will it protect against unforeseen operational contingencies?				
6	Are brakes, clutch and locking arrangement working properly?				
7	Has it been ensured that the guard does not constitute a hazard by itself?				
8	Are the cranks and the connecting rods protected by guardrails?				
9	Is there provision for fully covered shed with wooden plank roof?				

**POWER SECTOR****INSPECTION OF CRANES AND WINCHES**

FORMAT NO: HSEP:14-F09

REV NO.: 00

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Sl. No.	Description	YES	NO	NA	Remarks
10	Is wire rope free from any kind of damage or wear and tear?				
11	Is split pin provided for the protection of clutch and brake locking arrangement?				
12	Is pulley inspected by competent person and certified before use?				
13	Is pulley free from any wear and tear visually?				
14	Is winch rope barricaded with clipsheet for the protection of rope and person?				
15	Is the wire rope lubricated by cardium oil?				
16	Is there any friction in wire rope which may damage the wire rope rather than the rolling parts?				
17	Is there any oil leakage in the hydraulic system of the winch machine?				
18	Has it been ensured that the guard will not cause discomfort or inconvenience to operator?				
	Total Number of NO:				
	Total Number of NA:				
	% Compliance :				

Signature of Site I/C of subcontractor :

**POWER SECTOR****INSPECTION OF HEIGHT WORKING**

FORMAT NO: HSEP:14-F10

REV NO.: 00

PAGE NO. 01 OF 02

Name of Site :	
Name of Sub-Contractor :	
Inspected by :	
Date of Inspection:	

Sl. No.	Descriptions	Observation (Yes/No)	Remarks
1	All the workers have been explained safe work method?		
2	An established communication system has been established and explained to the workers.		
3	Adequate illumination has been ensured.		
4	Work area inspected prior to the start of the work.		
5	Area below the work place barricaded, particularly below hot work.		
6	Workers provided with bags /box to carry bolts, nuts and hand tools		
7	Arrangement for fastening hand tools made.		
8	All work platforms ensured to be of adequate strength and ergonomically suitable.		
9	Fabricated makeshift arrangements are checked for quality and type of material welding, anchoring etc.		
10.	Work at more than one elevation at the same segment is restricted.		
ACCESS/EGRESS			
1	Walkways provided with handrail, mid-rail and toe guard?		
2	All checkered plates, gratings properly welded/ bolted?		
3	Are ladders inspected and they are in good condition?		
4	Are ladders spliced?		
5	Are ladders properly secured to prevent slipping, sliding or falling?		
6	Do side rails extend 36" above top landing?		
7	Are built up ladders constructed of sound materials?		

**POWER SECTOR****INSPECTION OF HEIGHT WORKING**

FORMAT NO: HSEP:14-F10

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Sl. No.	Descriptions	Observation (Yes/No)	Remarks
8	Are rugs and cleats not over 12" on center?		
9	Metal ladders not used around electrical hazards.		
10	Proper maintenance and storage.		
11	Ladders placed at right slope.		
12	Ladders / staircases welded/ bolted properly.		
13	Any obstruction in the stairs.		
14	Are landing provided with handrails, knee rails, toe boards etc.?		
15	Whether ramp is provided with proper slope.		
16	Proper hand rails / guards provided in ramps.		
	Housekeeping		
1	Walkways, aisles & all overhead workplaces cleared of loose material.		
2	Flammable materials, if any, are cleared.		
3	All the de shuttering materials are removed after de shuttering is done.		
4	Platforms and walkways free from oil/grease or other slippery material.		
5	Collected scrap are brought down or lowered down and not dropped from height.		
	PPE And Safety Devices		
1	Use of safety helmet, safety belts ensured for all workers		
2	Anchoring points provided at all places of work.		
3	Common lifeline provided wherever linear movement at height is required.		
4	Safety nets are use wherever required.		
5	Proper fall arrest system is deployed at critical workplaces.		
6	Crawler boards/Safety system or works on fragile roof are used.		

Signature of Site I/C of subcontractor :

**POWER SECTOR****INSPECTION OF WELDING AND GAS
CUTTING**

FORMAT NO: HSEP:14-F11
REV NO.: 00
PAGE NO. 1 OF 02

Name of Site	
Name of Sub-Contractor	
Inspected by	
Date of Inspection	

Welding		Y	N	Remarks
Sl.no.	Description	e	s	
1	Is electric connection given through 30 mA ELCB/RCCB to welding m/c?			
2	Is electric cable fitted properly in junction box on m/c?			
3	Is electrical cable free from joints?			
4	Are the joints attached firmly & insulated with tape?			
5	Is double earthing given to body of m/c?			
6	Is the physical condition of the m/c good?			
7	Is ON/OFF switch connected to the m/c is working and in good condition?			
8	Are indication lamps on m/c working?			
9	Is the electrode holder in good condition?			
10	Are the cables of the welding m/c lugged & tight properly?			
11	Are return lead connected properly (Rod, Angle, Channels shall not be used)			
	Total No of NO			
	Total No of YES			

**POWER SECTOR****INSPECTION OF WELDING AND GAS
CUTTING**

FORMAT NO: HSEP:14-F11

REV NO.: 00

PAGE NO. 2 OF 02

Gas Cutting				
Sl. no	Description	Yes	No	Remarks
1	Are Cylinders kept on trolleys?			
2	Physical condition of Gas cylinders Good?			
3	Is there Oil/Grease on valve of the cylinder?			
4	Are pressure regulators in good condition?			
5	Condition of hose pipe OK?			
6	Are hose pipe clamped with hose clip?			
7	Is flash back arrestor & NRV fitted on torch both for O2 and LPG cylinder?			
8	Is nozzle of the torch cleaned?			
	Total Number of NO			
	Total No of YES			
	% Compliance			

Signature of Site I/C of subcontractor :

**POWER SECTOR****INSPECTION OF ELECTRICAL INSTALLATION**

FORMAT NO: HSEP:14-F12

REV NO.: 00

PAGE NO. 01 OF 02

Name of Site	
Name of Sub-Contractor	
Inspected by	
Date of Inspection:	

Sr. No.	Contents	Yes/No	Remarks
A	Cable		
1.	Whether the condition of cable is checked?		
2.	Are cables received from other sites checked for insulation resistance before putting them into use?		
3.	Are all main cables taken either underground / overhead?		
4.	Are welding cables routed properly above the ground?		
5.	Are welding and electrical cables overlapping?		
6.	Is any improper joining of cables/wires prevailing at site?		
B	DBs/SDBs		
1.	Is earth conductor continued up to DB / SDB?		
2.	Whether DBs and extension boards are protected from rain / water?		
3.	Is there any overloading of DBs / SDBs?		
4.	Are correct / proper fuses & CBs provided at main boards and sub-boards?		
5.	Is energized wiring in junction boxes, CB panels & similar places covered all times?		
C	ELCB		
1.	Whether the connections are routed through ELCB?		
2.	Is ELCB sensitivity maintained at 30 mA?		

**POWER SECTOR****INSPECTION OF ELECTRICAL INSTALLATION**

FORMAT NO: HSEP:14-F12

REV NO.: 00

PAGE NO. 02 OF 02

Sr. No.	Contents	Yes/No	Remarks
3.	Are the ELCB numbered and tested periodically & test results recorded in a logbook countersigned by a competent person?		
D	Grounding		
1.	Is natural earthing ensured at the source of power (main DB at Generator or Transformer)?		
2.	Whether the continuity and tightness of the earth conductor are checked?		
3.	Mention the gauge of the earth conductor used at the site.		
4.	Mention the value of Earth Resistance.		
E	Electrically operated Machines or Accessories.		
1.	Whether the plug top is provided everywhere.		
2.	Are all metal parts of electrical equipment and light fittings / accessories grounded?		
3.	Is there any shed or cover for welding machines?		
4.	Are halogen lamps fixed at proper places?		
5.	Are portable power tools maintained as per norms?		
6.	Any other information:		

Signature of Site I/C of subcontractor :

**POWER SECTOR****INSPECTION OF ELEVATOR**

FORMAT NO: HSEP:14-F13

REV NO.: 00

PAGE NO. 01 OF 01

Name of Site	
Name of Sub-Contractor	
Inspected by	
Date of Inspection	

Sr. No.	Description	Remarks
1.0	Name of equipment	
2.0	Basic Information of equipment	
2.1	Specification	
2.2	Sr. No. of equipment	
2.3	Make	
2.4	Year of manufacture	
3.0	Major repairs/overhauls(Furnish details of work carried out)	Date(s) of major repair/overhaul
3.1		
3.2		
3.3	Repairs carried out at site	
4.0	Any performance test conducted	Yes/No
5.0	Document Submitted	Yes/No
6.0	Manufacturer's test / guarantee certificate	Available/ Not available
7.0	Performance test	Done/ Not Done
8.0	Acceptance Norms	
9.0	Committee Observations	
10.0	Date of next review (if accepted)	

**Signature-Subcontractor/ Subcontractor's
Safety Officer**

Signature-Site Safety Officer (BHEL)



POWER SECTOR
Inspection of Excavation

FORMAT NO: HSEP:14-F13E
REV NO.: 00
PAGE NO. 01 OF 01

Name of Site :	
Name of Sub-Contractor :	
Inspected by :	
Date of Inspection :	

Sl.no.	Description	Yes	No	Remarks
1	Precautions taken for Underground Electrical Cable			
2	Precautions taken for Under / Above ground sewer/ Drinking Water Line			
3	Precautions taken for Underground Telecommunication Line			
4	Precautions taken for Underground Product/Utility Line			
5	Precautions taken for Underground Fire Water Line			
6	Shoring / Shuttering / Sheet piling done to prevent collapse of excavation walls. Strength of Excavation wall ensured at all times			
7	Slope Cutting / Angle Maintained			
8	Hard Barricading & Edge Protection provided			
9	Separate Safe Access for Man and Vehicle			
10	Lighting arrangement			
11	Banksman Provided			
12	Required basic PPEs provided			
13	Excavated soil / Construction Material / equipment kept away from the edge.			
14	First aid in attendance.			
15	Other:			
	Total No of YES			

Signature-Subcontractor/ Subcontractor's Safety Officer

Signature-Site Safety Officer (BHEL)

**POWER SECTOR****HSE PENALTY**

FORMAT NO: HSEP:14-F14

REV NO.: 00

PAGE NO. 1 OF 02

Sub: MEMO for Penalty for non-compliances in Safety

Following lapse (tick marked) was observed and penalty is imposed as stated at the bottom of this memo. It is requested that such occurrences be please avoided in future.

Safety Area

SN	Violation of Safety Norms	Fine (in Rs)
01	Not Wearing Safety Helmet	200/- *
02.	Not wearing Safety Belt or not anchoring life line	500/- *
03	Not wearing safety shoe	200/- *
04	Not keeping gas cylinders vertically	200/-
05	Not using flash back arrestors	100/-
06	Not wearing gloves	50/- *
07.	Grinding Without Goggles	50/- *
08.	Not using 24 V Supply For Internal Work	500/-
09.	Electrical Plugs Not used for hand Machine	100/-
10.	Not Slinging properly	200/-
11.	Using Damaged Sling	200/-
12.	Lifting Cylinders Without Cage	500/-
13.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
14.	Not Removing Small Scrap From Platforms	500/-
15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	500/-
16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
17.	Improper Earthing Of Electrical T&P	500/-
18	No or improper barricading	500/-
19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-
20.	Incident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
21.	Fatal Incident Resulting in total loss in Earning Capacity	1,00,000/- per victim for first instance #

Legend: -

*: per head. For repeated violation by the same person, the penalty would be double of the previous penalty. Date of "Repeated violation" will be counted from subsequent days.

#: or as deducted by customer, whichever is higher. For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.

**POWER SECTOR****HSE PENALTY**

FORMAT NO: HSEP:14-F14

REV NO.: 00

PAGE NO. 2 OF 02

Details (if any) related to non- compliance (Name of persons, Nature of deficiency, etc.)

Penalty imposed:

1, Rate as per above chart _____

2. No. of Persons/ machine/ event/ labour _____

3. Total Penalty= 1. X 2. = _____

Signature:

Witnessed by: (Sub- Contractor representative) (BHEL Personnel)

Name _____

Name _____

Distribution: 1 Copy: to Sub- contractor,
1 Copy to Site Construction Manager (BHEL)

**POWER SECTOR- HQ****Incident Report**

(To be submitted within 24 hours of time of incident)

FORMAT NO: HSEP:14-F15

REV NO.: 00

PAGE NO. 01 OF 01

Type of incident: Fatal/Major/ Minor/Fire/Property Damage/Near-miss

1	NAME OF SITE		3	ACTIVITY AREA		
2	SCOPE OF WORK		4	NAME OF CONTRACTOR		
			5	NAME & DESIGNATION OF BHEL ACTIVITY I/C		
6	DATE & TIME OF ACCIDENT		7	DATE RESUMED		
8	NO. OF WORK-DAYS LOST BY VICTIM (If duty not resumed, give estimated figure)					
9	NO. OF MANHOURS LOST BY OTHERS					
10	PERSONAL DETAILS OF INJURED AND / OR DETAILS OF MATERIALS / EQUIPMENT / PROPERTY DAMAGED					
NAME		NAME OF MATERIAL / EQUIPMENT / PROPERTY				
PERIOD OF EMPLOYMENT						
AGE	YRS	SEX	MALE/ FEMALE	ESTIMATED COST	ACTUAL COST	
MARITAL STATUS		SINGLE / MARRIED				
OCCUPATION					NATURE OF DAMAGE	
PART OF BODY INJURED						
NATURE OF INJURY						
AGENCY (OBJECT / EQUIPMENT / SUBSTANCE) MOST RESPONSIBLE FOR CAUSING ACCIDENT / INJURY / DAMAGE						
12	PERSON (NAME & DESIGNATION) WITH MOST CONTROL OVER AGENCY (OBJECT / EQUIPMENT / SUBSTANCE) CAUSING ACCIDENT INJURY / DAMAGE					
13	DESCRIBE CLEARLY HOW THE ACCIDENT OCCURRED (USE ADDITIONAL SHEET, IF REQUIRED)					
ANALYSIS						
14	WHAT ACTS AND / OR CONDITIONS CONTRIBUTED MOST DIRECTLY TO THIS ACCIDENT					
15	WHAT ARE THE BASIC REASON FOR THE EXISTENCE OF THESE ACTS AND / OR CONDITION ?					
16	WHAT CORRECTIVE ACTIONS HAVE BEEN TAKEN TO PREVENT ACCIDENT RECURRENCE ?					
	DATE :			SIGNATURE OF SITE HSE COORDINATOR		
17	COMMENTS OF HEAD / SOX					
	DATE:			SIGNATURE OF HEAD/SOX		



POWER SECTOR

Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30

REV NO.: 00

PAGE NO. 01 OF 3

Note: This is a template and can be modified in consultation with BHEL

Name of the Site		Name of the Subcontractor	
Scope of Work		Date	
PART- A: PLAN OF HSE ACTIVITIES FOR THE MONTH OF.....			PART-B: REVIEW ON
SN.	Description of HSE Activity & Formats	Plan & Targets for the month	Review
1	Availability of First Aid Box at Required Places and Inspection thereof as per Format: Fo1	Areas 1.	
2	Health check-up as per Format: Fo2	Health check-up for Nos 1. New inductees 2. Drivers & Operators 3. Workers in following high risk areas: a. ...	
3	Induction training of newly joined workers as per Format: Fo3	Minimum No. of workers:	
4	Toolbox talks (TBT) conducted before start of work as per Format: Fo4	Locations of TBTs & No. of workers 1. ...	
5	PPE usage and issue as per Format: Fo6		
6	Inspection of T&Ps as per Format: Fo7	List of T&Ps to be inspected 1.	
7	Identification & Inspection Status of T&Ps as per Format: Fo8		
8	Inspection of Cranes & Winches as per Format: Fo9	List of Cranes & Winches & Nos. 1. ...	
9	Inspection of Height Working as per Format: Fo10	Areas: 1. ...	
10	Inspection of Welding & Gas Cutting operations as per Format: Fo11	Areas: 1. ...	
11	Inspection of Electrical Installations as per Format: Fo12	Locations: 1. ...	
12	Inspection of Elevators (as applicable) as per Format: Fo13	Locations: 1. ...	
13	Inspection of Excavation as per Format: Fo13E	Locations: 1. ...	



POWER SECTOR

Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30
REV NO.: 00
PAGE NO. 02 OF 3

SN.	Description of HSE Activity & Formats	Plan & Targets for the month	Review
14	Job Safety Analysis as per Format F32B	Activities: 1. ...	
15	Regular Job Specific Training (Re-training) for workers involved in hazardous activities	Topics/ Hazards & No. of workers 1. ...	
16	Mass housekeeping (HK) drive in work areas	Areas 1. ...	
17	Vertigo Test of Height workers	Minimum No. of workers:	
18	Deployment of qualified HSE Officers as per contract	Location(s) & Nos. 1. ...	
19	Deployment of qualified HSE Stewards as per contract	Location(s) & Nos. 1. ...	
20	Deployment of Safety tools & Equipment (Safety Nets, Lifelines, Fall arrestors, Man-cages, flashback arrestors, scaffolding etc.)	Tool/ Equipment & Location 1. ...	
21	Safety Walks by site in charge of agency (4 -Weekly once)	Dates:	
22	Safety walks by departmental head (8-Weekly twice)	Dates:	
23	Availability/ deployment of Safety posters/ placards/ signage at strategic locations	Locations: Nos. 1. ...	
24	Provision of clean drinking water sources for workers	Locations: Nos. 1. ...	
25	Provision of toilets for workers (separate for male & female workers)	Locations: Nos. 1. ...	
26	Rest sheds for workers during lunchtime, rain, dust storm etc.	Locations: Nos. 1. ...	
27	Availability of following in Labor colony	<ol style="list-style-type: none">1. Clean drinking water2. Toilets3. Cleanliness & Hygiene4. Grass cutting,5. Fogging6. Electrical Inspection ...	



POWER SECTOR

Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30

REV NO.: 00

PAGE NO. 03 OF 3

SN.	Description of HSE Activity & Formats	Plan & Targets for the month	Review
28	Availability of dust/ waste bins at various locations	Locations: 1. ...	
29	Availability of Ambulance (individual/ joint) in each shift	Ambulance No.	
30	Availability of emergency vehicle in each shift	Emergency vehicle	
31	Deployment/ Availability of tested Fire Extinguishers	Locations & Nos. 1. ...	
32	Tree plantation	Locations & Nos. 1. ...	
33	Waste disposal & Scrap Bins	Locations 1. ...	
34	Illumination checks	Locations 1. ...	
35	Safety award function: 1. Display of good practices Award presentation	Minimum 1 per month	
36	Submission of Daily Reports as per Format No.F31A	Daily Reports (Night & Day Shifts)	

<u>PLAN</u>		<u>REVIEW</u>	
<u>Agency</u> Name: Sign: Date:	<u>BHEL</u> Name: Sign: Date:	<u>Agency</u> Name: Sign: Date:	<u>BHEL</u> Name: Sign: Date:



POWER SECTOR

Format for Daily HSE Reporting

FORMAT NO: HSEP:14-F31 A
REV NO.: 00
PAGE NO. 01 OF 1

Note: Following format to be submitted (preferably) in excel/ soft copy by subcontractor daily at the end of each shift. Any photographs/ records to be attached

Site						Subcontractor			
Year									
Night	Day	SHIFT	Submitted By	Work Area(s)	Man-Power	Staff	Safety Officers	Safety Stewards	Month
				Tool Box (Topics and No. of Participants)					
				Induction Training (No. of Participants)					
				Vertigo Test (Numbers Tested)					
				On-the-Job Training (Topic & participants)					
				Work Permits					
				Job Safety Analyses conducted					
				Height Work Inspection					
				Other Hazardous Activities Inspection					
				NA					
				T&P Inspection (Names & Nos. Inspected)					
				NA					
				Safety Walk (Designation, Areas)					
				NA					
				HSE Meeting					
				NA					
				Safety Reward (Details)					
				NA					
				Housekeeping/ Dust Suppression/ Tree Plantation Activities (Locations/ Details)					
				NA					
				Lost time Accident					
				NA					
				Restricted Work Case					
				NA					
				Medical Treatment Case					
				NA					
				First Aid Case					
				NA					
				Near miss					
				Property Damage/ Fire					
				NA					
				Non-Compliances Submitted by BHEL					
				Complied by Agency					
				Any other Remarks/ Inputs					



POWER SECTOR

Job Safety Analysis Format

FORMAT NO: HSEP:14-F32B
REV NO.: 00
PAGE NO. 01 OF 1

Name of the Site	
Name of the Subcontractor	
Activity, Area	

HAZARDS	PRECAUTIONS

(Name)	Submitted By		Reviewed By		Approved By	
(Sign)	(Agency HSE)		(BHEL Execution)		(BHEL HSE)	
(Date)						



Checklist for Evaluation of HSE Performance

SL	Parameter for Measurement	M/ O	Wt	Supporting Documents
1a	Induction training for new workers conducted through audio-visual medium & documented ?	M	1	Induction Training Records
1b	Tool box talk conducted regularly as per plan, and documented?	M	1	Toolbox Talk Records
1c	Contractor in charge and safety in charge attended safety meetings?	M	2	Minutes of Meeting
1d	Whether observations in safety meetings are complied before next meeting?	M	2	-do-
1e	Preparation and submission of Monthly HSE report within stipulated time	M	1	Report submission date
1f	Preparation and submission of Incident/near-miss report and RCA Report (as applicable) within stipulated time	M	1	Incident/ Near Miss Records
1g	Carrying out Inspections and submission of Inspection reports within stipulated time	M	1	Inspection Records
1h	Regular Job Specific Training ensured for High Risk Workers (through audio-visual medium) as per plan	M	1	Training & Attendance Records
2a	Whether the contractor is registered under BOCW	M	2	BOCW Registration Certificate
2b	Availability of Qualified safety officer (1 for every 500 labour)	M	2	Safety Officer qualification & experience records
2c	Availability of Qualified safety supervisor (1 for every 100 labour)	M	2	Safety Officer qualification & experience records
2d	All the workers are provided and using safety helmets and safety shoes/gum boots	M	2	PPE Issue Records, Inspection/ non-conformity records
2e	Housekeeping done on regular basis and scrap removal at site	M	1	Housekeeping records, Inspection/ non-conformity records
2f	Usage of Goggles/Face shields and Hand gloves for gas cutter and grinders		1	PPE Issue Records, Inspection/ non-conformity records
2g	Wall openings & floor openings are guarded?		1	Inspection/ non-conformity records
2h	Adequate illumination provided in all working area?		1	Inspection/ non-conformity records
2i	Safety posters, sign boards and emergency contact numbers in all prominent location are displayed?		1	Inspection/ non-conformity records
2j	Availability of automatic reverse horns, Main horn, hook latches for Vehicles, mobile cranes, Hydras		1	Inspection/ non-conformity records
2k	Ban of carrying mobile phones to work place is implemented for workers		1	Inspection/ non-conformity records
2l	Availability of Tags & Inspection Certificates for Cranes of all capacities		1	Master T&P List with internal & external test details
2l.2	Availability of Tags & Inspection Certificates for Winches of all capacities		1	Master T&P List with internal & external test details
2l.3	Availability of Tags & Inspection Certificates, color coding for Chain pulley blocks		1	Master T&P List with internal & external test details
2l.4	Availability of Tags & Inspection Certificates for Vehicles - Trailers, Dozers, Dumpers, Excavators. Mixers etc.		1	Master T&P List with internal & external test details
2l.5	Availability of Tags & Inspection Certificates for Welding machines, grinders, Drilling machines, etc.		1	Master T&P List with internal & external test details
2l.6	Availability of Tags & Inspection Certificates, colour coding for Wire rope slings etc.		1	Master T&P List with internal & external test details
2l.7	Availability of Tags & Inspection Certificates for Batching plants		1	Master T&P List with internal & external test details



Checklist for Evaluation of HSE Performance

SL	Parameter for Measurement	M/ O	Wt	Supporting Documents
2m.1	Use of Lifting Permit as per requirement		1	Permit Records
2m.2	Use of Height Permit as per requirement		1	Permit Records
2m.3	Use of Hot Work Permit as per requirement		1	Permit Records
2m.4	Use of Excavation permit as per requirement		1	Permit Records
2m.5	Use of Confined space work permit as per requirement		1	Permit Records
2m.6	Use of Grating removal and safety net removal permit as per requirement		1	Permit Records
2m.7	Use of Lockout-Tag out permit as per requirement		1	Permit Records
2m.8	Use of Radiography permit as per requirement		1	Permit Records
2m.9	Use of Night/ Holiday Work Permit as per requirement		1	Permit Records
2m.10	Use of Any other Applicable Permit as per requirement		1	Permit Records
3a	Material safety data sheet(MSDS) available for all chemicals and displayed in usage and storage area?		1	Inspection/ non-conformity records
3b	Spillages of oil/concrete and other chemical is controlled and cleaned by proper method in case of spill?		1	Inspection/ non-conformity records
3c	Availability of adequate number of urinals in workplace and in elevations and maintained	M	1	
3d	Availability of rest rooms for workers at site	M	1	
3e	Availability of Drinking water facility at work spot		1	
3f	Hygienic Labour colony is provided for workers.		1	
4a	Is heavy/complex critical lifting permit obtained for heavy, complex materials before handling/erection activity?		1	Work Permit records
4b	Whether area below lifting activities barricaded		1	Inspection/ non-conformity records
4c	Availability of experienced rigging foreman		1	Experience details of rigging foreman
4d	Is agency is following proper storage and handling procedure as per manufacturer standard for all hazardous material?		1	Procedure for storage & handling
4e	Are oxygen and acetylene cylinders are transported to work place from storage area in trolleys		1	
5a	Whether all deep excavation has been protected by barrier		1	Inspection/ non-conformity records
5b	Sloping/benching & shoring provided for excavation as per requirement?		1	-do-
5c	Proper access and egress provided for excavations?		1	-do-
5d	Blasting is done in controlled manner?		2	-do-
6a	Whether Electrical booth is equipped with Co ₂ fire extinguishers and fire buckets filled with sand?		2	Inspection/ non-conformity records
6b	Availability of Illumination lamp in electric booth?		1	-do-
6c	whether Caution Boards have been displayed?		1	-do-
6d	Usage of Metal Plug top for all hand power tools ?		1	-do-
6e	Usage of Insulated welding cables.		1	-do-
6f	Electrical Booth/Distribution Board to be covered by proper Canopy.		1	-do-
6g	Availability of functional & individual 30ma ELCB / RCCB and MCB for protection and conducting periodical check-up?		1	-do-
6h	Double earthing for panel boards and all machinery & proper earth pit with regular inspection available?		1	-do-
6i	Whether Electrician is qualified and experienced		1	Qualification & Experience records of electrician
6j	Availability and usage of Rubber hand gloves by electrician?		1	Inspection/ non-conformity records



SL	Parameter for Measurement	M/ O	Wt	Supporting Documents
7a	Whether Scaffolding pipes made with steel or aluminum, are being used and checked periodically by experienced/ certified scaffolder?		2	Inspection/ non-conformity records
7b	8mm Stainless Steel wire rope with plastic cladding is provided for life line (Vertical / Horizontal) during height work?		2	-do-
7c	Availability of emergency lighting in case of power failure		1	-do-
7d	Whether all the openings are covered with Safety Nets made of fire proof Nylon?		1	-do-
7e	Whether MS pipe rails around staircases & platforms in usage are provided with top, middle rails and toe guard ?		1	-do-
7f	Whether Ladder with vertical life line /Fall arrestor is available to climb?		1	-do-
7g	Whether all workers deployed for working at height have been issued height pass after undergoing vertigo test?		1	Height Pass records
7h	Whether all workers deployed for height work / climbing ladder are provided and using Double lanyard safety belt?		1	PPE Issue records, inspection/ non-conformity reports
7i	Is all hand tools/Small material used by height workers is tied firmly to prevent fall?		1	-do-
8a	Flash back arrestors for all gas cutting sets is available on Torch side and cylinder side		1	Inspection/ non-conformity records
8b	Oxygen/Acetylene/LPG cylinders not in use have caps in place and stored separately?		1	-do-
8c	Availability of Face screen, Hand gloves, and Apron, for welders		1	-do-
8d	Protection from falling hot molten metal during metal cutting / welding at height by providing GI sheet below the cutting area especially in fire prone areas		1	-do-
9a	Pre-employment medical check-up done for all workers and submitted?		1	Medical check records
9b	Availability of first aid center, with MBBS doctor(Own or Sharing basis)	M	2	Attendance records
9c	Availability of Ambulance facility 24 hours (Own or sharing basis)	M	2	-do-
9d	Is First aid trained personnel's are available and their names are displayed at site?	M	1	-do-
9e	Availability of Emergency vehicle at site		1	
9f	Periodical medical check-up is conducted for all the workers and submitted?		1	Medical check records
9g	Availability of sufficient number of first aid box as per standard list and maintaining record		1	Inspection records
10a	Availability of Fire extinguishers, buckets at all vulnerable points		2	Fire extinguisher records
10b	Periodic fire mock drill conducted?		1	Fire, Mock drill records
10c	Are all flammable materials are stored separately?		1	
10d	Periodic grass cutting is done in material storage area?		1	
10e	Availability of 24V DC lighting in confined space work area		1	
10f	Availability of exhaust fan in confined space work area		1	

Note:

- **M: Mandatory; O: Optional.** Points other than mandatory can be excluded with appropriate justification (scope etc.) by BHEL
- Additionally: 30 Marks for each Fatal Accident and 10 mark for each major accident shall be deducted.



SAFETY WORK CLEARANCE		Permit no.
Project:	Emergency Contact Nos:	
Subcontractor:		

BURNING/WELDING /HOT WORK PERMIT

Area : _____ Date: _____ Time: _____

Name of Site Engineer (Permit Requesting Authority): _____ Sign: _____

Name of Work Performing Contractor: _____

Name of Package In charge: _____ Sign: _____ Date: _____

Description of Work: _____

Work Execution Date: _____ Time Valid from: _____ to _____

The above signing person(s) will be responsible to ensure that the above described work will be done under all the safety precautions mentioned on the permit to work.

The following precautions are to be taken:

No.	Item	Yes	Not required
1.	Proper Access/Exit available		
2.	Proper ventilation and /or lighting provided.		
3.	Proper and safe scaffolding, platform, ladder provided.		
4.	Welding machine located in a clean and dry area.		
5.	Welding machine grounded at the equipment and proper leakage current protection device (ELCB) provided for welding machine.		
6.	Emergency STOP buttons are in working condition. Welder /Helper knows how to operate it.		
7.	Welding machine input/output cables, welding holder and weld return clamp (Holder) are insulated and in good condition.		
8.	Welder & Fitter trained to connect ground/work return clamps (Holder) to work place prior to energization of welding machine.		
9.	Gas cylinders are stacked vertically and not below the welding / cutting area. Regulator key is available with cylinder.		
10.	Pressure gauges/Flash back arrestor provided and in working condition.		
11.	Personal Protective equipment Minimum applicable: safety helmet, safety goggles, welding helmet, safety shoes, leather gloves, long sleeve and nose mask -provided		
12.	In case of pits, water removed from the pit and wood/rubber insulation provided.		
13.	Safety signboards are in place.		
14.	Adequate and Suitable nos. of fire fighting extinguisher provided.		
15.	Nearby combustible material removed. Housekeeping done.		
16.	Other		

Name of Contractor Safety Officer: _____ Sign: _____ Date: _____ Time: _____

Reviewed and approved by BHEL Site Engineer (Permit Issuing Authority):

Name: _____ Sign: _____ Date: _____ Time: _____

Name of BHEL Safety Representative: _____ Sign: _____

I understand the precaution to be taken as described above and as per project requirement and hereby confirm that work will be executed under my supervision by following all precaution and Safety Rules.

Name of Work Performing Authority: _____ **Sign:** _____ **Date:** _____ **Time:** _____

Permit Cancellation:

I hereby declare that the work is complete, all workers under my control have been withdrawn and the site restored to safe tidy condition.

Name of Work performing Authority: _____ Sign: _____ Date: _____ Time: _____

Name of Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

Name of BHEL Site Engr. (Permit Issuing Authority): _____ Sign: _____ Date: _____ Time: _____

(This permit is valid only for the date it is issued)

Original at BHEL site

Second Copy – BHEL SAFETY

Third Copy : Contractor



SAFETY WORK CLEARANCE

Permit no.

Project:

Emergency Contact Nos:

Subcontractor:

LIFTING ACTIVITY PERMIT

Area : _____ Date: _____ Time: _____

Name of Site Engineer (Permit Requesting Authority): _____ Sign: Name of Work

Performing Contractor: _____

Name of Package In charge: _____ Sign: _____ Date: _____

Description of Work: _____

Work Execution Date: _____ Time Valid from: _____ to _____

The above signing person(s) will be responsible to ensure that the above described work will be done under all the safety precautions mentioned on the permit to work.

The following precautions are to be taken:

No.	Item	Yes	Not required
1.	Crane used for lifting activity tested, certified and approved for rated lifting		
2.	All lifting tackles, gears/appliances are tested and certified for lifting works.		
3.	Crane operator is trained and competent for lifting operation.		
4.	Lifting sling/ belt is protected against sharp edge of the jobs to be lifted.		
5.	Access and exit marked and without obstruction.		
6.	Lifting arrangement adequate.		
7.	Unwanted rubbish material removed from work platform.		
8.	Minimum 2 guidelines have been provided for balancing and guiding jobs to be lifted.		
9.	Periphery area of crane booms as well as lifting job is barricaded and unauthorized/no-entry sign board posted.		
10.	Rigger and signal man is trained and competent for lifting work.		
11.	No lifting activity to be carried out during lightening, heavy wind/rain.		
12.	If scaffolding to be used during lift, scaffolding with valid tag available for use.		
13.	Double lanyards safety harness/belt checked an in working condition.		
14.	Safety shoes (non-slip), helmet with chin strap available with employees.		
15.	Others.		

Name of Contractor Safety Officer: _____ Sign: _____ Date: _____ Time: _____

Reviewed and approved by BHEL Site Engineer (Permit Issuing Authority):

Name: _____ Sign: _____ Date: _____ Time: _____

Name of BHEL Safety Representative: _____ Sign: _____

*I understand the precaution to be taken as described above and as per project requirement and hereby confirm that work will be executed under my supervision by following all precaution and Safety Rules.***Name of Work Performing Authority:** _____ **Sign:** _____ **Date:** _____ **Time:** _____**Permit Cancellation:***I hereby declare that the work is complete, all workers under my control have been withdrawn and the site restored to safe tidy condition.*

Name of Work performing Authority: _____ Sign: _____ Date: _____ Time: _____

Name of Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

Name of BHEL Site Engr. (Permit Issuing Authority): _____ Sign: _____ Date: _____ Time: _____

(This permit is valid only for the date it is issued)

Original at BHEL site**Second Copy – BHEL SAFETY****Third Copy : Contractor**



SAFETY WORK CLEARANCE

Permit no.

Project:

Emergency Contact Nos:

Subcontractor:

WORKING AT HEIGHT PERMIT

Area : _____ Date: _____ Time: _____

Name of Site Engineer (Permit Requesting Authority): _____ Sign: Name of Work

Performing Contractor: _____

Name of Package In charge: _____ Sign: _____ Date: _____

Description of Work: _____

Work Execution Date: _____ Time Valid from: _____ to _____

The above signing person(s) will be responsible to ensure that the above described work will be done under all the safety precautions mentioned on the permit to work.

The following precautions are to be taken:

No.	Item	Yes	Not required
1.	All workers on job are medically fit for working at height (Person should not have vertigo)		
2.	Scaffolding with valid tag available for use		
3.	Safety harness with life line support/ fall arrester are checked and in working condition		
4.	Safety shoes (non-slip), Helmet with chin strip available with employees		
5.	Safety nets are provided as per design and provided 25 ft. below working area & extending 8 ft beyond.		
6.	Horizontal life lines are provided to cater to design specification of 2300kg per person.		
7.	Ladders have been inspected and provided as per BHEL standard/contract.		
8.	All lifting / tightening tools, hand tools/equipment checked and in good condition		
9.	Access and exit marked and without obstruction.		
10.	Lighting arrangement adequate.		
11.	Unwanted and rubbish material removed from working platform.		
12.	Electrical cable, welding Hose/Compressed air hose properly secured and lay down without obstruction.		
13.	Signboards provided on working platforms		
14.	Hazards in the vicinity are identified and communicated to the worker.		
15.	Other		

Name of Contractor Safety Officer: _____ Sign: _____ Date: _____ Time: _____

Reviewed and approved by BHEL Site Engineer (Permit Issuing Authority):

Name: _____ Sign: _____ Date: _____ Time: _____

Name of BHEL Safety Representative: _____ Sign: _____

*I understand the precaution to be taken as described above and as per project requirement and hereby confirm that work will be executed under my supervision by following all precaution and Safety Rules.***Name of Work Performing Authority:** _____ Sign: _____ Date: _____ Time: _____**Permit Cancellation:***I hereby declare that the work is complete, all workers under my control have been withdrawn and the site restored to safe tidy condition.*

Name of Work performing Authority: _____ Sign: _____ Date: _____ Time: _____

Name of Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

Name of BHEL Site Engr. (Permit Issuing Authority): _____ Sign: _____ Date: _____ Time: _____

(This permit is valid only for the date it is issued)

Original at BHEL site**Second Copy – BHEL SAFETY****Third Copy : Contractor**

MONTHLY PLAN & REVIEW WITH CONTRACTOR

PSSR

PSSR

PSSR

Name of Project _____

Name of Project _____ Name of Work _____

PART-A: PLAN/REVIEW OF WORK FOR THE MONTH OF

BHEL
(Sign v)

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name)

 PSSR	MONTHLY PLAN & REVIEW WITH CONTRACTOR	
	Page 2 of 6	
Name of Project	Contract No.	
Name of Work		Name of Contractor

PART- A: Contd.....

Note 1: In addition to the work planned as per Col. 'A', Contractor shall also make full efforts to minimize the 'Cumulative shortfall attributable to contractor upto the month' as mentioned in Col. 'B' by enhancing its resources, so as to achieve the completion of activities as per agreed schedule. In case contractor is not able to execute the entire shortfall, then BHEL 'Engineer in-charge', shall decide the priority of work to be executed and it shall be binding on the contractor.

Note 2: Percentage Shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month = $[(\Sigma E - \Sigma B) / (\Sigma A - \Sigma D)] \times 100$
 In case, $(\Sigma E - \Sigma B)$ is negative, then it shall be treated as zero percent."

Note 3: Form 14 should include all items being planned in the current month, and all items against which shortfall was attributable to contractor till previous month. However, for practical reason, if it is not possible to mention some of the items in Form-14 being planned to be executed in this month, then also value of such items shall necessarily be included in calculation of Total Value.

Note 4: In case reason for shortfall attributable to contractor is w.r.t. T&P and Manpower, it should be in conformity with Part B1 and B2.

BHEL
 (Sign with name, designation and date)

CONTRACTOR
 (Sign with name, designation and date)

PSSR	MONTHLY PLAN & REVIEW WITH CONTRACTOR		
	Page 3 of 6		

Name of Project	Contract No.		
Name of Work	Name of Contractor		

**PART – B-1: PLAN/REVIEW OF DEPLOYMENT OF MAJOR T&Ps FOR THE MONTH OF
CONTRACTORS SCOPE: -**

PLAN					DEPLOYMENT STATUS		
SN.	Major T&P to be deployed as per work planned for the month	QTY	Deployment Period (in days)	Weightage assigned to planned T&P (in fraction such that $\Sigma C = 1$)	Actual Deployed Quantity	Actual Deployment Period (in days)	Weighted T&P Deployed
A	B			C	D	E	$F = (C \times D) / (A \times B)$

Note: In case, E>B, it shall be considered as E=B. Similarly, in case D>A, it shall be considered as D=A.
Percentage of T&P Deployed = $\Sigma F \times 100$

BHEL SCOPE: -

PLAN					DEPLOYMENT STATUS		
SN.	Major T&P to be deployed as per work planned for the month	QTY	Deployment Period (in days)	Actual Deployed Quantity	Actual Deployment Period (in days)	REMARKS	
						(Works affected due to non-deployment of T&Ps)	

CONTRACTOR
(Sign with name, designation and date)

BHEL

(Sign with name, designation and date)



PSSR

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page **4 of 6**

Name of Project	Contract No.
Name of Work	Name of Contractor

PART – B-2: PLAN/ REVIEW OF DEPLOYMENT OF MANPOWER FOR THE MONTH OF

CONTRACTOR'S SCOPE: -

SN.	Area of Work	Category of Labour	No. of Labour required as per category	Deployment Period (in days)	No. of Labour actually deployed	Actual Deployment Period (in days)	REMARKS	
							A	B

Percentage of Manpower Deployed= $100 \times \frac{\sum(C \times D)}{\sum(A \times B)}$

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)

 BHEL PSSR	MONTHLY PLAN & REVIEW WITH CONTRACTOR		
			Page 5 of 6

Name of Project	Contract No.
Name of Work	Name of Contractor

PART – C: PLAN(PHYSICAL) FOR THE NEXT MONTH i.e.

SN.	Description of work	Original Planned Quantity	Planned Quantity (excluding shortfalls attributable to contractor till date)	T&Ps Required			Manpower Required	Category of Labour	No. of Labour required as per Category	REMARKS (Reasons for difference in Original Planned Quantity w.r.t. Planned quantity to be given)
				Contractor Scope	Major T&P to be deployed as per work planned for the month	BHEL Scope				

Note 1: Planned quantity should be based on available/ expected fronts/ inputs in the next month

Note 2: "Original Planned Quantity" shall be as per latest jointly agreed programme between BHEL and Contractor before commencement of work or at the time of latest Time Extension, as the case may be.

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)

 BHEL PSSR	MONTHLY PLAN & REVIEW WITH CONTRACTOR
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Page **6** of **6**

Name of Project	Name of Work

PART – D: REASONS FOR SHORTFALL ATTRIBUTABLE TO BHEL IN RESPECT OF PLAN FOR THE MONTH.....

SN.	Description of Work (from Part-A)	Quantities Affected		Reasons for Shortfall attributable to BHEL	Agency responsible for reasons for Shortfall	Remarks (Supporting Documents in respect of agency responsible)
		Physical Quantity)	Unit of Measu- rement			
1	2	3	4	5	6	7

Note1: Reasons for shortfall shall include non-availability of fronts/ drawings/ materials/ T&P (BHEL Scope)/ clearances etc. and other hindrances for which contractor is not responsible.

Note2: Agency responsible may be BHEL Site/ MUs/ Design Centre/ BHEL Customer/ other Contractors etc.

BHEL
(Sign with name, designation and date)

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No.: F-15 (Rev 02)

Page 1 of 6

Project	Vendor			Package/Unit		
SL	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents`
#1.01	Cumulative number of days in the month, the nominated Quality Officer or his authorised nominee was not available	QUALITY	1.5		Quality Officer or his authorised nominee should be available for all the days of working at site	Daily Log Book entry/Incident Registers/letter references
#1.02	Number of instances of non- compliance wrt FQP, Standard Drawings, Specifications, E&C Manuals etc.	QUALITY	1.5		No deviation from FQP, Standard Drawings, Specifications, E&C Manuals etc. is allowed without BHEL Engineer's approval.	Daily Log Book entry/Incident Registers/letter references
#1.03	Percentage submission of test certificates for batches of welding electrodes, cement, sand, aggregate, consumable, Paints etc. as applicable for this month OR In case of MM & MH package, monthly checks for Storage/Preservation of material.	QUALITY	1		Submission of 100% Test certificates for materials as per FQP is mandatory. MM & MH package: Storage/Preservation as per manual/procedure.	Daily Log Book entry/Incident Registers/letter references
#1.04	Number of incidences of improper storage & preservation (not in accordance to the guidelines of BHEL MUs or approved FQP) of materials, consumables (viz. gases, welding electrodes & fluxes, fuel etc.) & bought-out items (paints, fasteners etc.) under the custody of the contractor	QUALITY	1		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references
#1.05	Rework/ Rejection instances in a month necessitated due to deviation from Standard Drawings /Specifications /Manuals /E&C procedures /FQPs or due to Poor Workmanship by contractor	QUALITY	2		Reworks/ Rejection should be as minimum as possible. Total number of reworks/ rejections due to reasons attributable to contractor.	Daily Log Book entry/Incident Registers/letter references
#1.06	Delay in preparation & submission of signed protocols / log sheets / site register / NDT test reports as per approved FQP/ Qualified Welder List along with photocopies of Welder ID cards / Welder Performance Evaluation records etc. in the month OR in case of MM / MH package reconciliation statement / verification report.	QUALITY	1		Within 2 days of measurements taken or within first 3 working days of next month, as advised by BHEL Engineer	Daily Log Book entry/Incident Registers/letter references
#1.07	Number of instances for Major equipment/product failure due to negligence/improper work/poor workmanship by contractor	QUALITY	1		No such event should happen	Daily Log Book entry/Incident Registers/letter references
#1.08	Total number of complaints received in the month on the quality of finish / aesthetics	QUALITY	1		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package In-charge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No.: F-15 (Rev 02)

Page 2 of 6

Project	Vendor			Package/Unit		
SL	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents`
#2.01	Cumulative number of days of delay in submission of Plan FOR THE MONTH supported by deployment plan of Major T&Ps and Manpower (as per Form F-14) and relevant construction/layout drawings - like A4 plan / elevation views of plan status for structures / pressure parts/Civil Works, Piping isometrics for piping, Layout / PID / System reference sketch, Unloading / storage plans etc.as applicable.	PERFORMANCE	5		Number of days delayed from second working day of the month	Daily Log Book entry/Incident Registers/letter references
#2.02	Percentage of timely submission of Daily Reports for Progress of work, Resources, Consumables etc.	PERFORMANCE	1.5		Percentage of timely submission of daily reports/ Scheduled date is successive next day for each day	Daily Log Book entry/Incident Registers/letter references
#2.03	Number of days delayed for submission of FQP log sheets / protocols / Monthly Progress Reports for the work executed during the month under measurement	PERFORMANCE	1.5		Number of days delayed/Scheduled date is first 2 working days of next month	Daily Log Book entry/Incident Registers/letter references
#2.04	Shortfall attributable to contractor w.r.t. Plan as per Form-14 for the subject month	PERFORMANCE	35		Percentage of shortfall to be calculated w.r.t. Total planned target for the month as per part-A of F-14. If more than one work has been planned in a month then Weightages of works shall be assigned at the time of plan to arrive at plan vs achievement calculation.	Progress review formats
#2.05	Number of days delayed in submission of Running bills with complete supporting documents (including updated reconciliation statement of BHEL issued material) for the month	PERFORMANCE	2		Number of days delayed / Scheduled date is 7th day of next month	Daily Log Book entry/Incident Registers/letter references
#2.06	Number of times the Top Management of contractor did not respond to critical issues of site, for the month	PERFORMANCE	1		Total number of instances	Daily Log Book entry/Incident Registers/letter references
#2.07	Cumulative number of days in the month the works were stopped / refused on interpretation of contract clauses/scope due to tendency of taking undue advantage by interpreting contract clauses in their favour	PERFORMANCE	2		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#2.08	Number of times rework was refused by contractor	PERFORMANCE	1		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package In-charge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No.: F-15 (Rev 02)

Page 3 of 6

Project	Parameter for Measurement	Vendor			Package/Unit	
SL	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents`	
#2.09	Cumulative number of days in the month recording / logging was not done in daily log / history register / hindrance register / soft form in a PC maintained at BHEL Site Office	PERFORMANCE	1	Cumulative number of days recording or logging was not done / all days of the month	Daily Log Book entry/Incident Registers/letter references	
#3.01	Number of days of non-availability of required Manpower including supporting staff as per plan submitted in F-14 for the month.	RESOURCES	7	Cumulative number of days Sufficient Manpower was not available as per Plan in F-14	Daily Log Book entry/Incident Registers/letter references	
#3.02	Number of days of non-availability of required T&P as per plan submitted in F-14 for the month.	RESOURCES	7	Cumulative number of days Sufficient T&P was not available as per Plan in F-14	Daily Log Book entry/Incident Registers/letter references	
#3.03	Cumulative number of major instances in the month hampering / affecting progress of work due to breakdown or non-availability of major T&P and MME for the work, under the scope of Contractor	RESOURCES	3	Cumulative number of instances	Daily Log Book entry/Incident Registers/letter references	
#3.04	Cumulative number of major instances in the month hampering / affecting progress of work due to non-availability of Consumables/ use of improper consumables under the scope of contractor	RESOURCES	3	Cumulative number of instances	Daily Log Book entry/Incident Registers/letter references	
#4.01	Number of non-compliances during the month for Statutory requirements like validity of Labour Licence, Insurance Policy, Labour Insurance, PF, BOCW Compliance etc. and any other applicable laws/ Regulation, Electrical Licence, T&P fitness certificate, Contractors' All Risk Policy etc. as applicable	SITE INFRASTRUCTURE & SERVICE	1	Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references	
#4.02	Cumulative number of days in a month poor illumination is reported at storage area, erection area, pre-assembly area and other designated areas by BHEL site.	SITE INFRASTRUCTURE & SERVICE	0.5	Total number of non-compliances/random checks	Daily Log Book entry/Incident Registers/letter references	
#4.03	Cumulative number of days of non-availability of well-maintained toilets facilities for workers (separate for men and women) and non-availability of potable drinking water stations for workers in specified areas.	SITE INFRASTRUCTURE & SERVICE	1	Total number of non-compliances/random checks	Daily Log Book entry/Incident Registers/letter references	

Name and Signature of BHEL Package In-charge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No.: F-15 (Rev 02)

Page 4 of 6

Project		Vendor			Package/Unit	
SL	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents`
#4.04	Total number of instances in the month, Housekeeping NOT attended to in spite of instructions by BHEL -i.e. removal / disposal of surplus earth / debris / scrap / unused / surplus cable drums / other electrical items / surplus steel items / packing materials, thrown out scrap like weld butts, cotton waste etc. from the working area to identified locations	SITE INFRASTRUCTURE & SERVICE	2		Total number of non-compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.05	Total number of instances in a month, Site Office with reasonably good facilities including enough nos. of computers and printers etc. for use by office and supporting staff was not made available/maintained.	SITE INFRASTRUCTURE & SERVICE	0.5		No discrepancy during regular or surprise visits	Photograph and report of the Engineer
#5.01	Number of days delayed in making labour payments for the last month	SITE FINANCE	2		Number of days delayed / Scheduled date is 7th day of next month	Daily Log Book entry/Incident Registers/letter references
#5.02	Number of complaints from labour/ sub supplier/ sub-contractor for non-receipt of payments from contractor	SITE FINANCE	1.5		Total number of complaints or reporting	Daily Log Book entry/Incident Registers/letter references
#5.03	Number of times the site operations were hampered for want of funds at the disposal of site-in-charge.	SITE FINANCE	1.5		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references
#6.01	Cumulative number of days in a month the nominated Safety Officer was not available	HSE & SA	1		Safety Officer should be available for all the days	Daily Log Book entry/Incident Registers/letter references
#6.02	Shortfall in number of weekly safety meetings in the month conducted or attended by the Safety Officer	HSE & SA	0.5		Safety meetings to be held every week	Copy of Minutes of meeting
#6.03	Level of compliance w.r.t decisions taken in previous Safety meetings	HSE & SA	0.5		Number of consolidated issues discussed in Safety meetings	Copy of Minutes of meeting, Non-compliance intimation documents from BHEL site
#6.04	Delay in submission of monthly report on safety (including electrical safety for equipment & personnel etc.) in the prescribed form	HSE & SA	1		Number of days delayed/Scheduled date is third working day of next month	Daily Log Book entry/Incident Registers/letter references
#6.05	Number of days taken for lodging FIRs from date of occurrence/notice of incident of theft / accident etc.	HSE & SA	0.5		Number of days delayed/Scheduled date is within 24 Hrs of occurrence/notice of incidence	Copy of FIR lodged by Contractor

Name and Signature of BHEL Package In-charge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No.: F-15 (Rev 02)

Page 5 of 6

Project	Parameter for Measurement	Vendor			Package/Unit	
SL	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents`	
#6.06	Number of times written(email, letters etc.) warning issued for non-availability/ use of improper Fall protection and rescue arrangement as lifeline, fall arrestors, safety net, hand-railings, covered floors, man-basket, rescue basket & kit etc. by the contractor	HSE & SA	2	Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references	
#6.07	Number of times punitive fines imposed for unsafe practices as per contract like non-availability/use of PPEs as safety shoes, helmets, goggles, gloves, lifeline, safety belts etc.	HSE & SA	1	Total number of non-compliances	Non-compliance intimation documents from BHEL site	
#6.08	Percentage compliance to Emergency preparedness and response plan: Portable Fire-extinguishers, Buckets, Fire-wardens, display of emergency numbers, mock-drills, Hazard Identification and Risk Assessment(HIRA) etc.	HSE & SA	1	Compliance should be 100% as per HSE Plan or as finalized in Safety Meetings	Non-compliance intimation documents from BHEL site	
#6.09	Number of times the agency has defaulted on display of safety posters / safety slogans / safety barriers/emergency numbers etc. in identified areas	HSE & SA	0.5	Total number of instances	Non-compliance intimation documents from BHEL site	
#6.10	Non compliances observed during HSE and Safety Audit	HSE & SA	0.5	Total number of non-compliances	Non-compliance intimation documents from BHEL site, Audit Reports	
#6.11	Cumulative number of days in the month, non-availability of First Aid Kit, First Aider & Emergency Vehicles/Ambulance.	HSE & SA	0.5	Cumulative number of days	Non-compliance intimation documents from BHEL site	
#6.12	Number of days taken for submission of Root Cause analysis (RCA) for the accident from the cut-off date intimated by BHEL for submission of RCA	HSE & SA	0.5	Number of days delayed/Scheduled date is cut-off date intimated by BHEL	Daily Log Book entry/Incident Registers/letter references	
#6.13	Non conductance of training (induction, job specific, height work etc.), tool box meeting and health check-up as per Contract requirements	HSE & SA	0.5	Number of incidences of non-conductance during the month	Daily Log Book entry/Incident Registers/letter references	
Total		100				

Name and Signature of BHEL Package In-charge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No.: F-15 (Rev 02)

Page 6 of 6

Project	Vendor			Package/Unit		
SL	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents`
	Less Deduction in Score Due to Major Accidents (Fatal, Permanent Disability or bodily injury by which person injured is prevented to resume to work within 48 hours or more after accident,, Major Damage to Equipment etc.) @ 3 points/ accident					
	Less Deduction in Score Due to Minor Accidents(All Others) @ 1 point/ accident					
	Less Deduction in Score Due to not Maintaining of Labour Colony (if applicable) as per BHEL HSE policy @2 points in a month on verification any day					
	Final Score					

Performance Score Summary for the Month	Total Score	Score Obtained
QUALITY	10	
PERFORMANCE	50	
RESOURCES	20	
SITE INFRASTRUCTURE & SERVICE	5	
SITE FINANCE	5	
HSE & SA	10	
OTHERS (deductions if any)	0	
TOTAL	100	

Name and Signature of BHEL Package In-charge

Name and Signature of Contractor

PROFORMA OF BANK GUARANTEE (in lieu of EARNEST MONEY)
 (On non-Judicial paper of appropriate value)
 (Para 4.7.6 of Works Accounts Manual)

Bank Guarantee No.....
 Date.....

To
 (Employer's Name and Address)

.....

Dear Sirs,

In accordance with the terms and conditions of Invitation for Bids/Notice Inviting Tender No.....¹ (Tender Conditions), M/s.² having its registered office at³ (hereinafter referred to as the 'Tenderer'), is submitting its bid for the work of.....⁴ invited by Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at *BHEL House, Siri Fort, Asiad, New Delhi – 110049* through its unit at *Bharat Heavy Electricals Limited, Power Sector Southern Region, 690, Anna Salai, Nandanam, Chennai 600035*

The Tender Conditions provide that the Tenderer shall pay a sum of Rs⁵ as Earnest Money Deposit in the form therein mentioned. The form of payment of Earnest Money Deposit includes Bank Guarantee executed by a Scheduled Bank.

In lieu of the stipulations contained in the aforesaid Tender Conditions that an irrevocable and unconditional Bank Guarantee against Earnest Money Deposit for an amount of⁶ is required to be submitted by the Tenderer as a condition precedent for participation in the said Tender and the Tenderer having approached us for giving the said Guarantee,

we, the(Name & address of the Bank)
 having our Head Office at(hereinafter referred to as the Bank) being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer without any demur, merely on your first demand any sum or sums of Rs.....⁶ (in words Rupees.....) without any reservation, protest, and recourse and without the beneficiary needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.⁶.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Tenderer in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment hereunder and the Tenderer shall have no claim against us for making such payment.

We Bank further agree that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Tender or to extend the time of submission of from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said

Tenderer and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Tenderer or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Tenderer or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Tenderer and notwithstanding any security or other guarantee that the Employer may have in relation to the Tenderer's liabilities.

This Guarantee shall be irrevocable and shall remain in force upto and including.....⁷ and shall be extended from time to time for such period as may be desired by the Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Tenderer but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms hereof. However, unless a demand or claim under this Guarantee is made on us in writing on or before the⁸ we shall be discharged from all liabilities under this Guarantee.

We, Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁶
- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before⁸ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank

We, Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

(Signature of Authorised signatory)

Date.....

Place of Issue.....

¹ Details of the Invitation to Bid/Notice Inviting Tender (Tender Ref. No. Eg. - BHEL PSSR SCT XXXX)

² Name of Tenderer

³ REGISTERED Office Address of the Tenderer

⁴ Details of the Work i.e Tender Description

⁵ EMD Amount as mentioned in Notice Inviting Tender

⁶ BG Amount in words and Figures (BG Amount shall be Minimum of EMD amount less Rs. 2 Lakhs)

⁷ Validity Date

⁸ Date of Expiry of Claim Period (Claim Period shall be minimum of 3 Months after the validity date of Bank Guarantee)

Note:

1. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.
2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor Country's Bank)
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at sl.no. b.1 will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time).

PROFORMA OF BANK GUARANTEE (in lieu of SECURITY DEPOSIT)

(On non-Judicial paper of appropriate value)

(Para 4.7.6 of Works Accounts Manual)

Bank Guarantee No.....

Date.....

To

(Employer's Name and Address)

.....

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at *BHEL House, Siri Fort, Asiad, New Delhi – 110049* through its unit at *Bharat Heavy Electricals Limited, Power Sector Southern Region, 690, Anna Salai, Nandanam, Chennai 600035* having agreed to exempt

_____ ¹ (Name of the Vendor / Contractor / Supplier) with its registered office at _____ ² (hereinafter called the said "Contractor" which term includes supplier), from demand under the terms and conditions of the Contract arising vide Letter of Intent (LOI) reference No. _____ dated _____ ³ valued at Rs. _____ ⁴ (Rupees _____ only)⁴ (hereinafter called the said Contract), of Security Deposit for the due fulfilment by the said Contractor of the terms and conditions contained in the said Contract, on production of a Bank Guarantee for Rs. _____ ⁵ (Rupees _____ only),

We, the(Name & address of the Bank) having our Head Office at(hereinafter referred to as the Bank), at the request of _____ [Contractor(s)], being the Guarantor under this Guarantee, do hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer, an amount not exceeding Rs. _____ without any demur, immediately on demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand

Any such demand made on the bank, shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ ⁵.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal or Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this guarantee shall be a valid discharge of our liability for payment hereunder and the Contractor(s) shall have no claim against us for making such payment.

We, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied & the Employer certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said contractor(s) or acceptance of the final bill or discharge of this guarantee by the Employer, whichever is earlier. This guarantee shall initially remain in force upto and including _____ ⁶ and shall be extended from time to time for such period as may

be desired by the Employer. Unless a demand or claim under this guarantee is made on us in writing on or before the _____⁷, we shall be discharged from all the liability under this guarantee thereafter.

We, _____(indicate the name of the Bank) further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁵
- b) This Guarantee shall be valid up to⁶
- c) Unless the Bank is served a written claim or demand on or before _____⁷ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

Date _____ Day of _____ for _____ (indicate the name of the Bank)

(Signature of Authorised signatory)

¹ NAME OF VENDOR /CONTRACTOR / SUPPLIER

² REGISTERED OFFICE ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ LETTER OF INTENT(LOI) REFERENCE NO. WITH DATE

⁴ CONTRACT VALUE (AS MENTIONED IN LOI)

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD (CLAIM PERIOD SHALL BE MINIMUM OF 3 MONTHS AFTER VALIDITY DATE)

Note:

1. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.
2. In Case of Bank Guarantees submitted by Foreign Vendors-
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor Country's Bank)
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at sl.no. b.1 will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time).