

TENDER SPECIFICATION

Ref: BHEL/PSSR/SAS/SCT/BN51120-052/T-16/2020-21

Date: 09.12.2020

Repair of Girders and its associated works as per SOW for Unit No:5 (210MW) Boiler at NLCIL- TS-II, Neyveli.

DUE DATE FOR SUBMISSION: 11.00 Hrs. – 15.12.2020

VOLUME-I BOOK-I

TECHNOCOMMERCIAL BID - Consists of Book- I & Book- II

Book- I Consists of

- Notice Inviting Tender
- Volume-IA: Technical Conditions of Contract

Book-II consists of

- Volume-IB : Special conditions of Contract, Rev 01 dated 1st June 2012 Amendment 01 dated 1st October, 2015
- Volume-IC : General conditions of Contract Rev 01 dated 1st June 2012, Amendment 03 dated 1st October, 2015
- Volume-ID : Forms & Procedures Rev 01 dated 1st June 2012 Amendment 01 dt 1st October, 2015



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)

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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/BN51120-052/T-16/2020-21 Date: 09.12.2020	
ii	BROAD SCOPE OF JOB	Repair of Girders and its associated works as per SOW for Unit No:5 (210MW) Boiler at NLCIL- TS-II, Neyveli	
iii	DETAILS OF TENDER DOCUMENT		
A	VOLUME-IA BOOK-I	Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	Applicable
B	VOLUME-IB	Special conditions of Contract, Rev 01 dated 1st June 2012, Amendment 01 dated October 01, 2015	Applicable
C	VOLUME-IC	General conditions of Contract Rev 01 dated 1st June 2012, Amendment 03 dated October 01, 2015	Applicable
D	VOLUME-ID	Forms & Procedures Rev 01 dated 1st June 2012 Amendment 01 dated October 01,2015	Applicable
E	VOLUME-II	Price Schedule (Absolute value).	Applicable

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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: 09.12.2020 3. From BHEL website (www.bhel.com->Tender->Notifications): Tender documents for bidder's reference can be downloaded from this website till due date of submission.	Applicable
v	Due Date & Time of Offer Submission	Date : 15.12.2020, Time : 11:00 Hrs The bidder should submit their offer online in e-Procurement portal at https://www.bhel.abcprocure.com Offers are invited in two-parts only. Bidders are requested to upload their offer well in advance in order to avoid last minute congestion at this website. Hard copy bid or bids through E-mail / fax shall not be accepted.	Applicable
vi	Opening of Tender	Date : 15.12.2020, Time :11:30 Hrs Notes: (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. (2) Bidder may record their presence online, during tender opening. However, this being an e-tender it shall be opened online.	Applicable
vii	EMD Amount		Not Applicable
viii	Last Date For Seeking Clarification	Bidders may submit their queries in https://www.bhel.abcprocure.com at least 02 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		Not Applicable
x	Latest updates	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. Bidders to keep themselves updated with all such information. This also form part	Applicable

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		of tender hence the same shall be enclosed with their offer.	
xi	Tender issuing department contact details	Routine correspondences regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued shall be posted in https://www.bhel.abcpurchase.com. Any other queries may be addressed directly to the tender issuing department as mentioned below: 1. Shri.MVN Rambabu Phone: 040 27700565 Mobile: 09533099966 E-mail: mvnrambabu@bhel.in 2. Shri. Virendra Kumar Phone: 040 27700565 Mobile: 08874200818 E-mail: vir@bhel.in	
xii	PRE QUALIFICATION CRITERIA (TECHNICAL)	Bidder should have executed successfully retrofitting and renovation/greenfield erection of Boiler Pressure parts/non-pressure parts (including structural) in Thermal set of 210 MW rating or above in the last 7 years (from latest date of bid submission) against direct order from BHEL / PSUs /State Electricity Utilities/Multinational companies. The word executed means "BOILER LIGHT UP" of unit. Bidder should submit work order copy and work completion certificates. Work completion certificates are not required if works are executed under BHEL. Note: Authenticity of Credentials submitted by the Bidder against 'Pre-Qualifying Criteria' shall be verified from the Issuing Authority, by BHEL. In case, any credential(s) is/are found to be unauthentic, offer of the bidder is liable to be rejected. BHEL reserves the Right to Initiate any further action as per the "Guidelines for Suspension of Business Dealings with Suppliers/Contractors" (Published in http://www.bhel.com/vender_registration	Applicable

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		n/vender.php) and “Fraud Prevention Policy” (Published in http://www.bhel.com/home.php) as applicable.	
xiii	PRE QUALIFICATION CRITERIA (FINANCIAL)	1) Bidders must have achieved an average annual financial turnover (Audited) of Rs.90,00,000/- (Rupees Ninety Lakhs Only) or more over three consecutive FY from immediate four previous FYs shall be reckoned. (FY to be considered shall be FY 2016-17, 2017-18 & 2018- 19 or 2017-18, 2018-19 & 2019-20). 2) Net Worth (Only in case of companies) of the bidder should be positive. 3) Bidder must have earned profit in any one of the three Financial Years as applicable in the last three Financial Years as furnished above. Note: 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 on the latest Audited Accounts as furnished above.	Applicable

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		Net worth = Paid up share capital* + Reserves (*:Share Capital OR Partnership Capital OR Proprietor Capital as the case may be) 5. PROFIT shall be PBT earned during any one year of three financial years as mentioned above.	
xiv	Order of Precedence	In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below: a. Amendments / Clarifications / Corrigenda / Errata etc issued in respect of the tender documents by BHEL b. Notice Inviting Tender (NIT) c. Price Bid d. Technical Conditions of Contract (TCC)—Volume-1A e. Special Conditions of Contract (SCC)—Volume-1B f. General Conditions of Contract (GCC)—Volume-1C g. 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 06 months from the date of tender opening for award of works. The period of contract shall be for Twelve (12) Months from the date of start of the contract.	Applicable
xvi	Customer approval	All technically qualified bidders list will be forwarded to NLC Neyveli customer for further approval. Bidders approved by NLC Neyveli customer shall be considered for further processing of tender and price bid opening.	Applicable
xvii	Integrity Pact & Details of Independent External Monitor (IEM)	a. Integrity Pact (IP) is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.:	Applicable

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		1. Shri. Arun Chandra Verma, IPS(Retd.) E Mail: acverma1@gmail.com 2. Shri. Virendra Bahadur Singh, IPS (Retd.), E Mail: vbsinghips@gmail.com b. The IP as per format given in NIT of this tender is to be submitted (duly signed by the authorized signatory) along with Techno Commercial Bid (Part1, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this pact would be a preliminary qualification. c. Please refer section- 8 of the IP (refer the format given in NIT) for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEMs. All correspondence with the IEMs shall be done through E-mail only. Note: No routine correspondence shall be addressed to the IEM (Phone / Post / E mail) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification / issues shall be addressed directly to the tender issuing department's officials mentioned at sl. xi.	
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- 2.0 **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.

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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)

III. 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 as mentioned below:

i) Technical Tender (Un priced Tender)

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

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i). 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 06 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.

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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.abcpocure.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.

3.0 DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING in EPROCUREMENT PORTAL <https://www.bhel.abcpocure.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.	To be uploaded under the form Techno-commercial Bid.
ii	Signed Copy of Tender document along with UNPRICED PRICE BID (without disclosing rates/price, but mentioning only 'QUOTED' or 'NOT QUOTED')	
iii	No deviation duly filled and signed (Refer VOLUME-ID FORMS & PROCEDURES)	
iv	All Amendments / Correspondences / Corrigenda / Clarifications / Changes / Errata etc pertinent to this NIT.	
v	PF Code No. (enclose copy of PF code allotment letter of EPF authority)	
vi	ESI Code No. (enclose copy of ESI code allotment letter of ESI authority)	
vii	PAN No.(enclose copy of PAN Card)	
viii	GST Registration No. (enclose copy of GST Registration certificate)	
ix	Declaration by bidder regarding NIL Insolvency proceedings.	
x	Bank Account Details for E-Payment (Refer VOLUME-ID FORMS & PROCEDURES)	

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xi	Work order copies & work completion certificates as mentioned in pre-qualification criteria	
xii	Financial documents as mentioned in pre-qualification criteria	
xiii	Integrity pact agreement	
xiv	Check List along with supporting documents.	
xv	Any other details preferred by bidder with proper indexing.	
B	<u>PRICE BID shall be as mentioned below:</u>	
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.abcpurchase.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.

4.0 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.

5.0 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.

6.0 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.

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6.1 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.

6.2 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.

7.0 **Security Deposit & Additional Security Deposit:**

7.1 The successful bidder shall furnish the security deposit & ASD before the commencement of work. Security deposit & ASD will be released only after completion of workmanship guarantee/Defect liability period of this contract.

7.2 **SECURITY DEPOSIT**

7.2.1 The total amount of security deposit will be 5% of the contract value.

7.3 **ADDITIONAL SECURITY DEPOSIT** (ASD): If the final price of successful bidder is lesser by 'more than 20%' of BHEL's estimates then only, 'Additional Security Deposit' will be required to be submitted by the successful bidder with value as follows:

Additional Security Deposit = 30 % of (A-B) will be calculated as below:

A = 80% of BHEL estimate

B = The final offered price of successful bidder through RA (In case of RA)

OR

Sealed paper price bid of successful bidder (in case of paper bid)

This 'Additional Security Deposit and 'Security Deposit' have the same validity and same will be released on completion of defect liability / workmanship guarantee period.

The BHEL's estimated value shall be disclosed to successful bidder (on request) in case 'Additional Security Deposit' is applicable.

7.4 At least 50% of the required Security Deposit & ASD (if applicable) should be collected before start of the work. Balance of the Security Deposit can be collected by deducting from the first running bill of the Contractor.

7.5 In view of SAS Job, work can be started before the required Security Deposit is collected. However, payment can be released only after collection/recovery of Security Deposit & Additional Security Deposit.

7.6 The Security Deposit shall not carry any interest.

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

7.8 **Modes of deposit:**

The total amount to make up the required Security Deposit of 5% of the contract value & Additional Security deposit as calculated above may be accepted in 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 should have the approval of BHEL & shall be kept valid upto completion of Defect liability period.
- iv) Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the successful bidder, a/c BHEL)
- v) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of successful bidder furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL)

Note:

- 1) 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.
- 2) In case SD & ASD is submitted in BG form, then it is to be issued on or before start of works and the same must reach physically at SAS office within a week of commencement of work. Else, BG shall not be acknowledged and deduction shall be made from first RA Bill for SD and ASD amount.
- 3) Contractor has to ensure renewal of BG up to defect liability period. If at any point of time, BG validity gets expired, the equivalent amount shall be deducted from any pending Bills of the vendor.

7.9 **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.

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8.0 **DEFECT LIABILITY/WORKMANSHIP GUARANTEE:**

- 8.1 Successful bidder has to guarantee successful operation of the newly replaced ducts and all the accessories for a period of 06 (Six) Months from the date of completion of restoration. Any defects noticed during this period shall be rectified by the successful bidder free of cost immediately or during the next available opportunity (shutdown) as per customer requirement.
- 8.2 Defect Liability Period of 06 (Six) 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 In-charge, 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 **Completion Period for this Contract:**

- 9.1 The entire work covered under the scope of this contract is to be completed within 40 days from the mutually agreed date. However, for any additional work the completion period shall be proportionately increased.
- 9.2 For any other additional works as mutually agreed between BHEL & Successful bidder, completion period will be suitably increased.

10.0 **COMMENCEMENT OF WORK-EXPECTED:**

Successful bidder has to mobilize the site immediately to start the works on receipt of communication from BHEL for fulfilling all statutory requirements like., Police verification, Medical fitness, Gate/Entry pass formalities etc. 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.

11.0 **LIQUIDATED DAMAGES/PENALTY:**

- 11.1 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 @ 1% of the contract value per week delay subject to a maximum of 10% of contract value for delay

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attributable to successful bidder. Contract value for this purpose shall be final executed value including optional works and additional works.

12.0 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.

13.0 **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.

14.0 **TERMS OF PAYMENT:**

14.1 **Item-wise percentage breakup has been indicated against dismantling & erection along with Terms of progressive payment as per bill of quantities in price bid.**

14.2 GST compliant tax invoice **as per Cl. No. 15.2 (Taxes and Duties)** is mandatory for releasing of payment and **GST remittance proof as per Cl. No. 15.2 (Taxes and Duties)** has to be enclosed for reimbursement of GST.

14.3 Check list (**CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL**) attached with this tender shall be submitted with each running bill.

14.4 Two progressive bills shall be admissible as mentioned below-

14.4.1 First RAB may be submitted after 20 days of start of work Payment will be made as per BBU. The following documents are to be submitted along with the bill.

- Workmen compensation Insurance (should be taken for the full period of the contract. In case any defects attended during defect liability period Insurance should be taken during such period.)
- Joint protocol / letter of commencement of work.
- Labour License application copy (Labour license shall be applied online as per customer requirement)

14.4.2 Second RAB may be submitted after 30 days of start of work Payment will be made as per BBU. The following documents are to be submitted along with the bill.

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- Workmen compensation Insurance/ESI, PF, Third party liability policy (as per customer requirement) & Wage register/Bank statement of workmen payment verified by EIC for the completed months of execution period.
- Labour license (Labour license shall be applied online as per customer requirement)
- Duly filled pro-forma of Form 36B.
- HR Pro-forma to be submitted along with bill.
- Test reports (like NDT, Electrical etc., as applicable) (03 hard copies each)

14.5 Final bill shall be submitted on completion of entire work. Value of such final bill shall be total executed contract value less previous RAB(s) values. If the work is declared as completed during submission of progressive bills as mentioned above the same progressive bill shall be considered as final. The following documents are to be submitted along with the final bill.

- Workmen compensation Insurance, PF, ESI, Third party liability policy & Wage register/Bank statement of workmen payment verified by EIC for the balance period of execution, if applicable.
- HR Pro-forma to be submitted along with bill.

14.6 **PERFORMANCE SECURITY DEPOSIT (PSD)**

Performance security deposit shall be 10% of executed contract value including extra works if any, and the vendor may submit the same in the form of (a) or (b) below.

(a) CASH (DD/Online payment), 10% of the full contract Value towards Performance security deposit, before commencing the contract. (PSD for extra works if any, shall be deposited by the vendor separately)

(or)

(b) Recover 10% from Each Running/Final/Extra works bill towards Performance security deposit.

Refund of Performance Security deposit:

- Performance security deposit shall be refunded on submission of duly signed (for certification of contractor portion only) REFUND OF PERFORMANCE SECURITY DEPOSIT (format attached – Format No. PS:SR:SCT:PSD:REFUND:001) along with covering letter with the following documents.
- Certification to the effect that “No further claim” will be made against this contract.
- Submission of a “NO DUES” certificate from our principal customer regarding returning of materials, T&P, tackles, fixtures

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etc. if any supplied to the successful bidder by the principal customer through BHEL during the execution of work to the effect that all the items have been received intact or as part or after fabrication.

PSD shall be refunded only after internal clearances from different departments like Commercial, HR, Sub-contracting & Services.

15.0 **TAXES AND DUTIES**

15.1 **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.

15.2 **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 17.0.

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.

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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.

15.3 **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.

15.4 **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.

15.5 **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

NOTICE INVITING TENDER (NIT)

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.

15.6 **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.

16.0 **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.

17.0 **Invoice submission:**

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

**BHEL PSSR SITE OFFICE,
NLC, Neyveli, PB NO 5,
BLOCK No 29 post office, NEYVELI,
Cuddalore, Tamil Nadu, 607807**

BHEL GST Registration No is: 33AAACB4146P2ZL

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- 18.0 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.
- 19.0 Since the job shall be executed at site, bidders are advised to visit site/work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 20.0 For any clarification on the tender document, the bidder may seek the same in clarification provision available in procurement portal <https://bhel.abcpurchase.com> or writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 21.0 In the event of any conflict between requirement of any clause of this specification/documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages / other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting / submission of offer, else BHEL's interpretation shall prevail.
- 22.0 The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the pre-qualification criteria specified in this NIT, past performance and approved by NLCIL Neyveli customer etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right NOT to consider offers of parties under HOLD.
- 23.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorized representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful / Disqualified bidders under intimation to the respective bidders.
- 24.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the

NOTICE INVITING TENDER (NIT)

agent along with the terms of payment for agency commission in INR, along with supporting documents.

- 25.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 26.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents / proofs, these shall be submitted immediately.
- 27.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 28.0 Integrity commitment, performance of the contract and punitive action thereof:
- 29.0 Commitment by BHEL:
- 29.1 BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.
- 29.2 Commitment by Bidder / Supplier / Contractor:
- 29.2.1 The bidder / supplier / contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1898 or any other law in force in India.
- 29.2.2 The bidder / supplier / contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.
- 29.2.3 The bidder / supplier / contractor will perform / execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business / money / reputation, to BHEL.

If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1898 or any other law in force in India, then, action may be taken against such bidder / supplier / contractor as per extant guidelines of the

NOTICE INVITING TENDER (NIT)

company available on www.bhel.com and / or under applicable legal provisions.

30.0 **Clauses of Deduction**

- a. Any job if carried out leads to safety regulation violation then the contractor will be penalized appropriately by the management.
- b. Failure to comply with EHS guidelines.
- c. Any activity that leads to the disruption in the production activities that are being carried out without any written approval will be penalized.
- d. Damage to property will be recovered from the contractor.
- e. Non-compliance of statutory requirements.

31.0 **LABOUR LAWS:**

The Governing Acts as applicable and as amended shall be strictly followed. Some of such acts are given below. List of Labour legislation under which compliance, maintenance of registers and sending of returns shall be ensured by contractor. While complying with the Act complying with relevant rules issued under the said Acts and administrative circulars there on shall also be ensured by the contractor.

- a. The Factories Act, 1948
- b. The Contract Labour (R&A) Act, 1970
- c. The Employees Provident Fund and Misc. Provision Act, 1952
- d. The Employees' Compensation Act, 1923
- e. The Minimum Wages Act, 1948
- f. The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- g. The Building and Other Construction Workers Welfare Cess Act, 1996
- h. The Inter State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979
- i. The Payment of Wages Act, 1936
- j. The Payment of Bonus Act, 1965
- k. Maternity Benefit Act, 1971
- l. The Child Labour (Prohibition And Regulation) Act, 1986
- m. The Employees' State Insurance Act, 1948
- n. Equal Remuneration Act, 1976
- o. The Industrial Disputes Act, 1947
- p. The Payment of Gratuity Act, 1972
- q. The Trade Union Act, 1926
- r. The Apprentices Act, 1961
- s. Industrial Employment (Standing Orders) Act, 1946
- t. The Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959.
- u. Any other acts/rules as may be applicable from time to time

32.0 STATUTORY REQUIREMENTS LIKE PF, ESI CLEARANCE AS PER TAMIL NADU GOVT. AND AS PER NLCIL NEYVELI-HRD TO BE FULLY COMPLIED WITH. ANY SPECIAL RULES OR ALLOWANCES

NOTICE INVITING TENDER (NIT)

APPLICABLE AS PER NLCIL NEYVELI-HRD TO BE FULLY COMPLIED WITH.

- 33.0 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".
- 34.0 "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."
- 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 Special arrangements to be made for tackling COVID-19 pandemic – Contractor shall make arrangements for stay of workers within their premises as far as possible and/ or adjacent building and for implementation of STANDARD OPERATING PROTOCOL (SOP) as per government order. The transportation of workers to work place shall be arranged by the contractor in dedicated transport by ensuring social distance. Any person violating the COVID -19 measures published vide government order time to time will be liable to be proceeded for legal action as per the government order. Following shall be observed in work place:
- 36.1 All work places shall have adequate arrangements for temperature screening and provide sanitizers at convenient places.
- 36.2 Work places shall have a gap of one hour between shifts and will stagger the lunch breaks of staff, to ensure social distancing.
- 36.3 Use of AROGYA SETU will be encouraged for all employees both private and public.
- 36.4 Contractor shall sanitize their work place between shifts.
- 36.5 Large meetings to be prohibited. Spitting shall be strictly prohibited. Wearing of face cover is compulsory.
- 36.6 Government order (local/state/center) being issued time to time for protective measures of COVID-19 pandemic shall be complied with strictly until government (local/state/ center) declares end of pandemic.
- 36.7 Standard operating procedure for social distancing for workplace and offices
The following measures shall be implemented by contractor for their office and workplaces:

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1. All areas in the work premises including the following shall be disinfected completely using user friendly disinfectant mediums:
 - a. Entrance gate of work place, office, if any
 - b. Cafeteria and canteens, if any
 - c. Meeting room, conference halls/ open area available/ verandah/ entrance gate of site, bunkers, porta cabins, buildings, etc.
 - d. Equipments and lifts
 - e. Washroom, toilet, sink, water points, etc
 - f. Wall/ all other surfaces
2. For workers coming from outside, special transportation facility shall be arranged without any dependency on the public transport system. These vehicles should be allowed to work only with 30- 40% passenger capacity.
3. All vehicles and machinery entering the premise should be disinfected by spray mandatorily.
4. Mandatory thermal scanning of everyone entering and exiting the work place to be done.
5. Medical insurance for the workers to be made mandatory.
6. Provision for hand wash & sanitizer preferably with touch free mechanism shall be made at all entry and exit points and common areas. Sufficient quantities of all the items should be available.
7. Work places shall have a gap of one hour between shifts and will stagger the lunch breaks of staff, to ensure social distancing.
8. Large gatherings or meetings of 10 or more people to discouraged. Seating at least 6 feet away from others on job sites and in gatherings, meetings and training sessions.
9. Not more than 2/4 persons (depending on size) will be allowed to travel in lifts or hoists.
10. Use of staircase for climbing should be encourages.
11. There should be strict ban of gutka, tobacco, etc. and spitting should be strictly prohibited.
12. There should be total ban on non-essential visitors at sites.
13. Hospitals/ clinics in the nearby areas, which are authorized to treat COVID-19 patients, should be identified and list should be available at work place all the times.
14. In addition to the above, Contractor shall strictly follow all the SOPs issued from time to time by BHEL, Customer, local authorities, State Government and Central Government.

37.0 PVC AND ORC ARE NOT APPLICABLE FOR THIS CONTRACT.

38.0 The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

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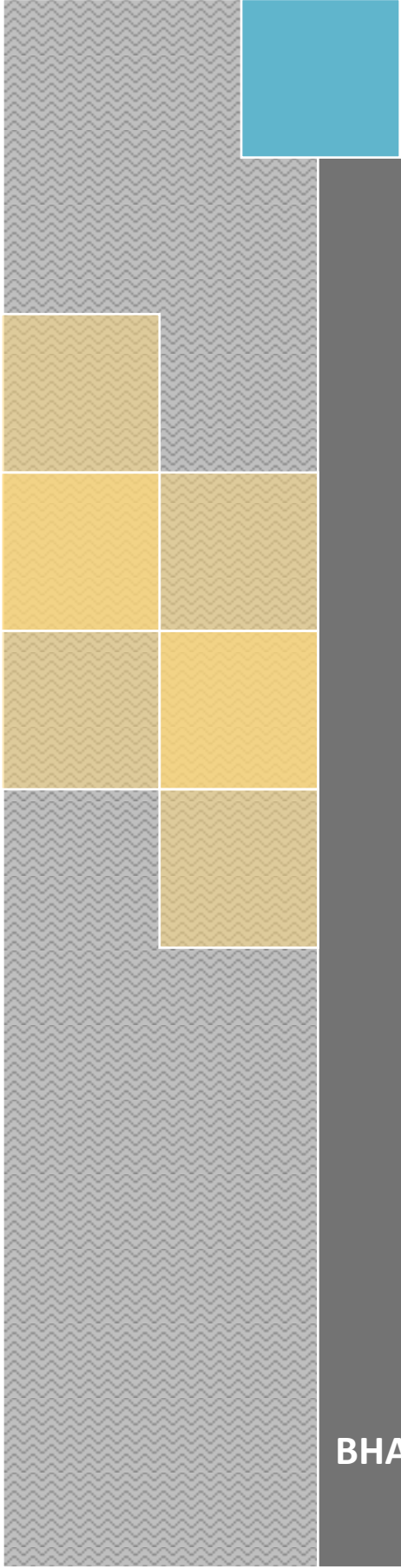
In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines

- 39.0 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.

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

Sd/-

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



VOLUME – IA

Part I & II

TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART – I CHAPTER – I PROJECT INFORMATION

01	Owner	Neyveli Lignite Corporation Limited (NLC Ltd), Neyveli, Cuddalore District, Tamil Nadu State, India
02	Name of the Project	TPS-II Expansion, Unit#5 (210MW)
03	Site Location	200 kms south of Chennai and 50 kms south-west of Cuddalore
04	Latitude and Longitude	11°34'00" N to 11°35'00" N Latitude 79°26'00" E to 79°27' 00" E Longitude
05	Elevation above mean sea level	(+)67 meters
06	Nearest Railway Station	Neyveli
07	Nearest Air port	Chennai, at a distance of 200 km
08	Nearest Sea Port	Chennai, at a distance of 200 km
09	Road Access / Approach to Site	Connected by Chennai - Thanjavur NH 45C road and state highway connecting Cuddalore – Virudhachalam via Neyveli. Both NH and state high way roads are well connected to NLC township roads. The approach road is approximately 15 kms from Chennai–Thanjavur NH – 45C road.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART – I CHAPTER – II SCOPE OF WORKS

Repair of Girders and its associated works as per SOW for Unit No:5 (210MW) Boiler at NLCIL- TS-II, Neyveli.

The scope of the work will comprise of but not limited to the following:

- 1.2.1.1 Loading & transportation of erection materials from site stores / storage yard to erection site, preassembly etc., Required Hydra, Trailer for transportation of material along with manpower is the contractor scope of works.
- 1.2.1.2 Scaffolding arrangement to approach damaged structure.
- 1.2.1.3 Cutting of damaged structure to attend repair work. Fixing of temporary supports required for strengthening of existing structure before cutting of damaged structure as per instructions of BHEL resident manager. Material for such temporary supports will be provided by BHEL/customer.
- 1.2.1.4 Structure (plate, beam, channel, angle etc) erection.
- 1.2.1.5 Structural material welding.
- 1.2.1.6 LPT of welded joint as per the NDT procedure of BHEL. UT of welded joint as per the NDT procedure of BHEL.
- 1.2.1.7 Removal of temporary supports as per instructions of BHEL resident manager.
- 1.2.1.8 Disposal of damaged structural material & temporary supports to scrap yard/store yard as per the instructions of BHEL/customer Engineer in-charge.
- 1.2.1.9 Removal of scaffolding arrangement.
- 1.2.1.10 Removal and re-erection of any other structures/pipe lines/instruments/cables/cable trays/platforms etc., which are to be dismantled for cutting/removal of damaged structure and for erection of new structure is in the scope of the contractor.
- 1.2.1.11 Existing instruments/instrument cabinets etc., are to be retained, contractor to ensure safe dismantling of all instrument/instrument cabinets etc., and handing over to customer. Contractor to put back all instruments/instrument cabinets etc., and its connection after completion of works.
- 1.2.1.12 **Contractor has to deploy certified welders for structural or other related welding jobs.**
- 1.2.1.13 Scaffolding arrangement including scaffolding material is in the scope of the contractor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

- 1.2.1.14 Steel structure, pipeline, concrete structure/boundary wall etc., cutting require for winch positioning is to be restored by the contractor after removal of winch.
- 1.2.1.15 Contractor is required to return the balance new /unusable material to NLC Neyveli as per the direction of engineer-in charge.
- 1.2.1.16 Contractor has to execute the works as per the repair sequence as mentioned below

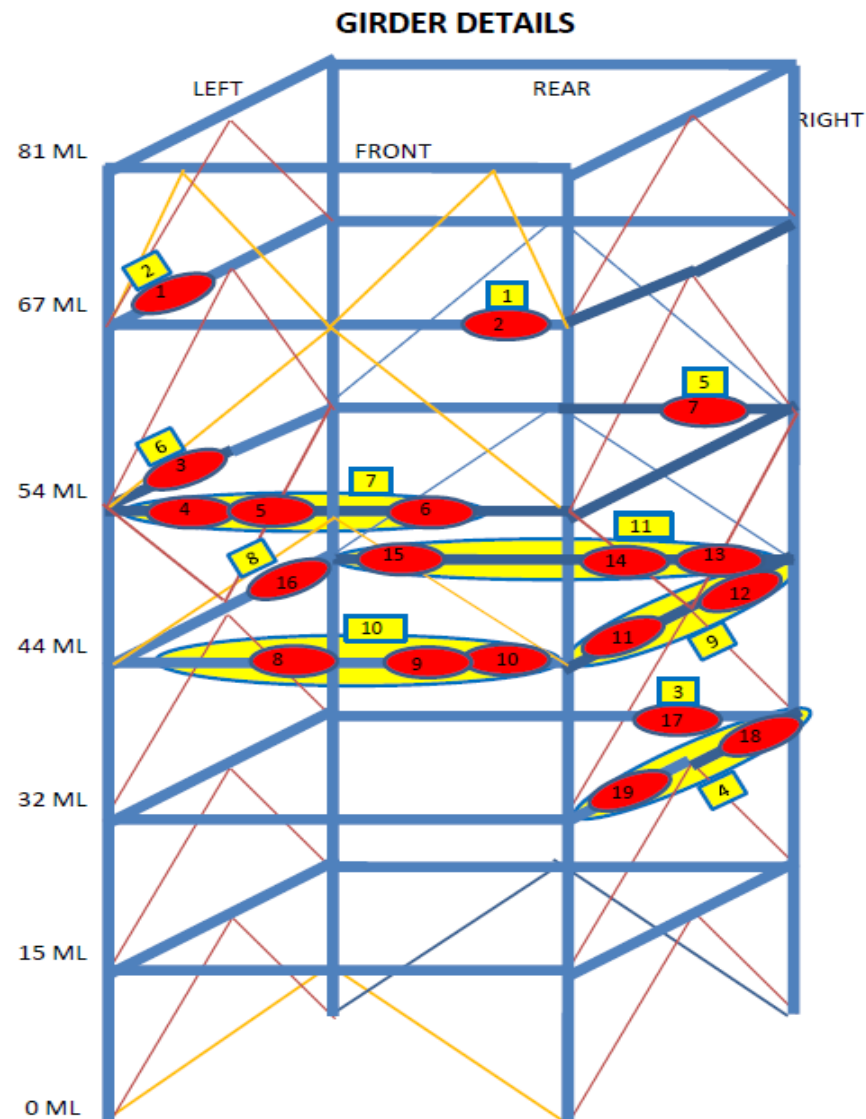


Fig.1 Repair sequence

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Note: Bidder is required to visit site to familiarize with the quantum of work of replacement, elevations and locations of works at site.. Bidder may also physically ascertain the available space at site and the type of handling tools/tackles and transportation equipment required for the project due to space constraints.

Note:

FOR FURTHER DETAILED SCOPE OF WORKS REFER RELEVANT CHAPTERS IN THIS BOOK

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VOLUME-IA PART – I CHAPTER – III FACILITIES IN THE SCOPE OF CONTRACTOR / BHEL (SCOPE MATRIX)

Sl.No	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
1.3.1.1.0	ESTABLISHMENT			
1.3.1.1.1	FOR CONSTRUCTION PURPOSE:			
A	Open space for office	Yes		
B	Open space for storage	Yes		
C	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
D	Bidder's all office equipments, office / store / canteen consumables		Yes	
E	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
F	Fire fighting equipments like buckets, extinguishers etc		Yes	
G	Fencing of storage area, office, canteen etc of the bidder		Yes	
1.3.1.1.2	FOR LIVING PURPOSES OF THE BIDDER			
A	Open space		Yes	
B	Living accommodation		Yes	
1.3.1.2.0	ELECTRICITY			
1.3.1.2.1	Electricity For construction purposes (to be specified whether chargeable or free)			
1.3.1.2.1.1	Single point source	Yes		One energy meter to be installed at suitable location to measure total energy consumption at any point of time

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sl.No	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	PART I			
1.3.1.2.1.2	Further distribution for the work to be done which include supply of materials and execution		Yes	
1.3.1.2.2	Electricity for the office, stores, canteen etc of the bidder which include:		Yes	
1.3.1.2.2.1	Distribution from single point including supply of materials and service		Yes	
1.3.1.2.2.2	Supply, installation and connection of material of energy meter including operation and maintenance		Yes	
1.3.1.2.2.3	Duties and deposits including statutory clearances for the above		Yes	
1.3.1.2.2.4	Living facilities for office use including charges		Yes	
1.3.1.2.2.5	Demobilization of the facilities after completion of works		Yes	
1.3.1.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc on the above lines.(in case BHEL provides this facility, the scope should be given without ambiguity)		Yes	
1.3.1.3.0	WATER SUPPLY			
1.3.1.3.1	For construction purposes:			
1.3.1.3.1.1	Making the water available at single point	Yes		One water flow meter to be installed at suitable location to measure total water consumption at any point of time
1.3.1.3.1.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sl.No	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	PART I			
1.3.1.3.2	Water supply for bidder's office, stores, canteen etc		Yes	
1.3.1.4.0	LIGHTING			
1.3.1.4.1	For construction work (supply of all the necessary materials) At office storage area At the preassembly area At the construction site /area		Yes	
1.3.1.4.2	For construction work (Execution of the lighting work / arrangements) At office storage area At the preassembly area At the construction site /area		Yes	
1.3.1.5.0	COMMUNICATION FACILITIES for site operations of the bidder	-		
1.3.1.5.1	Telephone, Fax, internet, intranet, email etc		Yes	

Sl.No	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	PART II			
	ERECTION FACILITIES			
1.3.2.1.0	Engineering works for construction			
1.3.2.1.1	Providing the erection drawings for all the equipments covered under this scope	Yes		
1.3.2.1.2	Drawings for construction methods		Yes	In consultation with BHEL
1.3.2.1.3	As-built drawings – wherever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes	Yes	Yes	If required, these drawings are to be prepared by contractor in

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sl.No	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	PART II			
				consultation with BHEL.
1.3.2.1.4	Shipping lists etc for reference and planning the activities	Yes		"
1.3.2.1.5	Preparation of site erection schedules and other input requirements		Yes	"
1.3.2.1.6	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	
1.3.2.1.7	Weekly erection schedules based on Sl. No 2.1.5		Yes	
1.3.2.1.8	Daily erection / work plan based on Sl. No 2.1.7		Yes	For daily monitoring meeting at site
1.3.2.1.9	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
1.3.2.1.10	Preparation of preassembly bay		Yes	
1.3.2.1.11	Laying of racks for gantry crane if provided by BHEL or brought by the contractor/bidder himself			Not applicable

1.3.3 OPEN SPACE:

Open space for building of temporary office shed, contractor's stores shed(s) will be provided free of hire charges. Contractor has to make his own arrangements for labour colony.

1.3.4 ELECTRICITY:

1.3.4.1 The contractor shall be provided with free supply of Electricity for the purpose of execution of work at single point only at work site. For further distribution

TECHNICAL CONDITIONS OF CONTRACT (TCC)

contractor shall make his own arrangements. Contractor to install one energy meter at suitable location to compute total energy at any point of time.

1.3.4.2 Any duty, deposit involved in getting the Electricity shall be borne by the bidder. As regards contractor's office shed also all such expenditure shall be borne by the contractor.

1.3.4.3 Provision of distribution of electrical power from the given single central common point to the required places with proper distribution boards, approved cables and cable laying including supply of all materials like cables, switch boards, pipes etc., observing the safety rules laid down by electrical authority of the State / BHEL / their customer with appropriate statutory requirements shall be the responsibility of the tenderer / contractor.

1.3.4.4 BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage / frequency or interruptions in power supply.

1.3.5 **WATER:**

1.3.5.1 The contractor shall be provided with free supply of water for the purpose of execution of work at single point only at work site. For further distribution contractor shall make his own arrangements. Contractor to install one water flow meter at suitable location to compute total water consumption at any point of time.

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VOLUME-IA PART – I CHAPTER – IV T&PS AND MMES TO BE DEPLOYED BY CONTRACTOR

The following major tools & plants shall be deployed by the contractor:

Sl.No.	Description	Quantity	Capacity
1	Hydra shall be made available at site from commencement of works till completion of all the works.	01 No.	14 MT
2	Trailer Trailer shall be made available at site from commencement of works till completion of all the works.	01 No.	10 MT
3	Electric winch Winch shall be made available at site from commencement of works till completion of all the works.	02 Nos.	05 MT

The above list is expected T&P requirement. The contractor has to provide above mentioned T&P for satisfactory completion of work within given completion schedule. The contractor to visit site to study the site layout/conditions and assess the site conditions before quoting. If any additional T&P is required for successful completion of work, contractor has to provide the same without any financial implication within quoted price.

NOTE:

1. Load test of all T&P to be utilized for the works should be completed well before commencement of works.
2. As there are bound to be interruptions in regular power supply, power cut/ load shedding in any construction site due to inherent power shortage in state; it shall be the responsibility of the contractor to have minimum numbers of diesel operated welding generator sets to get urgent and important work to go on without interruptions. The consumables required to operate the generators are to be provided by the bidders at their cost. No separate payment shall be made for this contingency.
3. Depending upon the nature of work and availability of facilities locally, contractor may have to arrange for a temporary workshop for facilitating uninterrupted progress of work
4. All the T&Ps required for this scope of work, except the T&Ps provided by BHEL are to be arranged by the contractor within the quoted rates.

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VOLUME-IA PART – I CHAPTER – V

T&Ps AND MMEs TO BE DEPLOYED BY BHEL ON SHARING BASIS

List of T&Ps to be made available by BHEL to contractor free of hire charges on sharable basis.

Nil

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VOLUME-IA PART – I CHAPTER - VI WEIGHT SCHEDULE

Supply of Spares for damaged girders (Total Wt. 354 MT) One SET consists of the following:				
(SI.)	PROFILE	MATERIAL CODE	WEIGHT (MT)	REMARKS
a	ISA100X100X10	15-013-018	10	RUNNING METER
b	ISA150X150X16	15-013-131	37	RUNNING METER
c	ISA200X200X20	15-013-154	40	RUNNING METER
d	PLT12 E250	15-011-132	35	RUNNING METER
e	PLT16 E250	15-011-026	60	RUNNING METER
f	PLT20 E250	15-011-150	6	RUNNING METER
g	PLT22 E410	15-011-839	23	(HIGH STRENGTH PLATE) RUNNING METER
h	PLT28 E250	15-011-087	15	RUNNING METER
i	PLT36 E410	15-011-834	10	(HIGH STRENGTH PLATE) RUNNING METER
j	ISMC150	15-010-035	10	RUNNING METER
k	ISMB250	15-009-011	6	RUNNING METER
l	ISMB300	15-009-010	10	RUNNING METER
m	ISMB400	15-009-025	10	RUNNING METER
n1	PLT25 E250	15-011-081	70	Together consist of FABRICATED ITEM WELDED BOX 400X400- 25/25, END PLATE 32MM
n2	PLT32 E250	15-011-130	6	
o	ISA150X150X16	15-013-131	6	RUNNING METER

NOTE FOR WEIGHT SCHEDULE:

1. The items & weights given above are for general guidance. Repair of Girder work is to be carried out at different locations as mentioned in the scope of works.
2. The information furnished is only a description regarding the items to be erected by the contractor. BHEL reserves the right to add or exclude any components / items / system according to the site requirements / customer requirements to complete the systems in all respects

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VOLUME-IA PART –I CHAPTER -VII GENERAL

The scope of the work will comprise of but not limited to the following:

- 1.10.1 All the works such as cleaning, leveling, aligning, trial assembly, dismantling of certain components for checking and cleaning, surface preparation, fabrication of sheets, tubes and pipes as per general engineering practice and as per BHEL Engineer's instructions at site, cutting, weld depositing, grinding, straightening, chamfering, filing, chipping, drilling, reaming, scrapping, lapping, fitting-up etc., as may be applicable in such erection works and are necessary to complete the work satisfactorily, shall be carried out by the contractor as part of the work with in the quoted rate.
- 1.10.2 The work shall conform to dimensions and tolerances given in various drawings and quality manuals provided by BHEL. If any portion of work is found to be defective in workmanship not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost, failing which the job will be carried out by BHEL by engaging other agencies and recoveries will be effected from contractor's bill towards expenditure incurred including BHEL's overhead charges.
- 1.10.3 Contractor shall execute the work as per sequence and procedure prescribed by BHEL at site. The applicable erection manuals which are available with BHEL site office are to be referred for compliance and guidance before taking up the work. Any rework on this failure to comply with will be to the contractor account only. BHEL engineer, depending upon the availability of materials, fronts etc, will decide the sequence of erection and methodology. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the method of erection adopted in erection of similar jobs or for any reason whatsoever.
- 1.10.4 Contractor has to work in close co-ordination with other erection agency at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less/more at a particular given time. Activities and erection program have to be planned in such a way that the milestones are achieved as per schedule/plans. Contractor shall arrange & augment the resources accordingly.
- 1.10.5 The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe/tubes, and handrails etc for any temporary supporting or scaffolding works. Contractor shall arrange himself all such materials. In case of such misuse of BHEL materials, a sum as determined by

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BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor.

- 1.10.6 The contractor will be responsible for the safe custody and proper accounting of all materials in connection with the work. If the contractor has drawn materials in excess of design requirements, recoveries will be effected for such excess draws at the rate prescribed by manufacturing units.
- 1.10.7 No member of the already erected structure/ platform, pipes, grills, platform, other component and auxiliaries should be cut without specific approval of BHEL engineer.
- 1.10.8 Contractors shall ensure that all their Staff/Employees are exposed to periodical training programme conducted by qualified agencies/ personnel on ISO 9001-2015 Standards.
- 1.10.9 For other agencies, such as piping, cabling, instrumentation, insulation etc., to commence their work from/on the equipments coming under this scope, Contractor has to clear the front, expeditiously and promptly as instructed by BHEL Engineer. Some time it may be required to re-schedule the activities to enable other agencies to commence/continue the work so as to keep the overall project schedule.
- 1.10.10 The terminal points decided by BHEL are final and binding on the contractor for deciding the scope of work and effecting the payment for the work done up to the terminals.
- 1.10.11 On Completion of work, all the temporary buildings, structures, pipe lines, cable etc. shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
- 1.10.12 All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.
- 1.10.13 The contractor must obtain the signature and permission of the security personnel of the customer for bringing any of their materials inside the plant premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside.
- 1.10.14 Crane operators deployed by the contractor shall be tested by BHEL before he is allowed to operate the cranes.

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1.10.15 **SITE INSPECTION**

The owner/employer or his authorized agents may inspect various stages of work during the currency of the contract awarded to him. The contractor shall make necessary arrangements for such inspection and carry out the rectification pointed out by the owner/employer without any extra cost to the owner/ employer. No cost whatsoever such duplication of inspection of work be entertained.

1.10.16 **UTILITY POINTS**

1.10.16.1 Number of utility points (Service / plant air, service / plant water, service / washing steam, inert gas (N₂) etc., shall be indicated in the P & I diagram. The utility points shall be located at convenient point to handle. Contractor to locate the utility points as advised by site engineer.

1.10.17 **Miscellaneous works:**

As the work is to be carried out in confined space, miscellaneous works like shifting of nearby equipment's, power cables may arise during execution of work. Such works have to be carried out under guidance and close supervisions of customer and BHEL. The quoted rate shall include such sundry works and no separate amount shall be paid.

1.10.18 **T&P, cranes, erection tools etc:**

All the tools tackles, crane, Derik arrangements required for satisfactory and safe execution of work to arranged by tenderer at his cost. No T&P will be provided by BHEL except open space for their office and as listed in BHEL scope. The quoted rate includes total completion of work including arrangements for worker colony form their workers stay. However, any arrangement provided by customer for worker stay will be extended as per the customer norms.

All the above activities included in the quoted rate. No separate amount will be paid for any work. The work completion means completion of work in all respects and takeover by customer. Any miscellaneous works arises for satisfactorily completion of work to be carried out by tender without any extra amount.

1.10.19 **SAFETY**

Safety is the prime most important. Everybody should implement 100% safety norms set by the organization. A safety document to be followed is attached to tender document for 100 % compliance. Salient norms are listed here for ready reference.

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- The person who is entering the plant premises including visitors to undergo a safety training which will be given by customer. The training period will be decided by the customer based on the individual's purpose of visit.
- 100 % safety appliance to be used before entry in to the plant gate. A safety officer will be present at gate and any person not adhere to safety norms will not be allowed inside the gate.
- Contractor to engage qualified safety officers during execution of work from the customer recommended agencies. The number officers engaged is based on the deployment of work men. A trained officer for 50 workers to be engaged.
- Overall coordinator safety office to interact with customer and BHEL for day to day interactions.
- Heavy penalty will be imposed if a person found without 100% safety harness.
- The PPE's will be periodically inspected and any found defective or become old to be replaced with new one.
- All T&P and lifting tools will be inspected first before entry in to plant gate. All new and quality PPE's and T&P to be used. No second hand/ un safe items are allowed
- Before entry of gate, all work men to be produced a valid fitness certificate issued by a register medical practioner.
- Implementation of statutory rules and maintaining documentary record at site.
- Contractor has to abide by all statutory rules and regulation and follow strict observance to BHEL & NLC guidelines on safety.
- Prior to commencement of any work at site, requisite clearance shall be obtained from BHEL & NLC.
- Safety of equipment & PPE required for worker during site activities shall be the responsibility of contractor.
- Implementation of HR rules and regulation as per statutory norms and customer guidelines.

1.10.20 OTHER SPECIFIC SAFETY CLAUSES APPLICABLE FOR NLCIL

1.10.20.1 Adequate and suitable safety measures for all his workmen engaged shall be provided and followed by the Contractor.

1.10.20.2 All statutory norms and safety measures shall be strictly followed.

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- 1.10.20.3 The Contractor should issue safety helmets, Shoes and PPEs to all his workmen and supervisors.
- 1.10.20.4 All the equipments for safety shall be of ISI standard and the safety gadgets etc. shall be periodically checked and certified by the competent person approved by Director / Industrial Safety & Health, Govt. of Tamilnadu towards their fitness for use.
- 1.10.20.5 In case of accident to workmen or Supervisor, the Contractor shall take them to the General Hospital run by NLCIL along with the Accident Report.
- 1.10.20.6 If any workmen or supervisor of the Contractor is found not observing safety precaution like the following and in unsafe acts, minimum fine of Rs.500/- (Rupees Five Hundred) per violation shall be imposed on the Contractor and it shall be recovered from the bill.
 - 1.10.20.6.1 Persons working at height of 2 Mtrs. and above without safety belt, shoes and helmets.
 - 1.10.20.6.2 Welders doing welding and cutting works without proper gloves in both hands, goggles/welding shield and shoes.
 - 1.10.20.6.3 Persons working without helmets and shoes, proper foot protection.
 - 1.10.20.6.4 Persons travelling on crane hooks or side mud guard of the tractors.
 - 1.10.20.6.5 Persons found pilfering and causing damage to fire-fighting appliances or fire hydrant valve.
 - 1.10.20.6.6 Unauthorized tapping of electricity, such as disturbing electric fuse, inserting of leads directly on the plug sockets, improper wiring and improper use of electrical equipments belonging to the Purchaser or other Contractors.
 - 1.10.20.6.7 Rolling and mishandling of gas cylinders.
- 1.10.20.7 Violation of conditions of safety may lead to termination of the contract at any time.
- 1.10.20.8 The Contractor shall be entirely responsible for any injury to the workmen in the event of them being involved in an accident and shall render all co-operation to the BHEL & NLCIL officials if any enquiry is held thereon.
- 1.10.20.9 All safety precautions and safety rules should be followed and failure to adhere to the same will be viewed seriously and the consequences thereof shall be borne by the Contractor.
- 1.10.20.10 The Contractor shall provide and insist to wear all the required safety equipments by their workmen.

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- 1.10.20.11 The Contractor's workmen should use safety equipments as demanded by the nature of work. The Contractor should provide and ensure them to wear such equipments while they are at work.
- 1.10.20.12 The lifting tools, tackles and safety belts that are used by their contract workmen shall be tested and certified as per the prevailing applicable law.
- 1.10.20.13 Whenever insulation material, scraps and debris etc., are removed from boiler area/ Heights, these materials shall not be thrown from heights as it is hazardous to the people working in and around and also this will lead to accidents and damage to NLCIL equipments. Hence these are to be bundled and properly lowered from heights with pulley and rope.

The Head of Department executing the contract or Head of the Safety Engg. Department, upon the satisfaction that the Contractor is not conforming to the safety requirement, may direct to stop the work and require the Contractor to remedy the defects. The Contractor shall not proceed with the work until he has complied with each direction to the satisfaction of such Head of the department

1.10.21 PROVIDENT FUND

- 1.10.21.1 The contractor is required to extend the benefit of Provident Fund to the labour employed by you in connection with this contract as per the Employees Provident Fund and Miscellaneous Provisions Act 1952. For due implementation of the same, you are hereby required to get yourself registered with the Provident Fund authorities for the purpose of reconciliation of PF dues and furnish to us the code number allotted to you by the Provident Fund authorities within one month from the date of issue of this letter of intent. In case you are exempted from such remittance an attested copy of authority for such exemption is to be furnished. Please note that in the event of your failure to comply with the provisions of said Act, if recoveries therefore are enforced from payments due to us by the customer or paid to statutory authorities by us, such amount will be recovered from payments due to you.
- 1.10.21.2 The final bill amount would be released only on production of clearance certificate from PF / ESI and labour authorities as applicable.

1.10.22 OTHER STATUTORY REQUIREMENTS

- 1.10.22.1 The Contractor shall submit a copy of Labour License obtained from the Licensing Officer (Form VI) u/r25 read with u/s 12 of Contract Labour (R&A) Act 1970 & rules and Valid WC Insurance copy or ESI Code (if applicable) and PF code no. along with the first running bill.
- 1.10.22.2 The contractor shall submit monthly running bills along with the copies of monthly wages (of the preceding month) u/r78(1)(a)(1) of Contract Labour Rules, copies of monthly return of PF contribution with remittance Challans

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under Employees Provident Fund Act 1952 and copy of renewed WC Insurance policy or copies of monthly return of ESI contribution with Challans under ESI Act 1948 (if applicable) in respect of the workmen engaged by them.

- 1.10.22.3 The Contractor should ensure compliance of Sec 21 of Contract Labour (R&A) Act 1970 regarding responsibility for payment of Wages. In case of “Non-compliance of Sec 21 or non-payment of wages” to the workmen before the expiry of wage period by the contractor, BHEL will reserve its right to pay the workmen under the orders of Appropriate authority at the risk and cost of the Contractor.
- 1.10.22.4 The Contractor shall submit copies of Final Settlement statement of disbursal of retrenchment benefits on retrenchment of each workmen under I D Act 1948, copies of Form 6-A (Annual Return of PF Contribution) along with copies of PF Contribution Card of each member under PF Act and copies of monthly return on ESI Contribution – Form 6 under ESI Act 1948 (if applicable) to BHEL along with the Final Bill.
- 1.10.22.5 In case of any dispute pending before the appropriate authority under ID act 1948, WC Act 1923 or ESI Act 1948 and PF Act 1952, BHEL reserve the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.
- 1.10.22.6 In case of any dispute prolonged / pending before the authority for the reasons not attributable to the contractor, BHEL reserves the right to release the final bill of the contractor on submission of Indemnity bond by the contractor indemnifying BHEL against any claims that may arise at a later date without prejudice to the rights of BHEL.
- 1.10.23 Site Visit by the Bidder
 - 1.10.23.1 The bidder is advised to visit and examine the site of works and its surroundings at his own expense prior to submitting his tender for the work and obtain and ascertain for himself on his own responsibility all information that may be necessary for preparing his tender and entering into a contract, and take the same into account in the quoted contract price for the work.
 - 1.10.23.2 The bidder shall satisfy themselves about the following factors:
 - (i) Site conditions including access to the site, existing and required roads and other means of transport/communication for use by him in connection with the work including diverting and re-routing of services.

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- (ii) Requirement and availability of land and other facilities of his enabling works, establishment of his nursery, office, stores etc.
- (iii) Ground conditions including those bearing upon transportation, disposal, handling and storage of materials required for the work or obtained therefrom.
- (iv) Source and extent of availability of suitable materials, including water etc., and labour (skilled and unskilled) required for work, and laws and regulations governing their use and employment.
- (v) Geological, meteorological, topographical and other general features of the site and its surroundings as are pertaining to and needed for the performance of the work.
- (vi) The limit and extent of surface and subsurface water to be encountered during the performance of the work, and the requirement of drainage and pumping.
- (vii) The type of equipment and facilities needed, for and in the performance of the work;
- (viii) The extent of lead and lift required for the work in complete form over the entire duration of the contract, and
- (ix) All other information pertaining to and needed for the work including information as to the risks, contingencies and other circumstances which may influence or affect the work or the cost thereof under this contract.

1.10.23.3 The bidder should note that information, if any, in regard to the local conditions, as contained in these tender documents, has been given to tenderer merely for guidance and is not warranted to be complete.

1.10.23.4 A bidder shall be deemed to have full knowledge of the site, whether he inspects it or not, and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

1.10.23.5 The bidder and any of his personnel or agents will be granted permission by the Site-In-Charge or his authorized nominee, on receipt of formal application in respect thereof a week in advance of the proposed date of inspection of site, to enter upon his premises and lands for purpose of such inspection, but only on the express condition that the tenderer (and his personnel and agents) will relieve and indemnify the Employer (and his personnel and agents) from and against all liability in respect thereof and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused which, but for the exercise of such permission, would not have arisen.

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- 1.10.24 The bidder shall deploy the best quality workmanship, engineering and construction management. The contractor must have adequate quantity of tools, construction aids, equipments etc., in his possession. He must also have on his rolls adequate trained, qualified and experienced supervisory staff and skilled personnel.
- 1.10.25 Wherever Construction sequences are furnished by BHEL, the contractor shall follow the same sequence. Contractor shall execute the supply and works as per sequence prescribed by BHEL at site engineer. If required by BHEL, the contractor shall change the sequence of his operation so that work on priority sectors can be completed within the projects schedule. The contractor shall afford maximum assistance to BHEL in this connection without causing delay to agreed completion date. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the methods of execution of similar job in any other site or for any reasons whatsoever.
- 1.10.26 The Contractor may have to execute work in such a place and condition where other agencies also will be under such circumstances. However, completion time for construction, agreed will be subject to the condition that contractor's work is not hampered by the agencies.
- 1.10.27 Contractor has to work in close co-ordination with other erection agencies at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less / more at a particular given time. Activities and construction program have to be planned in such a way that the milestones are achieved as per schedule / plans. Contractor shall arrange & augment the resources accordingly.
- 1.10.28 The contractor must obtain the signature and permission of the security personnel of the customer for bringing any of their materials inside the site premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside. Surplus materials including steel item brought at site by the contractors with proper documentation and Gate pass, shall be allowed to taken out of the project premises after completion of relevant works, on certification by BHEL in charge.
- 1.10.29 It is not the intent to specify herein all details of all material. Any item related this work not covered by this but necessary to complete the system will be deemed to have been included in the scope of the work.
- 1.10.30 Site testing wherever required shall be carried out for all items / materials installed by the contractor to ensure proper installation and functioning in accordance with drawings, specifications and manufacturer's recommendations.

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- 1.10.31 Contractor shall, transport all materials to site and unload at site / working area for inspection and checking. All material handling equipment required shall be arranged by the contractor.
- 1.10.32 Contractor shall retain all T&P / Testing instrument / Material handling equipment's etc. at site as per advice of BHEL engineer and same shall be taken out from site only after getting the clearances from engineer in charge.
- 1.10.33 The contractor will be responsible for the safe custody and proper accounting of all materials in connection with the work. If the contractor has drawn materials in excess of design requirements, recoveries will be effected for such excess draws at the rate prescribed by manufacturing units.
- 1.10.34 The contractor at his cost shall arrange necessary security measures for adequate protection of his machinery, equipment, tools, materials etc. BHEL shall not be responsible for any loss or damage to the contractor's construction equipment and materials. The contractor may consult the Engineer-in-Charge on the arrangements made for general site security for protection of his machinery equipment tools etc.
- 1.10.35 The work shall be executed under the usual conditions without affecting power plant construction / operation and in conjunction with other operations and contracting agencies at site. The contractor and his personnel shall co-operate with the personnel of other agencies, coordinate his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 1.10.36 Contractor has to clear the front, expeditiously and promptly as instructed by BHEL Engineer for other agencies, like Boiler, piping, Turbine, Generator erection, Cabling, instrumentation, insulation etc., to commence their work from / on the equipments coming under this scope. Sometimes, more than one agencies may have to work in same location. Sometimes it may be required to re-schedule the activities to enable other agencies to commence / continue the work so as to keep the overall project schedule.
- 1.10.37 The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe / tubes, and handrails etc. for any temporary supporting or scaffolding works or as bed for pre-assembly works. Contractor shall arrange himself all such materials. In case of such misuse of BHEL materials, a sum as determined by BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor.
- 1.10.38 Contractors shall ensure that all their Staff / Employees are exposed to periodical training programme conducted by qualified agencies / personnel on ISO 9001 Standards.

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- 1.10.39 The terminal points decided by BHEL are final and binding on the contractor for deciding the scope of work and effecting the payment for the work done up to the terminals.
- 1.10.40 For the purpose of planning, contractor shall furnish the estimated requirement of power (month wise) for execution of work in terms of maximum KW demand.
- 1.10.41 All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.
- 1.10.42 Crane operators deployed by the contractor shall be tested by BHEL before he is allowed to operate the cranes.
- 1.10.43 Upon completion of daily work, the contractor shall remove from the vicinity of work all scrap packing materials, rubbish, unused and other materials and deposit them in places to be specified by BHEL Engineer.
- 1.10.44 During the course of erection, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workmen like fitters, operators, technicians employed are not sufficient BHEL will induct required additional workmen to improve the progress and recover all charges incurred on this account including all expenses together with BHEL overheads from contractor's bills.
- 1.10.45 On completion of work, all the temporary buildings, structures, pipe lines, cables etc. that were constructed / erected by the contractor shall be dismantled and leveled and debris shall be removed as per instructions of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
- 1.10.46 DOCUMENTATION
 - 1.10.46.1 RECORDS TO BE MAINTAINED AT SITE:
 - 1.10.46.1.1 Record of Quantity of FREE / Chargeable items issued by BHEL must be maintained during contract execution. Also reconciliation statement to be prepared at regular intervals.
 - 1.10.46.1.2 The under mentioned Records/ Log-books/ Registers applicable to be maintained.
 - a. Hindrance Register.
 - b. Test Check of measurements.
 - c. Records of disposal of scraps generated during and after the work completion.
 - d. List of T&Ps and MMEs

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- 1.10.46.2 Other documents / records as specified in chapter XI -Progress of work in PART- I of Technical conditions of Contract Volume IA (Volume I Book I).
- 1.10.47 The works listed in the scope & schedule is only indicative and not exhaustive. To complete the scheduled work, the Bidder has to carry out other necessary works that are not covered in the scope.
- 1.10.48 The Contractor should engage sufficient number of experienced structural Welders, Gas Cutters, Grinders, Fitters, Riggers, Helpers and required numbers of supervisors to execute the works round the clock within the stipulated time period.
- 1.10.49 The contractor should engage sufficient number of groups at a time to carry out the work in parallel at various locations in order to complete the work at the earliest.
- 1.10.50 The contractor should deploy the workers who should be covered under EPF & ESI acts.
- 1.10.51 The Contractor should engage adequate no. of experienced / qualified Supervisors to follow-up the work, safety and mobilization of materials, etc. in every shift throughout the work period.
- 1.10.52 The Contractor should engage experienced Electricians with valid 'B' License throughout the work period at site.
- 1.10.53 The contractor, Workmen and Supervisors should have adequate knowledge, awareness of the safety practices to be followed and to comply the working at higher elevation up to 90 meter height.
- 1.10.54 All the workmen and supervisor should be issued PPEs and any workmen / supervisor found not wearing PPE at site, the contractor will be penalized and action will be taken as per the NLCIL rules.
- 1.10.55 The contractor should deploy sufficient workforce round the clock including Sundays and Paid Holidays within the stipulated period of work.
- 1.10.56 If any defects / deviation found out by BHEL/NLCIL in the works executed by the contractor during inspection, then the same should be rectified / repaired by the Contractor free of cost.

BIDDER'S SCOPE of T&P and consumables:

- 1.10.57 The following items with qty. (approximately) will be required and same have to be brought by the bidder:
 - 1.10.57.1 Necessary tools & tackles and consumables including chain pulley blocks, hydraulic jacks, scaffolding materials, winch / crane, grinding machines, welding machines, cutting sets, switch boards, etc.

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- 1.10.57.2 Power cables for Switch Boards, Grinding Machines, Welding Cables, Electrode Holders in sufficient quantity
- 1.10.57.3 Sufficient no. of Personal protective equipments like helmets, full body safety belts, goggles, mask, gloves, shoes etc.
- 1.10.57.4 The list of tool & tackles mentioned above are only indicative but not exhaustive. Any other material other than the above list, required for the completion of job in time.
- 1.10.57.5 All lifting / pulling tools & tackles and safety appliances should have valid test certificate from the competent authority.
- 1.10.58 Supervisor Charges: If supervisor not engaged by the contractor then it will attract Penalty of Rs. 750/- pershift.
- 1.10.59 Tools & tackles, lifting machines & Safety appliances that are used for the work or by the workmen should possess ISI mark and valid test certificate from the competent authority.
- 1.10.60 The Contractor should observe all safety rules and regulations in force and ensure that all necessary safety precautions are followed up strictly for the safety of workers engaged in the work.
- 1.10.61 The Contractor should engage adequate man power having appropriate skills with the approval of the BHEL & NLCIL officials to carryout and complete the works. Any extra time /over time engagement of the man power shall be the contractor's responsibility.
- 1.10.62 Wage rates applicable as per NLCIL guidelines shall be followed.
- 1.10.63 RATE OF WAGES / DA PAYABLE TO THE WORKMEN:
The contractor has to pay the rates of wages / DA as per NLCIL wages and any revision of rates of wages / DA from time to time. However, in case of any revision of rates of wages / DA notified during contract period, the contractor shall pay the same along with P.F. & ESI component for the various categories of labour component.
- 1.10.64 CONTRACT WORKMEN DEATH RELIEF FUND (CWDF):
 - 1.10.64.1 An amount equivalent to 0.1% (zero point one percent) of gross value of every bill payable (before statutory, non-statutory deductions) shall be deducted towards "Contract Workmen Death Relief Fund" (CWDF) from the contractors for the works carried out by the contractor. No provision has been made in the estimate towards the above deduction.
 - 1.10.64.2 Based on the modified DRF scheme, monthly contributions to the death relief fund of Contract Workmen shall be deducted by the Contractor Employers concerned @ Rs. 10/- from every contract workman engaged by Contractor Employer for the works in NLCIL from their salary /wages payable. In order to

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facilitate this, necessary deduction will be made from the bills of the Contractor employers based on Form - D (Attendance Register) & Form -B (Wage Register) Equal monthly contribution to the fund @ Rs.10/- per contract workman will be made by the Principal Employer NLCIL i.e. the Concerned Unit Head / Unit Accounts Centre.

1.10.65 CONTRACT WORKMAN AGE:

The contractor shall not engage workmen beyond 58 years and the Contractor shall also produce the required age proof for the workmen engaged by him, while applying for entry permit for first time

1.10.66 ESI & EPF:

The Contractor Employers shall be required to undertake the responsibility of remitting the contribution/ subscription etc., of the contract workman engaged by them towards EPF, ESI etc., (as applicable) and NLCIL as the principal employer, will ensure compliance under the relevant applicable statutes by verifying the remittance made by the Contractor Employers before releasing part / final bills.

1.10.67 BONUS:

The contractor shall ensure payment of minimum bonus of 8.33% of the annual wages to the contract workmen engaged by them for more than 30 days subject to the wages ceiling as provided under Payment of Bonus Act, 1965 and failure in this regard will be treated as violation of the terms of the contract.

1.10.68 SAFETY:

Personal protective equipments (PPE) like Helmet, Safety shoe, Goggles, etc. to be provided by the contractor and it is in the scope of the contractor.

1.10.69 WORKING AREA /CONDITIONS

1.10.69.1 The place of work is normally within the premises of the Plant / NLCI Limited, Neyveli-5.

1.10.69.2 The area of work/Factory is a production unit with mechanical, electrical equipments working and is a "Protected Area". Therefore entry of any personnel is restricted.

1.10.69.3 There may be space constraints for working in certain areas.

1.10.69.4 Since the Plant / equipment is in full operation, the working time and area may be regulated some times. The Contractor shall fully co-operate with NLCIL in this regard.

1.10.69.5 The work has to be executed at various heights and depths in the Plant ranging from minus 0 Meters to plus 90Meters.

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- 1.10.69.6 The Contractor should work in co-ordination and in close co-operation with other staff/ agencies working in the area.
- 1.10.70 WORK AREA PERMIT
- 1.10.70.1 The work site is inside industrial area of the Plant and the area of the work is restricted and entry into the area is admissible to pass-holders only. The Contractor shall employ male labourers to the maximum extent possible.
- 1.10.70.2 The permission of the BHEL & NLC India Ltd Engineer In-charge shall be obtained before commencing the work.
- 1.10.70.3 No employee of the Contractor should attempt to carry out the work inside or in the vicinity of any equipment even if it is at that time idle, unless and until any equipment is declared to be in Line Clear. In all such cases, the NLCIL Officers in-charge of the maintenance work involving contract must invariably obtain valid line clear permit from the operation staff before engaging any Contractor on the relevant work. The Contractor taking up any work inside the Plant would be solely responsible for untoward accidents to their workmen arising out of their failure to follow the "Safety Permit System".
- 1.10.70.4 All the Contractor's labourer and staff shall be issued a temporary photo permit of entry by the Security Officer in charge of the Plant and none without a photo pass shall be admitted in the Plant area. Each labourer or staff of the Contractor must carefully preserve the pass and produce it whenever demanded by any officer in the Plant.
- 1.10.70.5 The Contractor is required to furnish a list of workers who are in possession of valid passes/permits and required to be actually engaged by him with category of workmen every day before commencement of their work to enable the security men on duty at the gate to check and ensure bonafide entry. No person other those mentioned in the list shall be allowed or required to work in the respective work spots. If any person is found in any work spot, where the works of any other Contractor are being carried on, such person, shall until the contrary is proved, be deemed to have been employed by the Contractor whose works are in progress at that time. The Contractor should also furnish list of workmen to field staff before start of work. The Contractor shall arrange their supervisor to accompany their workmen while entering and leaving the Plant.
- 1.10.70.6 The Contractor shall not engage persons of doubtful integrity in order to avoid damage, pilferage and theft and have to own full responsibility for the omissions / misconduct of the employees/ persons engaged by him. If the Contractor or his men are found in possession of materials belonging to NLCIL or other Contractors, it shall be deemed to be theft and will be dealt with appropriately. The Contractor or his representative should exercise

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utmost control over their workmen for discipline and while using consumables like gas and electrodes to avoid misuse, theft and pilferage.

- 1.10.70.7 The Contractor shall not bring any personal vehicle either two wheeler or four-wheeler inside the Plant unless otherwise permitted.
- 1.10.70.8 The Contractor shall effectively control their workmen so as to confine only to their area of work and should not allow them to move around in other areas.
- 1.10.70.9 Usually working hours are limited to daytime only. In emergency cases to carry out the works during nights, it may be done so only with the specific prior permission of the General Manager of the Plant and work to be carried in the presence of the Supervisory Staff.
- 1.10.70.10 The Contractor shall comply with the security regulations of the NLCIL in the matter of entry, exit and the movement inside the premises of the Plant. The Contractor employer concerned should produce Police verification certificate regarding the character and antecedents of each workman proposed to be engaged by him/ them for carrying out the works in the agreement to the Unit HR department, for which duration exceeds 90 days.
- 1.10.70.11 The Contractor should issue plastic badges to all the workers employed by him and the badges should bear the name of the Contractor and SI. No. The Contractor should ensure that all the workers employed by him are wearing badges while at work.
- 1.10.70.12 If any workmen / supervisor is found in the work spot without any identity badge, the Contractor will abide by the instruction of the BHEL & site Engineer / NLCIL to send such person out of the Plant.
- 1.10.71 **ENGAGEMENT OF CHILD LABOUR / WOMEN & WORKMEN AGE**
 - 1.10.71.1 The Contractor should employ only adult workers i.e. persons who have completed 18 years of age.
 - 1.10.71.2 The Contractor should not employ women workers between 7 PM. and 6 AM.
 - 1.10.71.3 The Contractor shall not engage workers for more than one shift. If he is allowed to continue beyond normal working hours, he should be given time-off.
 - 1.10.71.4 The Contractor shall not engage workmen beyond 58 years and the Contractor shall also produce the required age proof for the workmen engaged by him, while applying for entry permit for first time.
- 1.10.72 **TOOLS & LIFTING TACKLES**
 - 1.10.72.1 All the tools & tackles, lifting equipments, safety devices etc shall conform to the latest ISI standards and shall be periodically tested and certified by the

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competent person approved by the Chief Inspector of Factories towards their fitness for use. The validity shall be current.

- 1.10.72.2 Whenever items like tools and the Plants are to be taken inside the Plant, the concerned Contractor shall submit a list of such items like tools and the Plants etc., in duplicate to CISF officer, of which one copy shall be retained by the CISF officer, and the other copy duly authenticated by the officer, shall be passed on to the concerned the Plant Engineer.

1.10.73 PROTECTION OF MONUMENTS – FOSSILS

If the Contractor during the course of execution of work finds any relic, antiquity, coins, fossils etc., he shall protect them and handover to NLCIL.

1.10.74 MEASUREMENTS

- 1.10.74.1 NLCIL's representative shall take measurement of work done, in the presence of the Contractor or his representative, and shall record them. The Contractor's signature shall also be obtained as a token of his acceptance of the measurement.

- 1.10.74.2 The Representative of NLCIL shall check the measurements recorded and certify for acceptance and payment.

- 1.10.74.3 The Measurement records shall be kept lodged with the NLCIL.

- 1.10.74.4 In the event of any dispute with regard to the measurement of the work executed, the decision of the Representative of NLCIL shall be final and binding on the Contractor.

- 1.10.74.5 The responsibility for the safety of the materials supplied by Contractor / NLCIL under the contract will rest with the Contractor till necessary measurements are recorded by the NLCIL Officers and the Contractor signs in the Measurement books in token of acceptance of measurements.

1.10.75 EMPLOYEE'S STATE INSURANCE ACT- 1948

- 1.10.75.1 The Contractor employer shall get himself registered under the ESI Act and obtain the ESI Code from the ESI Authorities. The ESI code so obtained after registration shall be furnished to the Plant immediately. The Contractor employer while disbursing the wages to the workers shall deduct 0.75% of the monthly wages from each of them towards the employee's contribution payable under the ESI Act.

- 1.10.75.2 The Contractor Employer shall arrange to remit to ESI Corporation at the rate of 4.0% of the monthly wages * consisting of 3.25% of wages * being Employer's Contribution along with the employee's Contribution at the rate of 0.75% of wages * already deducted as mentioned above, on or before 15th of every succeeding month. The Employer's contribution so remitted by the Contractor Employer will be reimbursed by the concerned Unit after verifying

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the claim of the Contractor Employer with reference to the Form - D (Attendance Register) and Form-B (Wage Register) provided that such reimbursement of Employer's Contribution does not arise, if the contract value has been arrived after taking into consideration of the employer's contribution in the work/ tender estimate.

(* for the purpose of calculating ESI, wage includes regular wages, Dearness Allowance (DA), OT wages, PH wages & Housing Assistance).

- 1.10.75.3 The Contractor Employer shall maintain all the statutory registers and records as required under the ESI Act, which shall be produced for inspection by the Unit Official/ESI Authorities. The Contractor Employer shall be responsible for filing periodical returns under the ESI Act besides remitting the contributions regularly.
- 1.10.75.4 The Contractor Employer shall be liable for the legal consequence in the event of noncompliance of the provisions of the ESI Act.
- 1.10.75.5 The Contractor should submit the following documents at the time of proposed initial engagement of the workman. Entry permit will be issued only upon fulfilling the following:
 - 1.10.75.5.1 Duly filled in Form-1 (Declaration Form) in respect of workmen to be deployed.
 - 1.10.75.5.2 Contractor should ensure deployment of workmen only after obtaining ESI Registration Number (IP Number)/ Temporary I.D. Certificate from ESI for each and every workmen covered under the Act.
- 1.10.76 INSURANCE (For workmen/Supervisor not covered under ESI Act.)
 - 1.10.76.1 The Contractor shall take Group Insurance cover for the workmen to be engaged against all risks and furnish a Photocopy for getting entry pass and also at the time of claiming First monthly bill. The BHEL/NLC India Ltd shall not be responsible for any loss damage, injury caused to any property, man power.
 - 1.10.76.2 The premium towards Group insurance shall be included in the price/rate quoted.
 - 1.10.76.3 The Contractor shall, however follow with the Underwriter and settle the claims if any.
 - 1.10.76.4 The Contractor shall insure his workmen against accident and injuries while at work as required by the relevant rules and it shall be the obligation of the Contractor to pay compensation to any of his workers as per the Employee Compensation Act. No responsibility will rest on the BHEL/NLCIL in this regard.

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- 1.10.77 The Contractor shall follow the provisions of ESI Act, 1948 and Employee Compensation Act, 2010 as applicable from time to time.
- 1.10.78 EMPLOYEE'S PROVIDENT FUND AND MISC., PROVISIONS ACT- 1952
- 1.10.78.1 Contractor should submit copies of the following documents in respect of the workman proposed to be deployed by them for the works in respect of their contract agreement at the time of seeking entry permit (i.e., at the time of initial deployment).
- 1.10.78.1.1 Details of savings bank accounts held by the contract workmen in the bank having IFSC code along with the first page of the bank pass book containing all the details.
- 1.10.78.1.2 Residence Proof of workman (Copy of anyone of the following):
- AADHAAR card
 - Family card
 - Driving License
 - Voter I.D.Card
 - Telephone Bill
 - PAN Card etc.
- 1.10.78.1.3 Duly filled in Nomination Form-II under EPF & MP Act, 1952 obtained from the workman.
- 1.10.78.1.4 Duly filled in Form-11 (Declaration) under EPF & MP Act, 1952 obtained from the workman.
- 1.10.78.2 The Contractor should arrange to obtain UAN number under EPF & Misc Provision Act, 1952 for every workman deployed by him.
- 1.10.78.3 Contractor should arrange Form-23(Annual Slip) under EPF & MP Act, 1952 to his workmen.
- 1.10.78.4 Under Employees Provident Fund and Miscellaneous provisions Act, 1952 and as per the G.O. notification No. S35012/7/90 SS.II from 01.11.1990 (the date of effect of the amendment), every employee employed in or in connection with the work of a Factory or establishment to which the scheme applies shall be enrolled as EPF member from the date of joining the factory or establishment. The rate of subscription/contribution and other charges shall be remitted by the Contractor as per the rules stipulated under EPF and MP Act, 1952 and with amendments if any.
- 1.10.78.5 In case no bill is claimed by the Contractor on monthly basis, notwithstanding anything contained in the terms of contract, as to the disbursement of payment to the Contractor, the Contractor shall remit the amount of EPF subscription, contribution including other applicable charges and penal

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damages if any in respect of all the contract workers engaged, as calculated by Unit HR on or before 10th of every month to the Account Centre/ The Plant. In the event of default by the Contractor in this regard, NLCIL shall be at liberty to initiate appropriate action including termination of contract at the risk & cost of the Contractor.

1.10.78.6 The Contractor should pay contribution at the rate of 12% of wages and deduct 12% of wages as subscription from workmen towards EPF and remit the same to EPF organisation within the stipulated date and produce proof for the same along with statements to HR department.

1.10.79 CONTRACT WORKMEN DEATH RELIEF FUND (CWDF)

1.10.79.1 An amount equivalent to 0.1% (zero point one percent) of gross value of every bill payable (before statutory, non statutory deductions) shall be deducted towards "Contract Workmen Death Relief Fund" (CWDF) from the Contractors for the works carried out by the Contractor. No provision has been made in the estimate towards the above deduction.

1.10.79.2 Based on the modified DRF scheme, monthly contributions to the death relief fund of Contract Workmen shall be deducted by the Contractor Employers concerned @ Rs. 10/- from every contract workman engaged by Contractor Employer for the works in NLCIL from their salary /wages payable. In order to facilitate this, necessary deduction will be made from the bills of the Contractor employers based on Form - D (Attendance Register) & Form - B (Wage Register). Equal monthly contribution to the fund @ Rs.10/- per contract workman will be made by the Principal Employer NLCIL i.e. the Concerned Unit Head / Unit Accounts Centre.

1.10.80 PAYMENT TO CONTRACT WORKMEN

1.10.80.1 All payments to the workmen deployed by the Contractor employer including wages, Exgratia, bonus etc, shall be made only through banks in e-payment mode (online) into the bank accounts maintained by the concerned workmen. The Contractor shall submit wage register in Form -B (Wage Register). under the Contract Labour (Regulation and Abolition) Act, 1970 and the CLRA (Central) Rules, 1971 to the concerned site authorities responsible for executing the contract agreement containing a certification that "The amount shown in column No..... of the Register of wages in form-B have been duly credited into the bank account maintained by the concerned workmen on" and enclosing self-certified copy of the proof of remittance of the said amount into the bank account of the concerned workmen.

1.10.80.2 In case of non-payment of wages to the contract workmen within the stipulated date mentioned in the Payment of Wages Act, the following penalty actions will come into effect:

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- 1.10.80.2.1 Recovery of an amount as a penalty equal to 10% of the total wage bill of the contract workmen against every such payment made through HR Department from the bills payable to the Contractor
- 1.10.80.2.2 The security Deposit of the Contractor is liable for Forfeiture for that particular agreement, in case of repetitive non-payment of wages to the contract workmen engaged by the Contractor.
- 1.10.80.2.3 The contract Agreement is liable for Termination at the risk and cost of the Contractor in case the Contractor fails to comply with the above provision in the same agreement period for the second time and the difference in cost incurred by NLCIL for carrying out the remaining work through other agency will be recovered from the defaulting Contractor from the bills payable to the Contractor.
- 1.10.80.2.4 If the Contractor fails to make payment of wages in the two agreements or more in the same unit as indicated above, the Contractor will be blacklisted for two years in that unit following the prescribed procedure.

1.10.81 SPECIAL DEDUCTIONS

Any levy on the Contractor's bills specified by either the BHEL/NLCIL or any Act of the Government in the period of contract will be recovered from the bills, if found applicable.

1.10.82 DEFECTIVE WORK

- 1.10.82.1 If due to the use of inferior quality of materials or due to poor workmanship, the work is stopped and assigned to some other agency and if the total cost of completing the work exceeds the contract amount, such excess amount will be recovered from the Contractor. If the cost is lower, the benefits will accrue to the NLCIL and the Contractor will have no claim whatsoever for this benefit.
- 1.10.82.2 If the work is not satisfactory to the NLCIL authorities, additional labour and material cost should be borne by the Contractor for the work asked to be carried out again.
- 1.10.82.3 Defective work if any, carried out shall be rectified to the full satisfaction of the NLC India Ltd., by the Contractor at his own cost.
- 1.10.82.4 Where there are claims against third parties in connection with the Contract for any loss, damage, injury etc., the Contractor shall at all times follow the claims to the finality and pass on the proceeds to the NLC India Ltd., wherever applicable.
- 1.10.82.5 The Contractor shall duly indemnify the NLC India Ltd., against any such loss, damage, injury.

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- 1.10.82.6 In the course of execution of the contract by the Contractor, if any damage occur to the materials, equipments, water supply, power supply, power supply connections, fittings or any other installations, such damages will be recovered from the Contractor of the cost prices of the articles damaged, plus other cent age charges.
- 1.10.83 TRANSPORTATION
- 1.10.83.1 Animal drawn vehicles shall not be used for transport of any material.
- 1.10.83.2 Normally no vehicle of the Contractor shall be permitted to enter the site with materials from 6 PM to 6 AM.
- 1.10.84 PRESERVATION OF PEACE
- The Contractor shall take adequate precaution and use his best endeavour to prevent and avert any riotous or any unlawful action by workers engaged by him and preserve peace all the times.
- 1.10.85 Contractor who employed 20 (or) more workmen on any day of the preceding 12 months shall obtain license. The license so obtained shall be renewed and kept valid throughout the agreement period.
- 1.10.86 An employment card in Form XIV of Contract Labour (Regulation & Abolition) Act, 1970 shall be issued to each contract worker by the Contractor concerned. Contractors shall bring in workmen to the work spot on days of work after furnishing to CISF the list of workmen being brought into work spot. The list shall also contain the name of the Contractor, description of work and bear the signature of the Contractor / supervisor. A copy of the list has to be sent to HR/ Unit representative.
- 1.10.87 Every Contractor shall maintain the following registers under the Tamil Nadu contract labour (R&R) Rules 1975
- Register of contracts in Form-XII
 - Register of workmen employed by Contractor in Form-A (Employee Register)
 - Employment card in Form-XIV
 - Muster Roll in Form-D (Attendance Register)
 - Register of wages in Form-B (Wage Register)
 - Wage slip in Form-C (Register of Loans & Recoveries)
 - Register of deductions for damages/loss in Form-C (Register of Loans & Recoveries)
 - Recoveries)
 - Register of Fines in Form-C (Register of Loans & Recoveries)
 - Register of Advance in Form-C (Register of Loans & Recoveries)

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➤ Register of over time in Form-B (Wage Register)

- 1.10.88 The Contractor is instructed to produce the Registers maintained by them before 10th of every month to the Unit HR. Failure to comply with the statutory provisions shall entitle prosecution by the statutory authorities besides blacklisting the Contractor.
- 1.10.89 The Contractor shall cover all his/their workmen under ESI Act, 1948 and Employee Compensation Act, 2010 as applicable from time to time. Failure to comply with the statutory provisions will entitle prosecution by the statutory authorities besides blacklisting of the Contractor.
- 1.10.90 The Contractor shall issue a service certificate to the workman who leaves his employment in Form-XV.
- 1.10.91 If any contract worker is employed on a Paid Holiday declared as such by the NLCIL, he shall be paid either double ordinary rate of wages or single ordinary rate plus a compensatory holiday for one day with wages at the discretion of workmen.
- 1.10.92 The Contractor shall pay the prevailing rate of wages as notified by NLCIL from time to time.
- 1.10.93 At the end of each month, the Contractor shall submit the attendance register, which will be countersigned by Executive authorized, after due verification of the correctness of the contents.
- 1.10.94 The Contractor shall make payment to contract workmen working under his control on or before 7th of every month and the payments shall be made through e-payment to his bank account. The Contractor shall produce the wages payment acquaintance (Form – D (Attendance Register) & Form -B (Wage Register)) on or before 10th of every month to the HR Department without fail. The Contractor shall keep and maintain all the statutory registers as prescribed in various statutes applicable as indicated in the agreement at the place of work to ensure access for inspection by the statutory authorities.
- 1.10.95 ENVIRONMENT
- 1.10.95.1 The Plant has been certified for ISO 9001, ISO 14001 and OHSAS 18001 Management Systems. It is mandatory to comply with all applicable Environmental and other Legislations.
- 1.10.95.2 The Contractor shall comply with the Environment Act 1986 and associated rules with latest amendments if any. The Contractor during the execution of work shall ensure optimal usage of resources and to dispose the waste materials as specified by company procedures.
- 1.10.95.3 The Vehicle brought inside shall comply with Motor Vehicle Act 1988 and also possess valid 'Pollution under Control' Certificate. The vehicle shall be maintained as per the user's instruction and transportation of waste materials

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- including waste oil and batteries shall be disposed as per the relevant Govt. Rules.
- 1.10.95.4 The Contractor shall make aware the concerned drivers about hazardous materials and to train the drivers to handle the emergency situation during transportation.
- 1.10.95.5 The Driver should Posses "TREM Card" (Transport Emergency Card) with him. Contractor's Vehicle should have Noise Level below the criteria as per STANDARD.
- 1.10.95.6 Ash tippers should be washed / cleaned before delivery to minimise dust pollution.
- 1.10.95.7 The Contractor shall ensure for ZERO spillage of Oil / Chemical in their respective area of work. Oil choked waste /any hazardous materials/waste materials shall not be thrown inside the Plant Premises including Toilets to maintain good sanitary conditions.
- 1.10.95.8 NLCIL has banned the usage of plastic carry bags inside Neyveli Township. The Contractor/ Supervisors /Workmen shall not bring the Plastic Carry bags inside the industrial premises also.
- 1.10.95.9 Handling of fire prone materials and explosive gases are involved in the industrial premises and so Smoking/Liquoring/entry of person under the influence of intoxicants are prohibited.
- 1.10.95.10 The Contractor should ensure that their workmen working inside the Plant shall have the awareness on emergency preparedness plan and assembly points. The Contractor shall send their workmen to the safety / environmental protection classes arranged by NLCIL. After getting guidelines from safety officer / Environmental (ISO) Dept., the Contractor shall explain their workmen about potential hazards, accidents, emergencies, environmental impact and explain all precautions to be taken.
- 1.10.95.11 Material Safety Data Sheet (MSDS) should be pasted on all the vehicles carrying Chemicals. MSDS shall be supplied along with the Chemicals. Also the Contractors shall ensure that their workmen use the MSDS guidelines for storage, handling, transportation of hazardous materials as applicable
- 1.10.95.12 While transporting the debris from the Plant to outside in Contractor's vehicles, it shall be properly covered to avoid any spillage and the Contractor should ensure that only the debris is transported. The Contractor will be held responsible if any other materials are found in the vehicles, along with the debris.
- 1.10.95.13 The Contractor shall notify well in advance to the site in-charge of his intention to bring any container filled with liquid or gaseous fuel, explosives or petroleum substance or such chemicals which may involve hazards. Where it

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is necessary to provide and /or store petroleum or petroleum mixtures and explosives, the Contractor shall follow the instructions in accordance with the rules and regulations laid down in Petroleum Act 1934, Explosives Act 1884 with amendments and Petroleum and Calcium Carbide Manual prescribed by the Chief Inspector of Explosives of India. All such storage shall have prior approval of the site-in-charge.

1.10.95.14 Contractor should clean the site after completion of work and dispose the debris to the places as indicated by NLCIL officials.

1.10.95.15 The responsibility for maintaining the environment clean and good House Keeping in their respective working area rests on the Contractor and if any Workmen or Supervisors of the Contractor is not observing the above stated instructions, suitable penal action will be imposed on the Contractor.

1.10.96 TERMINATION OF SERVICES OF ANY WORKER

1.10.96.1 BHEL/The NLC India Ltd., may direct the Contractor to dispense /discharge with the services of any worker engaged, found to conduct himself against the interest of work and interest of the NLC India Ltd. Upon such direction, the Worker shall be stopped from the work and entering into NLC's premises, immediately.

1.10.96.2 The Officers of the NLCIL have the right to request the Contractor to remove such of those workers whom they consider incompetent and undesirable for any particular job.

1.10.97 UN-FAIR LABOUR PRACTICES

The contractor should furnish an undertaking (as per format in Annexure-B) that they shall not indulge in any unfair labour practices viz., collecting money for employment, collecting back certain amount of money after disbursing of wages etc., from Contract Workmen / Supervisors and if found indulged in any such unfair labour practices by any contractor employer, then they are liable for Banning from participating in the NLCIL's tenders.

1.10.98 The scaffolding required for the work at various stages shall be provided for by the Contractor himself without any extra claim unless otherwise stated.

1.10.99 It shall be the responsibility of the Contractor to see that departmental canteen facilities are not utilized by his workmen. He has to make his own arrangements to provide refreshment for his workmen.

1.10.100 The Contractors while submitting the daily labour report should specify the category of workmen engaged by them. A copy of DLR shall be submitted to unit HR every day.

1.10.101 Canvassing in any form is strictly prohibited.

1.10.102 **SECURITY:**

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The Contractor and the Workmen shall maintain absolute secrecy on all technical issues and shall not use them elsewhere.

- 1.10.103 The work shall be carried out as per the directions of the Executives of BHEL & NLC India Ltd.
- 1.10.104 Whenever materials are to be taken inside the Plant, the concerned Contractor shall submit a list of such items like tools and the Plants and materials etc., in duplicate to Security Officer, of which one copy shall be retained by the Security Officer, and the other copy duly authenticated by the officer, not less than the rank of Asst. Inspector of Security Force shall be passed on to the concerned the Plant Engineer.
- 1.10.105 The work shall be carried out carefully so as to avoid causing any stain or damage over the door, window, ventilator, electrical/mechanical equipments and other machinery etc., and stain if any caused shall be thoroughly cleaned to the satisfaction of the Executives of NLC India Ltd.
- 1.10.106 Entry at the Plant Main gate will only be permitted to those contract personnel who posses safety shoes, helmets etc.
- 1.10.107 The contractor employer shall ensure deployment of 50% of his personnel for the work from among Project Affected Persons (PAP) subject to suitability. The names of such Project Affected Persons (PAP) who are eligible for such engagements are available with Land Department, NLCIL

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VOLUME-IA PART –I CHAPTER -VIII MATERIAL HANDLING AND SITE STORAGE

The scope of the work will comprise of but not limited to the following:

- 1.12.1 Loading at BHEL/Customer stores and storage yard, transport to site, unloading at site/working area of equipment placement on respective foundation/location, fabrication yard, pre-assembly bay or at working area are in the scope of work. The scope includes taking materials / Equipments from customer stores / storage yard also. Contractors Quoted / Accepted rate shall be inclusive of the same. Required cranes, tractors, trailer or trucks/ slings/ tools and tackles/labour including operators Fuel lubricants etc for loading & unloading of materials will be in the scope of contractor.
- 1.12.2 The equipments / materials from the storage yard shall be moved in sequence to the actual site of erection /location at the appropriate time as per the direction of BHEL Engineer so as to avoid damage/loss of such equipment at site.
- 1.12.3 Sometimes it may become necessary for the contractor to handle certain unrequired components in order to take out the required materials. The contractor has to take this contingency also into account. No extra payment is payable for such contingencies.
- 1.12.4 Materials shall be stacked neatly, preserved and stored in the contractor's shed/work area in an orderly manner. In case it is necessary to shift and re-stack the materials kept at work area/site to enable other agencies to carry out their work, same shall be done by the contractor at no extra cost.
- 1.12.5 All pipe and tube ends shall be covered with plastic caps or will be closed with wooden plugs as the case may be.
- 1.12.6 The contractor shall provide any fixtures, concrete blocks & wooden sleepers, which are required for temporary supporting of the components at site.
- 1.12.7 All the dismantled materials shall be properly lowered to the ground. All the dismantled materials from site shall be cleared immediately and should be shifted to scrap yard/store yard as per the instructions of BHEL/customer Engineer in-charge. All dismantled materials shall be stacked/stored/disposed (in case of insulation etc.) as per the instructions of BHEL/customer Engineer in-charge.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART – I CHAPTER- IX ERECTION

The scope of the work will comprise of but not limited to the following:

- 1.13.1 Contractor to ensure safe execution of work without damaging existing equipment like APH, Economizer, FD fan, PA fan, ID fan and other equipments etc.,
- 1.13.2 The work space is to be cleaned from generated scrap on daily basis.
- 1.13.3 If heavy vehicular movement is required over underground trench, then the trench covers are to be strengthened adequately to prevent any mishap.
- 1.13.4 If any damage occurs to the customer property during execution of work, then the same is to be repaired/replaced by contractor as per instruction of BHEL engineer in-charge.
- 1.13.5 Contractor has to use 24V inspection lamp along with proper guard in working area.
- 1.13.6 Contractor is required to return the balance unusable material to customer as per the direction of BHEL engineer in-charge.
- 1.13.7 Quality of workmanship shall be in accordance with modern engineering practice and contractor will be responsible for overall quality and workmanship.
- 1.13.8 In the case of structural members in certain cases, the raw material will be supplied in random lengths and the contractor will have to make up the length / prepare the edges to suit the matching profiles, weld / bolt connect the joints at no extra cost.
- 1.13.9 Any other systems / Components which are integral to repair of girders supplied by BHEL manufacturing units are also to be erected and welded by the contractor within the quoted / accepted tonnage rate / lump sum value.
- 1.13.10 Certain extra lengths of structures are provided as erection allowance and the same have to be cut/adjusted to suit the site conditions and layouts or certain small lengths may have to be added for adjustments to suit the site conditions. For any mismatch while matching the joints, cutting, adjusting, re welding, additional joints should be done by the contractor to match site conditions without any extra payment.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

- 1.13.11 All supports and anchors etc., shall be installed as per drawing to obtain reliable and complete installation as per instructions of BHEL Engineer. Normally supports are issued in running meters. Any additional supports as called for by BHEL Engineer shall be fabricated by the contractor and provided at no extra cost. However, the raw material required for fabrication of such supports shall be supplied by BHEL free of cost.
- 1.13.12 HSFG Bolts are to be tightened by turn of nut method/Torque Wrench, as per the instruction of BHEL Engineer. The bolted joints shall be jointly checked by BHEL/Customer and contractors personnel for the required tightness and retightened wherever necessary. The tightened bolts shall be identified by color paints. Facility for random checking with calibrated Torque Wrench shall also be provided by contractor.
- 1.13.13 The temporary structures/items welded to permanent members/pipes are to be cut and removed without any damage. Any damage so to be made good by the contractor at his cost.
- 1.13.14 Before lifting the heavy components, soft materials like gunny bags to be used while lashing the rope to avoid dents, rubbing marks etc. The capacity, number of sheave pulleys, size of the rope, guide pulley locations are to be decided at site with respect to the capacity and positioning of the winch. The end caps provided at shop for various stubs are to be removed during final fit up only.
- 1.13.15 Prior to erection of any components inspection to be done for any foreign materials and damages and they are to be removed/attended as per the instructions of BHEL engineer. The fixing / welding of all the items for completion of works will be contractor's responsibility even if the
- i) Product groups under which these items are not specifically indicated in the Tender Specification.
 - ii) Items are supplied by an agency other than BHEL
- 1.13.16 All the equipments /material to be taken inside the plant building shall be cleaned thoroughly before taking them inside and erect
- 1.13.17 Wherever equipments are supplied in pre-fabricated assembled packages, there may be necessity to make minor changes, including strengthening by additional welds. This shall be treated as part of the contractor's scope.
- 1.13.18 Additional platforms of permanent nature for approaching different equipments, as per site requirement which may not be indicated in drawings shall be

TECHNICAL CONDITIONS OF CONTRACT (TCC)

fabricated and installed by the contractor. The material required for platform will be supplied by BHEL free of cost.

- 1.13.19 Wherever support materials, anchor bolts etc., are not received from manufacturing unit in time to suit the erection schedule, contractor shall erect the system on temporary supports to ensure the progress of work. The required structural steel materials will be issued on free of charges by BHEL, either from scrap/spare materials. The same shall be removed and returned to BHEL store after erection of permanent supports.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART – I CHAPTER - X

PROGRESS OF WORK

The scope of the work will comprise of but not limited to the following:

- 1.14.1 Contractor is required to draw mutually agreed erection programs in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed program and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
- 1.14.2 Progress review meetings will be held at site during which actual progress during the day vis-a-vis scheduled program shall be discussed for actions to be taken for achieving targets. Contractor shall also present the program for subsequent day. The contractor shall constantly update / revise his work program to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of nonconformities.
- 1.14.3 The contractor shall submit daily progress reports, manpower reports, materials reports, consumables (gases / electrodes) report, T&P availability report and other reports as per Performa considered necessary by the Engineer.
- 1.14.4 The manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.
- 1.14.5 During the course of erection, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workmen like fitters, operators, technicians employed are not sufficient BHEL will induct required additional workmen to improve the progress and recover all charges incurred on this account including all expenses together with BHEL overheads from contractor's bills.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART – I CHAPTER - XI WELDING

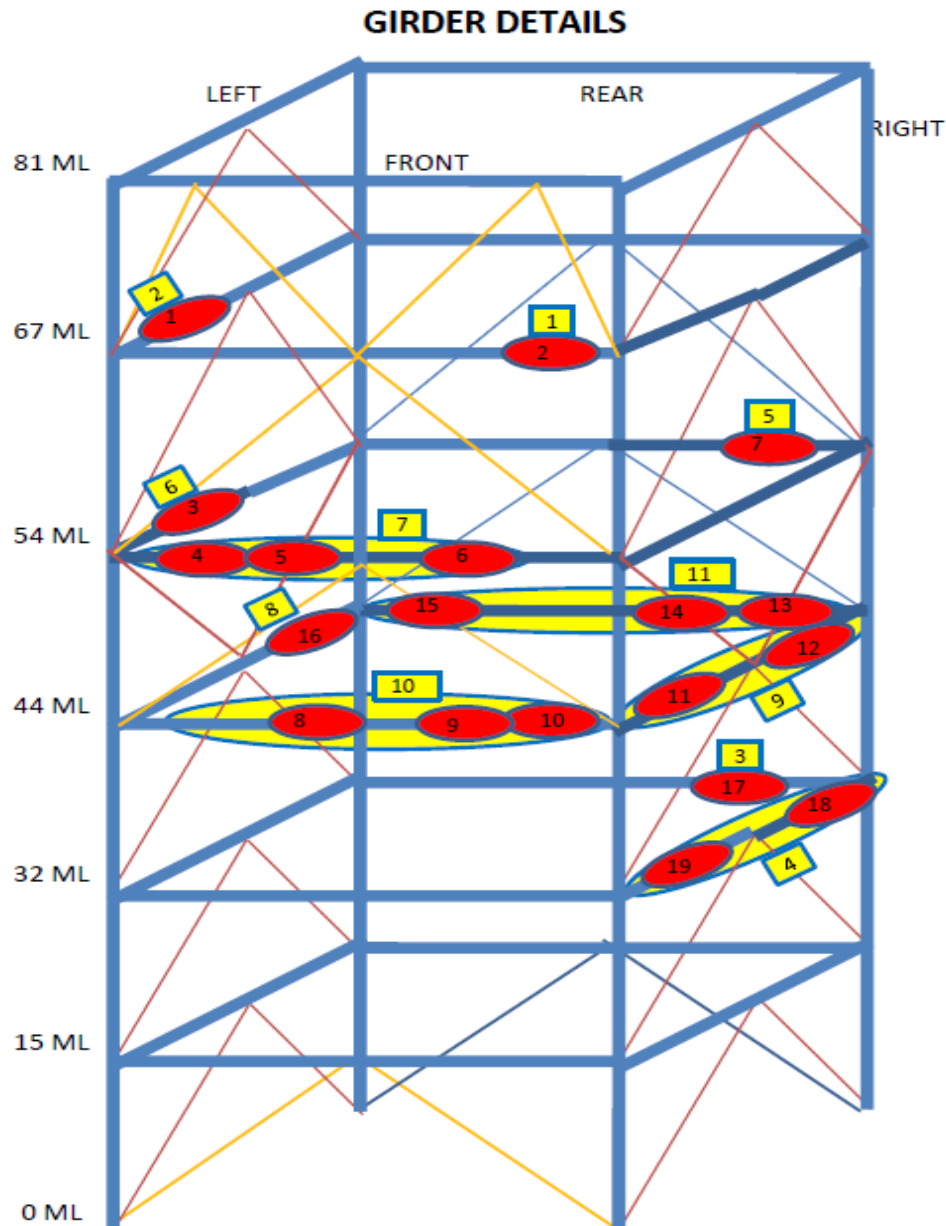
The scope of the work will comprise of but not limited to the following:

- 1.15.1 Qualified welders are required to be deployed for welding works.
- 1.15.2 Consumable (welding electrode) type to be utilized is as mentioned in the erection drawing and instruction of BHEL engineer in charge.
- 1.15.3 All welders including tack welders, structural and high pressure welder shall be tested and approved by BHEL Engineer before they are actually engaged on work even though they may possess a valid certificate. BHEL reserves the right to reject any welder if the welder's performance is not found to be satisfactory. The contractor shall maintain the records of qualification and performance of welders. BHEL Engineer will issue all the welders qualified for the work, identity card. The welder will keep the same with him at work place at all times. He may be stopped from work if he is not found in possession of the same.
- 1.15.4 Engineer may stop any welder from the work if his performance is unsatisfactory for any technical reason or if there is a high percentage of rejection in the joints welded by him. The welders having passed qualification tests does not absolve the contractor of contractual obligation to continuously check the welder's performance.
- 1.15.5 Faulty welds caused by the poor workmanship shall be cut and re-welded at the contractor's expense. The Engineer prior to any repair being made shall approve the procedure for the repair of defective welds. After the repair has been carried out, the compliance shall be submitted to the quality engineer.
- 1.15.6 All expenses for testing of contractor's welders including destructive and Non-destructive tests conducted by BHEL at site or at laboratory shall have to be borne by the contractor only. Limited quantity of tube and pipe material required for making test pieces will be supplied by BHEL free of cost.
- 1.15.7 Only BHEL approved electrodes and filler wire will be used. All electrodes shall be baked and dried in the electric electrode-drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot.
- 1.15.8 The contractor shall also be equipped for carrying out other NDT like RT/UT/LPI /MPI / Hardness test etc. as required as per welding schedules / drawings within the finally accepted price / rates.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART -I CHAPTER- XII DRAWINGS

The following sketch showing suggested sequence for repair work of girders in Unit no. 5, NLC TPS II for reference purpose.



- 1) Repair work shall be done on one beam at a time.
- 2) Girders shall be repaired based on the sequence number highlighted in yellow colour above.
- 3) Locations where flanges/webs are opened out shall be repaired 1st, followed by correcting the bulged locations.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

VOLUME-IA PART – II CHAPTER 1

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

SI No: 1

Clause 4.1.11 of SCC is deleted.

SI 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 Rev01) enclosed.

Chapter IX Clause 9.1.1 to 9.1.25 stands deleted.

Chapter IX Clause 9.2 to 9.62 stands deleted.

SI 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.

SI No: 4.

The EARNEST MONEY DEPOSIT (EMD) – Not applicable for this tender.

SI No: 5

SECURITY DEPOSIT – Already covered in NIT.

SI No: 6

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

Penalty for Intermediate Milestones - not applicable for this tender.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

SL No: 8

OVERRUN COMPENSATION (ORC) - ORC - not applicable for this tender.

SI No: 9

Interest Bearing Recoverable Advances- not applicable for this tender.

Sl. No: 10

Void

SI No: 11

PRICE VARIATION COMPENSATION (PVC) - PVC is not applicable for this tender.

SI 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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 short- closure 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 enclosed in Vol 1A Part II Chapter 11. 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 enclosed in Vol 1A Part II Chapter 11 from

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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, 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.

SI No: 13:

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.

SI No: 14

Monthly Performance Evaluation of Contractor– Not applicable

SI No: 15

Performance Evaluation of Contractor– Not applicable

SI No:16

Retention Amount - Not applicable

SI No: 17

Existing format for Integrity Pact, as available in Volume ID Forms and procedure stands Deleted. Revised Format is enclosed in NIT

SI 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 Chapter-09, Part-II of Volume-IA Technical Conditions of Contract.

SI 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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.

Sl.No. 20

The following clauses of General Conditions of Contract (GCC), Special Conditions of Contract (SCC) and Forms & Procedures are Not Applicable for this tender.

GCC

- 2.7.9 – Liquidated Damages,
- 2.10 – Time of Completion,
- 2.11.2-2.11.4, 2.11.6 – Extension for Time of Completion,
- 2.12 – ORC,
- 2.13 – Interest Bearing Recoverable Advance,
- 2.14- Quantity Variation,
- 2.16- Supplementary Items,
- 2.17 – PVC,
- 2.24 – Performance Guarantee for Workmanship.

Index for Formats

Sl.No.	Description	No.of Pages
01	DECLARATION BY BIDDER FOR PRICE OPENING THROUGH REVERSE AUCTION	01 Pages
02	DECLARATION BY BIDDER REGARDING NIL INSOLVENCY PROCEEDINGS	01 Pages
03	Claim for refund of security deposit	02 Pages
04	Request for issuance of No Dues	01 Pages
05	No Dues Certificate format	01 Pages
06	Check list to be submitted with each running bill	02 Pages
07	HR Format	01 Pages
08	Form 36B	01 Pages
09	PROFORMA OF BANK GUARANTEE (in lieu of SECURITY DEPOSIT)	03 Pages
10	Check list to be submitted with tender	01 Pages
11	Integrity Pact Agreement	06 Pages

**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,

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

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)

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

CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR

I/We have no claim or demand outstanding against BHEL for 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.....dated) and 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-PSSR, SAS Secunderabad
CHECK LIST TO BE SUBMITTED WITH EACH RUNNING BILL

Brief Description of Work :			Name of The Agency :		
Work Order Ref.			RA Bill No. & date :		
Sl.No.	DESCRIPTION	Check list for 30% invoice (Tick in the box)	Check list for 60% invoice (Tick in the box)	Check list for final 10% invoice (Tick in the box)	Remarks
1) Documents to be submitted by the Contractor with Invoices					
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	GST remittance Proof to be submitted				
1.4	Contractor signed in M-Book with "Measurement accepted" with stamp.				
1.5	Submitted Supporting Doc-Labour License Note: Labour License Application with 30% bill & Labour License with 60% bill to be submitted.			Not Applicable	
1.6	Submitted Supporting Doc-Wage Sheets	Not Applicable			
1.7	Submitted Supporting Doc-PF	Not Applicable			
1.8	Submitted Supporting Doc-ESI/Insurance	Not Applicable			
1.9	Submitted Supporting Doc-HR Format	Not Applicable			
1.10	Submitted 36B Format (Statement for Wages and PF for the month) enclosed	Not Applicable			
1.11	Submitted Work commencement letter		Not Applicable	Not Applicable	
1.12	Submitted No dues certificate	Not Applicable	Not Applicable		
1.13	Submitted No further claims	Not Applicable	Not Applicable		
1.14	Any additional works claims pending	Not Applicable	Not Applicable		

Note :

- 1) Above details are to be filled by the contractor with each running bill, checklist to be signed and to be submitted in indexed form alongwith invoice.
- 2) If the contract period has expired during execution period, vendor to take up with resident engineer for initiating Time extension proposal. 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.
- 3) With out the completed check list, invoices are liable to be returned to the contractor.
- 4) Almost all our work orders for SAS Jobs are having Payment split of 30%, 60% and 10% (Final Bill) to facilitate regular cash flow to vendors. All the vendors and resident engineers to ensure that Invoices are raised accordingly to reduce the cycle time for processing of the Bills. Final 10% Bill must be submitted separately unless otherwise specified in Work order.

Signature of contractor

Sl.No.	DESCRIPTION	Check list (Tick in the box)	Remarks
2) To be filled by BHEL Resident Engineer/Resident Manager			
2.1	To ensure the compliance of all the points listed at Sl. No. 1 above		
2.2	Ensure Invoice is as per the WO payment terms. 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.		
2.3	If there is any delay in completion of works w.r.t work order completion period, Time extension proposal should be initiated. Proactive action should be taken in this regard to avoid delay in processing of bills.		
2.4	RAB No. & WO Ref. to be certified in M-book.		
2.5	Certification on back side of original invoice.		
2.6	Claim generated and signed by Resident Engineer & Site In-charge.		
2.7	Entry to be made in Payables Management System (PMS) & acknowledgment number generated in PMS to be mentioned in the claim generated.		
BHEL Resident Engineer/Resident Manager			

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 SENT/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	AVAIALBLE/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_____ 2016, have all been covered under EPF & MP Act 2852 and the contributions in respect of them for the month of _____ 2016 have been remitted by me/us under Code No.TN/_____ maintained at _____ RO/SRO on _____

DATE:

SIGNATURE OF THE CONTRACTOR

CHECK LIST TO BE SUBMITTED WITH TENDER

01	Name and address of the Tenderer		
02	Details about type of the Firm/Company		
03(a)	Details of Contact person for this Tender: Name : Mr. / Ms. Designation: Telephone No/ Mobile No: E-mail ID:		
03(b)	Details of alternate Contact person for this Tender: Name : Mr. / Ms. Designation: Telephone No/ Mobile No: E-mail ID:		
04	EMD	Not applicable	
05	Validity of Offer	As per NIT	
		Applicability (by BHEL)	Bidder Reply
06	Whether the format for compliance with PRE QUALIFICATION CRITERIA is understood and filled with proper supporting documents referenced in the specified format	Applicable	Yes/No
07	Audited profit and Loss Account for the last three years	Applicable	Yes/No
08	Copy of PAN Card, GST Certificate, PF & ESI Registration.	Applicable	Yes/No
09	Whether all pages of the Tender documents including annexures, appendices etc are read understood and Signed	Applicable	Yes/No
10	Integrity Pact	Applicable	Yes/No
11	Declaration by Authorized Signatory	Applicable	Yes/No
12	No Deviation Certificate	Applicable	Yes/No
13	Declaration confirming knowledge about Site Conditions	Applicable	Yes/No
14	Declaration for relation in BHEL	Applicable	Yes/No
15	Non-Disclosure Certificate	Applicable	Yes/No
16	Bank Account Details for E-Payment	Applicable	Yes/No
17	Capacity Evaluation of Bidder for current Tender	Not Applicable	Yes/No
18	Tie Ups/Consortium Agreement are submitted as per format	Not Applicable	Yes/No
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable	Yes/No
20	Analysis of Unit rates	Applicable	Yes/No

NOTE:

1. STRIKE OFF 'YES' OR 'NO', AS APPLICABLE.
2. For Sl. No.11 to 20 above, the formats are available in "Volume ID of Volume I Book-II – Forms and Procedures" of this tender specification.
3. Tenderers are required to either fill in or submit separately the following details. No column should be left blank.

DATE:

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

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 to ⁶
- 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).

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for BHEL/PSSR/SAS/SCT/BNS1120-052/T-16/2020-21 Date: 09.12.2020.
Repair of Girders and its associated works as per SOW for unit 5
210(HW) Boilers at NLCIL-TS-II, Neyveli. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

- 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions:

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and will await their decision in the matter.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to

demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 - Equal treatment of all Bidders/ Contractors / Sub-contractors

- 6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors.
- 6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 - Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality in line with Non- disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 IEM should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organisation.
- 8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code/ Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.12 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Pact shall be operative from the date IP is signed by both the parties till the final completion of contract for successful bidder and for all other bidders 6 months after the contract has been awarded. Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- 9.2 If any claim is made/ lodged during currency of IP, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

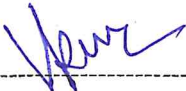
10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders / contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal


VIRENDRA KUMAR
Sr. DGM / Coml. & Sct.
(Office Seal) BHEL HEAVY ELECTRICALS LTD.
PSSR - SAS
SECUNDERABAD

Place-----

Hyderabad

Date-----

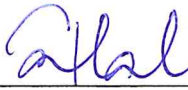
09/12/2020

For & On behalf of the Bidder/

Contractor

(Office Seal)

Witness:_____

 09/12/2020

(Name & Address) _____

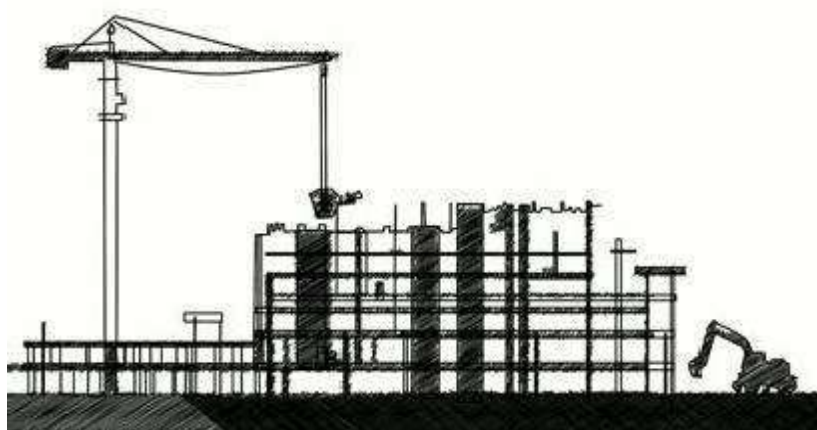
MVN Rambabu

Dy. Manager/SCT

BHEL PSSR SAS Secunderabad

Witness:_____

(Name & Address) _____



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 Qualification As per Cl. 7.1	HSE Roles and responsibilities - Site In-charge- As per clause 7.2.1 - Safety officer- As per clause 7.2.2
	HSE Planning for Man, Machinery/Equipment/Tools & Tackles	
PROVIDE	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

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

CHECKS

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

NON CONFORMANCE

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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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)	



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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

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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:

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

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 worksite.
- 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:
 - o Mobile cranes.
 - o Side Booms.
 - o Forklifts.
 - o Grinding machine.
 - o Drilling machine.
 - o Air compressors.
 - o Welding machine.
 - o Generator sets.
 - o Dump Trucks.
 - o Excavators.
 - o Dozers
 - o Grit Blasting Equipment.
 - o 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 selections 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

- || The subcontractor shall arrange for the accommodation of workmen at nearby localities or by making a labour colony.
- || Regular housekeeping of the labour colony shall be ensured.
- || Proper sanitation and hygienic conditions to be maintained.
- || Drinking water and electricity to be provided at the labour colony.
- || Bathing/ washing bay
- || 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	300
	rough measurements etc.	
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:
 - o Details of the job being intended for immediate execution.
 - o The relevant hazards and risks involved in executing the job and their control and mitigating measures.
 - o Specific site condition to be considered while executing the job like high temperature, humidity, unfavorable weather etc.
 - o Recent non-compliances observed.
 - o Appreciation of good work done by any person.
 - o 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:
 - o Hazards identification and risk analysis (HIRA)
 - o Work Permit System
 - o Incident investigation and reporting
 - o Fire fighting
 - o First aid
 - o Fire-warden training
 - o EMS and OHSMS
 - o T & Ps fitness and operation



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- o Electrical safety
- o Welding, NDE & Radiological safety
- o 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

- 11 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 tonRefer 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.
- 11 Permit applicant shall apply for work permit of particular work activity at particular location before starting of the work with Job Hazard Analysis.
- 11 Permit signatory shall check that all the control measures necessary for the activity are in place and issue the permit to the permit holder.
- 11 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 and 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 $\frac{1}{4}$ 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 savor, 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 ¼" 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 on-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:

- o A high level of stability.
- o A safe means of access/egress.
- o Suitable and effective service and parking brakes.
- o Windscreens with wipers and external mirrors giving optimum all round visibility.
- o Provision of horn, vehicle lights, reflectors, reversing lights, reversing alarms.
- o Provision of seat belts.
- o Guards on dangerous parts.
- o Driver protection - to prevent injury from overturning and from falling objects/materials.
- o Driver protection from adverse weather.
- o No vehicle shall be parked below HT/LT power lines.
- o 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.
 - o Brakes.
 - o Tires.
 - o Steering.
 - o Mirrors.
 - o Windscreen waters.
 - o Wipers.
 - o Warning signals.
 - o 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
 - o Fall arrestor
 - o Lifelines
 - o Safety nets
 - o Fencing and barricading
 - o Warning signage
 - o Covering of opening
 - o Proper scaffolding with access and egress.
 - o 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 Slings 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:
 - o Implementation of earlier MOM
 - o HSE performance
 - o HSE inspection
 - o HSE audit and CAPA
 - o HSE training
 - o Health check-up camp
 - o HSE planning for the erection and commissioning and installation activities in the coming month
 - o 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 recoupment 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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Doc no.: HSEP: 14

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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



**HEALTH, SAFETY AND ENVIRONMENT
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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 2003)	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

PAGE NO. 01 OF 02

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

REV NO.: 00

PAGE NO. 02 OF 02

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

PAGE NO. 1 OF 02

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**

FORMAT NO: HSEP:14-F02

REV NO.: 00

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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 :	
Clinical Impression	

Signature of the examining doctor

	POWER SECTOR	FORMAT NO: HSEP:14-F03 REV NO.: 00 PAGE NO. 01 OF 01
	HSE INDUCTION TRAINING	

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

Sl No.	Name	Designation	Organisation	Signature

Signature of Training co-ordinator :

	POWER SECTOR	FORMAT NO: HSEP:14-F04 REV NO.: 00 PAGE NO. 01 OF 01
	TOOL-BOX TALK	

Name of Site :	
Sub-Contractors Name :	
Date :	

Topic	Name of person delivered Tool Box Talk	No. of Participants attended	Remarks

Signature of Site I/C of Subcontractor :

	POWER SECTOR	FORMAT NO: HSEP:14-F06 REV NO.: 00 PAGE NO. 01 OF 01
	PERSONAL PROTECTIVE EQUIPMENTS	

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	FORMAT NO: HSEP:14-F07 REV NO.: 00 PAGE NO. 01 OF 01
	INSPECTION OF T&Ps	

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	FORMAT NO: HSEP:14-F08 REV NO.: 00 PAGE NO. 01 OF 01
	STATUS OF T&Ps	

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

PAGE NO. 01 OF 03

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

REV NO.: 00

PAGE NO. 2 OF 03

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
PAGE NO. 3 OF 03

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	FORMAT NO: HSEP:14-F10 REV NO.: 00 PAGE NO. 01 OF 02
	INSPECTION OF HEIGHT WORKING	

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

REV NO.: 00

PAGE NO. 02 OF 02

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				
Sl.no.	Description	Y e s	N o	Remarks
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	FORMAT NO: HSEP:14-F12 REV NO.: 00 PAGE NO. 01 OF 02
	INSPECTION OF ELECTRICAL INSTALLATION	

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

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 Slings 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- HQ	FORMAT NO: HSEP:14-F15 REV NO.: 00 PAGE NO. 01 OF 01
	Incident Report (To be submitted within 24 hours of time of incident)	

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: F10	Areas: 1. ...	
10	Inspection of Welding & Gas Cutting operations as per Format: F11	Areas: 1. ...	
11	Inspection of Electrical Installations as per Format: F12	Locations: 1. ...	
12	Inspection of Elevators (as applicable) as per Format: F13	Locations: 1. ...	
13	Inspection of Excavation as per Format: F13E	Locations: 1. ...	



POWER SECTOR

Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30

REV NO.: 00

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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	1. Clean drinking water 2. Toilets 3. Cleanliness & Hygiene 4. Grass cutting, 5. Fogging 6. 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)	

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



	POWER SECTOR	FORMAT NO: HSEP:14-F31 A REV NO.: 00 PAGE NO. 01 OF 1
	Format for Daily HSE Reporting	

	POWER SECTOR	FORMAT NO: HSEP:14-F31 A REV NO.: 00 PAGE NO. 01 OF 1
	Format for Daily HSE Reporting	

	POWER SECTOR	FORMAT NO: HSEP:14-F31 A REV NO.: 00 PAGE NO. 01 OF 1
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	Format for Daily HSE Reporting	

	POWER SECTOR	FORMAT NO: HSEP:14-F31 A REV NO.: 00 PAGE NO. 01 OF 1
	Format for Daily HSE Reporting	

Night		Day	SHIFT	Year	Site
			Submitted By		
			Work Area(s)		
			Staff		
			Man-Power		
			Safety Officers		
			Safety Stewards		
			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)		
			Safety Walk (Designation, Areas)		
NA			HSE Meeting		
NA			Safety Reward (Details)		
NA			Housekeeping/ Dust Suppression/ Tree Plantation Activities (Locations/Details)		
			Lost time Accident		
			Restricted Work Case		
			Medical Treatment Case		
			First Aid Case		
			Near miss		
			Property Damage/ Fire		
			Non-Compliances Submitted by BHEL		
			Complied by Agency		
			Any other Remarks/ Inputs		



POWER SECTOR

Job Safety Analysis Format

FORMAT NO: HSEP:14-F32B

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Name of the Site

Name of the Subcontractor

Activity, Area

HAZARDS

PRECAUTIONS

(Name)

(Sign)

(Date)

Submitted By
(Agency HSE)

Reviewed By
(BHEL
Execution)

Approved By
(BHEL HSE)

**POWER SECTOR- HQ**

FORMAT NO: HSEP:14-F33

REV NO.: 00

PAGE NO. 01 OF 3

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

**POWER SECTOR- HQ**

FORMAT NO: HSEP:14-F33

REV NO.: 00

PAGE NO. 02 OF 3

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

**POWER SECTOR- HQ****Checklist for Evaluation of HSE Performance**

FORMAT NO: HSEP:14-F33

REV NO.: 00

PAGE NO. 03 OF 3

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)

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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 and 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: _____

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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)

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