



Bharat Heavy Electrical Limited

(A Govt. of India Undertaking)

Transmission Business Group-Subcontracting Management
5th Floor, BHEL Sadan, Plot-25, Sector-16A, Noida, UP-201301

NOTICE INVITING TENDER

TENDER NO.: TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27,

Date. 22-09-2026

WORK DESCRIPTION:

**RECEIPT, UNLOADING, VERIFYING, SHIFTING,
STACKING, PRESERVATION, HANDLING AND
HANDING OVER OF COMPONENTS EHV
ELECTRIC SUBSTATION/HVDC TERMINAL
STATION FOR $\pm$ 800 kV, 6000MW HVDC
TERMINALS AT BHADLA IN RAJASTHAN**

Volume - I

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NOTICE INVITING TENDER (NIT)
NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES

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To

Dear Sir/Madam

Sub : NOTICE INVITING TENDER for “RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR ± 800 kV, 6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN”.

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned in tender) 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.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27, Date:22/09/2026
ii	BROAD SCOPE OF JOB	RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR ± 800 kV, 6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-A	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Procedures, Bill of Quantities, Terms of payment, etc</i> Applicable
b	Volume-B	<i>General Conditions of Contract (GCC)</i> Applicable
c	Volume-C	<i>Forms and Procedures</i> Applicable
d	Volume-D	<i>BOQ and Price Schedule.</i> Applicable
e	Doc No. HVDC/HSEP-14, Rev 00, Dt. 14.09.2026	STANDARD HSE PLAN FOR ± 800 KV HVDC BF SITE OPERATIONS Applicable
iv	ISSUE OF TENDER DOCUMENTS	Tender documents will be available for downloading from BHEL eProcurement portal (https://eprocurebhel.co.in) till due date of submission: Start: 22/09/2026, Time: 16:00 Hrs. Closes: 06/10/2026, Time: 11:00 Hrs. Brief information of the tenders shall also be available at BHEL website (www.bhel.com) Applicable

रजिस्टर्ड ऑफिस : भेल हाउस, सिरी फोर्ट, नई दिल्ली – 110049

Registered Office : BHEL House, Siri Fort, New Delhi – 110 049, India, Website : www.bhel.com

v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 06/10/2026, Time: 11:00 Hrs. Place : on https://eprocurebhel.co.in	Applicable
vi	OPENING OF TENDER	Date: 06/10/2026, Time: 16:00 Hrs. Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may witness the opening of tender through e-Procurement portal only.	Applicable
vii	EMD AMOUNT	Rs. 2,00,000/- (Rupees Two Lakh Only)	Applicable
viii	COST OF TENDER	Free	
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 29/09/2026 Time: 04:00 Hrs. Along with soft version also, addressing to undersigned (Dealing Officer) & to others as per contact address given below: For Technical Clarifications: 1) Name: Manvender Singh Pundir Designation: Sr. Manager Deptt: TBEM-Elect. Address: BHEL Sadan, 5 th Floor, Plot No. 25, Sec 16A, Noida - 201301 Phone: (Landline/Mobile): 0120-2218909 / 9916366333 Email: manvender@bhel.in For Tender T&C Clarifications: 2) Name: Ashok Kumar Meena Designation: AGM Deptt: Sub-Contracting Address: BHEL Sadan, 4th Floor, Plot No. 25, Sec 16A, Noida - 201301 Phone: (Landline/Mobile): 0120-2218640 / 098310 38136 Email: akmeena@bhel.in	Applicable
Xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	NOT APPLICABLE	NOT APPLICABLE
Xii	TYPES OF CONTRACT	WORKS	

Xiii	CONTRACT DURATION	40 MONTHS from the date of LOI	
Xiv	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 --> View Corrigendums), BHEL eProcurement portal (https://eprocurebhel.co.in) and not in the newspapers . Bidders to keep themselves updated with all such information.	

The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed digitally using Class III DSC & uploaded in E-Procurement Portal, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**

- 2.0** Tender must be accompanied by the prescribed amount of Earnest Money Deposit (EMD) in the manner described in tender documents, which shall be part of the Technical Bid.

In case of E-Tenders, no paper bids shall be accepted, therefore, the scanned copy of the Banker's Cheque/ Demand Draft/ Pay Order/ Details of payment made through Electronic Fund Transfer/ Fixed Deposit Receipt (FDR)/Insurance Surety Bond should be uploaded in the E-Procurement Portal and hard copy of the same should reach to following address at before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard.)

TO,
Ashok Kumar Meena
AGM (TBSM)
BHARAT HEAVY ELECTRICALS LIMITED,
TRANSMISSION BUSINESS GROUP,
4th Floor, BHEL SADAN, Plot no.: - 25, Sector- 16A, Noida,
Distt. – Gautam Buddha Nagar, UP-201301
TELEPHONE: 0120-2218640, 9831038136
E-mail: akmeena@bhel.in

For Electronic Fund Transfer the details are as below:-

a) Name of the Beneficiary -: Bharat Heavy Electricals Limited

b) Bank Particulars:

1) For Receipt of EMD In Cash/NEFT/RTGS/DD :

NAME OF THE COMPANY	BHARAT HEAVY ELECTRICALS LTD
ADDRESS OF THE COMPANY	TRANSMISSION BUSINESS GROUP, 5TH FLOOR, BHEL SADAN, PLOT NO. 25, SECTOR-16A, NOIDA – 201301 (U.P.)
NAME OF BANK	STATE BANK OF INDIA
NAME OF BANK BRANCH	CAG-II NEW DELHI (17313) CITY NEW DELHI
ACCOUNT NUMBER	00000030206227732
ACCOUNT TYPE	CASH CREDIT
IFSC CODE	SBIN0017313

- 3.0 Procedure for Submission of Tenders:** This is an E-tender floated online through our E-Procurement Site (<https://eprocurebhel.co.in>). The bidder should respond by submitting their offer online only in our e-Procurement platform at (<https://eprocurebhel.co.in>). Offers are invited in two-parts only.

Documents Comprising the e-Tender

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

a. Techno-commercial Bid (UN priced Tender)

All Techno-commercial details (e.g. EMD, Documentary evidence in support of Pre Qualifying criteria, applicable forms, etc.) should be attached in e-tendering module, failing which the tender stands invalid & may be REJECTED. Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- i) Earnest money Deposit (EMD) furnished in accordance with NIT
- ii) Technical Bid (without indicating any prices).

b. Price Bid:

- i. Prices are to be quoted in the attached Price Bid format online on e-tender portal.
- ii. The tenderer shall quote a percentage above/ below/At Par the rates shown in the "Bill of Quantities Cum Price Schedule" of subject tender. The quoted percentage will apply to the individual items of "Bill of Quantity Cum Price Schedule" uniformly.
- iii. Note: 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.
- iv. 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.
- v. 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.

DO NOT'S

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. **Also, uploading of the price bid in prequalification bid or technical bid may RESULT IN REJECTION of the tender.**

Digital Signing of e-Tender

Tenders shall be uploaded with all relevant 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).

The Requirement:

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

- 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** BHEL/End Customer 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. BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD)

- 6.0** The contractor shall have to comply without any deviations to the HSE (Health, Safety and Environment) requirements as per enclosed specification No. TBSM/HSE/NIT-01, Rev-03 Date 31.03.2026.
- 7.0** Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of T&P/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.
- 8.0** For any clarification on the tender document, the bidder may seek the same in writing or through e-mail and/or through e-procurement portal, 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.
- 9.0** 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.
- 10.0** Completion period of the work has been envisaged under best possible conditions. Any changes/ deviation during execution shall be dealt as per relevant clauses mentioned in conditions of contract.
- 11.0** Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender.
- 12.0** **Integrity Pact:** Not applicable
- 13.0** 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 (as applicable), past performance 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 DEBARMENT.
- 14.0** Validity of the offer shall be for **Four months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 15.0** **Reverse Auction: Not Applicable**
- 16.0** On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 17.0** The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 18.0** The evaluation currency for this tender shall be INR.
- 19.0** Consortium Bidding (or Technical Tie up) – **NOT Applicable**.
- 20.0** 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.
- 21.0** The bidder may have to produce original document for verification if so decided by BHEL.

- 22.0** The Bidder shall not be eligible to participate in tender(s) for the said works or services, if bidder or any of its associates/subsidiary or 'company having any common director', is engaged by BHEL for the consultancy services for the same project.
- 23.0** Guidelines/rules in respect of Suspension of Business dealings, Vendor evaluation format, Quality, Safety & HSE guidelines, Experience Certificate, etc. may undergo change from time to time and the latest one shall be followed. The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' is available on www.bhel.com on "supplier registration page" i.e., <<https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors>>.
- 24.0** The offers of the bidders who are either debarred or under Interim Suspension from BHEL TBG or debarred from BHEL on web site <https://www.bhel.com/list-debarred-firms>, and the offer of the bidders, who engage the services of above said firms, shall be rejected.
- 25.0** Integrity commitment, performance of the contract and punitive action thereof:

24.1 Commitment by BHEL:

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.

24.2 Commitment by Bidder/ Supplier/ Contractor:

- (i) 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, 1860 or any other law in force in India.
- (ii) 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.
- (iii) 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 prices or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions.

- 25 Micro and Small Enterprises (MSE): This is a WORKS CONTRACT. MSE BENEFIT SHALL NOT BE APPLICABLE FOR THE PACKAGE.**
- 26** 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 <<https://www.bhel.com/bhel-fraud-prevention-policy-0>> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.
- 27 CONFLICT OF INTEREST AMONG BIDDERS/AGENTS: -**
 "A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) they have controlling partner (s) in common; or
 - b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
 - c) they have the same legal representative/agent for purposes of this bid; or
 - d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or
 - e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid; or
 - f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorise only one agent/dealer. There can be only one bid from the following:
 1. The principal manufacturer directly or through one Indian agent on his behalf; and
 2. Indian/foreign agent on behalf of only one principal; or
 3. A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or
 4. In case of it holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "
- 28 Bid should be free from correction, overwriting, use of 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. All overwriting/cutting, etc. will be numbered by bid opening officials and announced during bid opening.
- 29 In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/ draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

- 30 Technical Bid will be opened in the office of undersigned. If required, technical discussions will be held with only those bidders who have taken any deviations. The price bids will be opened subsequently, after Technical Bids of all the bidders have been evaluated and freeze. Bidders should quote their most competitive rates as there will not be any price negotiation. However, if felt necessary by BHEL, price negotiation will be held with lowest bidder (L-1) only. IT WOULD BE PREFERRED THAT YOUR OFFER IS WITHOUT ANY DEVIATION w.r.t. TENDER SPECIFICATIONS AND THE SAME MAY BE CLEARLY MENTIONED ON THE COVERING LETTER ACCOMPANYING THE TECHNICAL BID. Offers with deviations are likely to be rejected.
- 31 Bidders having a conflict of interest shall not be eligible to participate in the tender process. In this regard, a declaration in **Annexure – 10** regarding '**Conflict of Interest**' to be signed by the authorized signatory of the bidder.

32 **Grievance Redressal Mechanism:**

To promote transparency and ensure fair treatment of all bidders, a structured Grievance Redressal Mechanism is in place to address any concerns or issues arising during the tendering process.

Suppliers/Contractors are requested to follow the below escalation process for grievance resolution:

1. **First Level:** Any grievance should initially be addressed to the designated Dealing Officer, whose contact details are as follows:
 - (i) **During tendering Stage –**
Ashok Kumar Meena

AGM/TBSM, TBG, BHEL
Email – akmeena@bhel.in
Phone – 0120-2218640

(ii) **During execution of work –**

Anand Kumar Tripathi
General Manager(Commercial & Project Director-BF800 HVDC), BHEL
BHEL Sadan,5th Floor, Plot No. 25, Sec 16A, Noida - 201301
E-mail: anand@bhel.in
Phone: (Landline/Mobile): – 0120-2218790 / 9650026888

2. **Second Level:** If the issue remains unresolved, it may be escalated by lodging a formal grievance through the SUVIDHA Portal: <https://suvidha.bhel.in/suvidha/>. Responses will be provided in accordance with the defined escalation matrix.”

It may please be noted that guidelines/ circulars/ amendments/ govt. directives issued from time to time shall also be applicable.

for BHARAT HEAVY ELECTRICALS LTD
AGM / TBSM

Enclosure:

- i). Annexure-1: Pre Qualifying Requirements.
- ii). Annexure-2: Check List.
- iii). ~~Annexure-3: Reverse Auction Process Compliance Form - (Not Applicable)~~
- iv). ~~Annexure-4: Authorization of representative who will participate in the online RA Process - (Not Applicable)~~
- v). ~~Annexure-5: RA Price Confirmation and Breakup - (Not Applicable)~~
- vi). ~~Annexure-6: Integrity Pact - (Not Applicable)~~
- vii). Annexure-7: Declaration reg. Related Firms & their areas of Activities
- viii). Annexure- 8: Declaration reg. minimum local content in line with revised public procurement
- ix). Annexure-9: Declaration by the Contractor
- x). Annexure-10: Declaration regarding 'conflict of interest'
- xi). Annexure-11: List of key-staff to be posted at site after receipt of LOI
- xii). Other Tender documents as per this NIT

ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS (PQR)**

JOB WORK DESCRIPTION	RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR ± 800 KV, 6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN
TENDER NO.	TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27, Date: 22/09/2026

SL NO	PRE QUALIFICATION CRITERIA	Applicability	Bidders to fill following details in respect of fulfilling the PQR Criteria				
			Supporting Docs Details				File Name & Page No.
A	Submission of Integrity Pact duly signed (Note: To be submitted by Prime Bidder & Consortium/Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)	Applicable					
B	Technical Bidder must have, achieved/Executed in last 07 (Seven) years as on 31.08.2026 i) One similar job(*)costing (except service tax/GST) not less than Rs. 1,58,55,534/- OR ii) Two similar jobs(*)costing (except service tax/GST) not less than Rs.99,09,709/- OR iii) Three similar jobs(*)costing (except service tax/GST) not less than Rs. 79,27,767/-		Work Order	Work details	Client Details	Executed Value	File Name & Page No.
	Similar job(*) = any job one of the following : Installation of AIS/GIS Substation or switchyard of 132kV or above voltage class with items including Lattice structure, Transformers, HV Equipments, Auxiliary and Mechanical Systems OR Unloading / storage, watch & ward / Material handling works in substation/power plant.	Applicable					

रजिस्टर्ड ऑफिस : भेल हाउस, सिरी फोर्ट, नई दिल्ली – 110049

Registered Office : BHEL House, Siri Fort, New Delhi – 110 049, India, Website : www.bhel.com

	Note: 1. Portion/component(s) of supply and civil works (if any) shall not be considered for assesment of executed value. 2. Unloading of civil works material (if any) i.e. cement,sand, aggregate and Reinforcement steel etc. shall not be considered for assesment of executed value.						
C	Financial						
C-1	TURNOVER Bidders should have a minimum average annual turnover (Annual Gross Revenue from operations/ Gross operating income as incorporated in the profit & loss account excluding Other Income) of Rs. 59,45,825/- for last three financial years (2022-23, 2023-24 & 2024-25 OR 2023-24 , 2024-25 & 2025-26) and should submit audited balance sheet and Profit & Loss Account Sheet of these years. The audited financial statements must be signed by the owner and the auditor. Auditors seal, Name, Membership No., Firm Registration No. & firm name (if applicable), UDIN and the capacity in which he is signing (Proprietor/Partner), must be mentioned on the Profit & Loss A/c and Balance Sheet. In case of proprietorship and partnership firms where Audited Profit & Loss A/c and Balance Sheet is not mandatory as per extant rules, CA certificate certifying turnover and profit for the required financial years must be submitted. CA certificate must be on his letter head mentioning his/her name, Membership No., Firm Registration No. & firm name (if applicable), UDIN, capacity in which he is signing (Proprietor/Partner), date and place of signing.	Applicable					
C-2	NETWORTH (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)	Applicable					
C-3	PROFIT Bidder must have earned profit in any one of the last Three Financial Years (i.e. F.Y. 2022-23, 2023-24 & 2024-25 OR 2023-24 , 2024-25 & 2025-26). Bidder to submit audited balance sheet and Profit & Loss Statement for the year as supporting documents.	Applicable					

रजिस्टर्ड ऑफिस : भेल हाउस, सिरी फोर्ट, नई दिल्ली – 110049

Registered Office : BHEL House, Siri Fort, New Delhi – 110 049, India, Website : www.bhel.com

Notes:

1. The Bidder shall submit the Contract Agreement/Work Order/LOI along with BOQ and Performance/completion/execution certificate issued by customer/contractor along with technical bid in support of qualification.
2. 'EXECUTED' means the bidder should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed.
3. Relevant documents, meeting above requirements, shall be submitted by bidders.
4. If the job is completed in the last seven years period, as specified above, even if it has been started earlier, the same will also be considered meeting the qualifying requirements.
5. Consortium/ JV bidding is not allowed.
6. BHEL reserves the right to:
 - a) Accept or reject any bid received at its discretion without assigning any reasons whatsoever.
 - b) Postpone the above-mentioned date, split and distribute the work among more than one bidder without assigning any reason whatsoever.
 - c) May ask for further qualification during techno commercial scrutiny of bids received.
 - d) May ask for further proofs including TDS certificates/ Form 26AS/ Final bill/ payment detail for the said job for cross- verification.
7. BHEL shall not be responsible for any delay, loss, damage for bids/documents sent by post.
8. BHEL shall not be liable for any expenses incurred by bidder in preparation of bid irrespective of whether it is accepted or not.
9. Quotations received from bidders who do not fulfil the PQR shall be summarily rejected without any further evaluation and information to bidders.
10. Canvassing i.e. soliciting favour, seeking advantage etc. in any form is strictly prohibited and any bidder found to have engaged in canvassing shall be liable to have his bid rejected summarily
11. If the bidder deliberately gives any wrong information in his tender to create in circumstances for the acceptance to his bid, BHEL reserves the right to reject such application.
12. Bidder's selection is subject to approval of BHEL's customer for this work. The approval/acceptance of bidders from Customer is mandatory requirement for subject tender.
13. All corrigenda, addenda, amendments and clarifications to this Tender will be hosted in web page, www.bhel.com and <https://eprocurebhel.co.in> and not in the newspaper. Bidders shall keep themselves updated with all such amendments.

रजिस्टर्ड ऑफिस : भेल हाउस, सिरी फोर्ट, नई दिल्ली – 110049

Registered Office : BHEL House, Siri Fort, New Delhi – 110 049, India, Website : www.bhel.com

ANNEXURE - 2**CHECK LIST****NOTE: - Tenderers are required to fill in the following details and no column should be left blank**

1	Name of the Tenderer	
2	Address of the Tenderer	
3	Type of the Firm/ Company	
(i)	In case of Individual Tenderer	His / her full name, address and place & nature of business shall be furnished along with the offer.
(ii)	In case of Partnership Firm	The names of all the partners and their addresses, A copy of the partnership deed/instrument of partnership duly certified by the Notary Public shall be furnished along with the offer.
(iii)	In case of Companies	a) Date and place of registration including date of commencement certificate in case of Public Companies (certified copies of Memorandum and articles of Association are also to be furnished). b) Nature of business carried on by the Company and the provisions of the Memorandum relating thereof.
4.a	Details of Contact person for this Tender	Name: Mr./ Ms. Designation: Telephone No: Mobile No: Email ID:
4.b	Details of alternate Contact person for this Tender	Name : Mr/ Ms Designation: Telephone No: Mobile No: Email ID:
5	Validity of Offer	To be valid for Four Months from due date
6	EMD Details (Remittance of EMD should be in line with Mode of Deposit as detailed in clause 1.9 of General Conditions of Contract (Volume B))	
	A) EMD	Mode of Remittance: Ref No: Date: Amount:
	DESCRIPTION	Applicability (BY BHEL) Enclosed By Bidder
7	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE – 1) is understood and filled with proper supporting documents referenced in the specified format.	Applicable YES / NO
8	Whether Earnest money Deposit (EMD) furnished in accordance with NIT	Applicable YES / NO

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9	Whether all pages of the Tender documents including annexures, appendices etc. are read and understood	Applicable	YES / NO
10	Audited Balance Sheet and profit & Loss Account for the last Three Financial years as mentioned at PQR	Applicable	YES / NO
11	Copy of PAN Card	Applicable	YES / NO
12.	Copy of GST registration	Applicable	YES / NO
13	Submission of copy of Registration /Incorporation Certificate, Partnership Deed (Certified by Notary Public) as applicable for firm	Applicable	YES / NO
14	Organization Chart of the tenderer's organization, including the names, addresses and contact information of the Directors/Partners shall be furnished along with the offer.	Applicable	YES / NO
15	Integrity Pact (Annexure – 6 of NIT)	Not Applicable	YES / NO
16	Annexures – 3, 4 & 5 of NIT	Not Applicable	
17	Annexures – 7, 8, 9, 10 and 11	Applicable	YES / NO
18	Offer forwarding letter / tender submission letter [Form No. F-01 (Rev 00)]	Applicable	YES / NO
19	Declaration by Authorized Signatory [Form No: F-02 (Rev 00)]	Applicable	YES / NO
20	Power of Attorney for Submission of Tender/Signing Contract Agreement [Form No: F-03 (Rev 00)]	Applicable	YES / NO
21	Declaration by Authorized Signatory regarding Authenticity of submitted documents [Form No: F-04 (Rev 00)]	Applicable	YES / NO
22	No Deviation Certificate [Form No: F-05 (Rev 00)]	Applicable	YES / NO
23	Declaration confirming knowledge about Site Conditions [Form No: F-06 (Rev 00)]	Applicable	YES / NO
24	Declaration for relation in BHEL [Form No: F-07 (Rev 00)]	Applicable	YES / NO
25	Non-Disclosure Certificate [Form No: F-08 (Rev 00)]	Applicable	YES / NO
26	Bank Account Details for E-Payment [Form No: F-09 (Rev 00)]	Applicable	YES / NO
27	Format for seeking clarification [Form No: F-10 (Rev 00)]	Applicable	YES / NO
28	Analysis of Unit rates Quoted [Form No: F-11 (Rev 00)]	Applicable	YES / NO

NOTE: STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED ABOVE APPLICABLE DOCUMENTS ARE LIABLE TO BE SUMMARILY REJECTED.

DATE :

Sign. of the AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

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ANNEXURE – 6**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 **Tender Enquiry No.: TBSM/KN800/NGP/MTL MGMT/26-27**, for **"RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR $\pm$ 800 KV, 6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN"** (hereinafter referred to as "Contract"). 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 panel of Independent External Monitor(s) (IEMs), 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 Bharatiya Nyaya Sanhita (BNS) 2023 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. -The Bidder(s)/ Contractor(s) commits himself to observe the following principles during 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 Bharatiya Nyaya Sanhita (BNS) 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 shall 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, terminate the contract, if already awarded, exclude from future business dealings and/ 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 (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years (to be reckoned from date of bid submission) with any other company in any country conforming to the anti-corruption approach in India that could justify his exclusion from the tender process. The date of such transgression, for the purpose of disclosure by the bidders in this regard, would be the date on which cognizance of the said transgression was taken by the competent authority. The transgression(s), for which cognizance was taken even before the said period of three years, but are pending conclusion, shall also be reported by the bidders.
- 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 or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

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- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of a joint venture, all the partners of the joint venture should sign the Integrity Pact. In case of Sub-contracting, the Principal Contractor shall be solely responsible for the adherence to the provisions of IP by the sub-contractor(s).
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity 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 panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact on receipt of any complaint by them from the bidder(s).
- 8.2 The IEMs are 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 IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as /Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs 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 IEMs the option to participate in such meetings.
- 8.5 The role of IEM is advisory and the advice of IEM is non- binding on the Organization. However, as IEMs are invariably persons with rich experience who have retired as senior functionaries of the government, their advice would help in proper implementation of the IP.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of the tendering process, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an examination, and submit their joint recommendations to the Management. In case the full panel is not available due to some unavoidable reasons, the available IEM(s) will conduct examination of the complaints. Consent of the IEM(s), who may not be available, shall be taken on record.
- 8.7 The IEMs shall examine all the representations/grievances/ complaints received by them from the bidders or their authorized representative related to any discrimination on account of lack of fair play in modes of procurement and bidding systems, tendering method, eligibility conditions, bid evaluation criteria, commercial terms & conditions, choice of technology/ specifications etc.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs 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 Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Bharatiya Nyaya Sanhita (BNS)/ 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 IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, 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 Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact 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 Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. If required, the Principal may adopt any mediation rules for this purpose. However, not more than five meetings shall be held for a particular dispute resolution. The fees/expenses on dispute resolution shall be equally shared by both the parties. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract.

For & On behalf of the Principal
(Office Seal)

For & On behalf of the Bidder/ Contractor
(Office Seal)

Place _____

Date _____

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____

ANNEXURE-7**DECLARATION**

Date: _____

To,
Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25, Sector-16A, Noida, U.P.-201301

Sub: **Details of related firms and their area of activities**

Dear Sir/ Madam,

Please find below details of firms owned by our family members that are doing business/ registered for same item with BHEL, _____ (NA, if not applicable)

1	Material Category/ Work Description	
	Name of Firm	
	Address of Firm	
	Nature of Business	
	Name of Family Member	
	Relationship	
2	Material Category/ Work Description	
	Name of Firm	
	Address of Firm	
	Nature of Business	
	Name of Family Member	
	Relationship	
...		

Note: I certify that the above information is true and I agree for penal action from BHEL in case any of the above information furnished is found to be false.

Regards,

(_____)

From: M/s _____
 Supplier Code: _____
 Address: _____

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ANNEXURE-8

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 19TH JULY, 2024
AND SUBSEQUENT ORDER(S)**

(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)

To,

Ashok Kumar Meena

AGM/Subcontracting,

Transmission Business Group, Bharat Heavy Electricals Limited,

5th Floor, BHEL SADAN, Plot No. 25, Sector-16A, Noida, U.P.-201301

Dear Sir,

Sub: Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017-Revision, dated 19th July, 2024 and subsequent order(s).

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

We hereby certify that the items/works/services offered by..... (specify the name of the organization here) has a local content of _____ % and this meets the local content requirement for '**Class-I local supplier**' / '**Class II local supplier**' ** as defined in Public Procurement (Preference to Make in India), Order 2017-Revision dated 19.07.2024 issued by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

- | | | |
|----------|----------|----------|
| 1. _____ | 2. _____ | 5. _____ |
| 3. _____ | 4. _____ | 6. _____ |

Thanking you,

Yours faithfully,

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

**** - Strike out whichever is not applicable.**

Note:

1. The Bidder to submit self-certification for the local content in the above format along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 crores, the contractor shall be required to give local content certification duly certified by statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies) at the time of execution of project.
3. In case the contractor/supplier does not meet the stipulated requirement and the category of the supplier changes from Class -I to Class-II/Non-local or from Class-II to Non-local, a penalty up to 10% of the contract value shall be imposed.
4. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

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ANNEXURE-9**DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017***(To be typed and submitted in the Letter Head of the Entity/ Firm providing certificate as applicable)*

To,
Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group,
Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN,
Plot No. 25, Sector-16A, Noida, U.P.-201301

Dear Sir,

Sub: Declaration regarding compliance to Restrictions under Rule 144 (xi) of GFR 2017

Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries. I certify that _____ (**SPECIFY THE NAME OF THE ORGANIZATION HERE**), is not from such a country/ has been registered with the Competent Authority (*attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT)*); and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. (*attach relevant valid registration, if applicable*)

I hereby certify that we fulfil all requirements in this regard and is eligible to be considered.

Thanking you,
Yours faithfully,

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

Note: Bidders to note that in case above certification given by a bidder, whose bid is accepted, is found to be false, then this would be a ground for immediate termination and for taking further action in accordance with law and as per BHEL guidelines.

ANNEXURE-10**DECLARATION REGARDING 'CONFLICT OF INTEREST'***(To be typed and submitted in the Letter Head of the Entity/ Firm providing certificate as applicable)*

To,

Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group,
Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN,
Plot No. 25, Sector-16A, Noida, U.P.-201301

Dear Sir,

Sub: Declaration regarding 'Conflict of Interest'.**Ref :** 1) NIT/Tender Specification No: _____

2) All other pertinent issues till date

Treatment of cases regarding conflict of interest:

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii) The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- iii) Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorised distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.
- iv) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. 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. In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.

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

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ANNEXURE-11**LIST OF KEY-STAFF TO BE POSTED AT SITE AFTER RECEIPT OF LOI***(To be typed and submitted in the Letter Head of the Entity/ Firm providing certificate as applicable)*

To,

Ashok Kumar Meena**AGM/Subcontracting,****Transmission Business Group,****Bharat Heavy Electricals Limited,****5th Floor, BHEL SADAN,****Plot No. 25, Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub: Declaration regarding 'LIST OF KEY-STAFF TO BE POSTED AT EACH SITE AFTER RECEIPT OF LOI'**Ref :** 1) NIT/Tender Specification No: _____

2) All other pertinent issues till date

Dear Sir,

With reference to above, this is to confirm that we shall depute the following main staff (Minimum) for above referred work at project site permanently till completion of work..

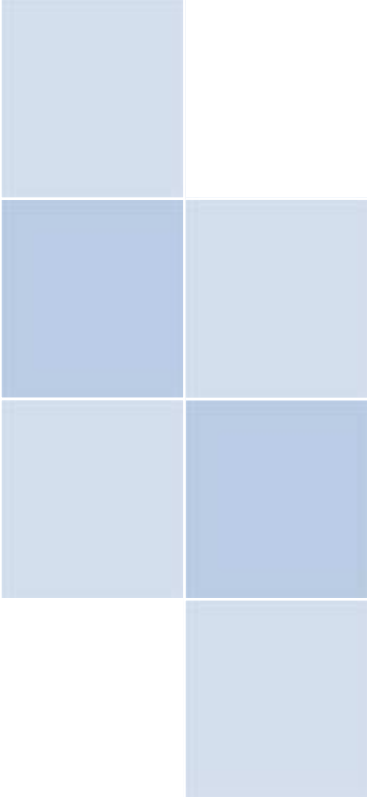
		Site Incharge	Supervisor	Safety Engineer
1	Name			
2	Qualification			
3	Experience (in years)			
4	Age			

We assure that above are the minimum staff we shall depute at site. In case of further requirement, we shall depute additional staff as per work requirement and as per instruction of BHEL site incharge.

Thanking you,

(Signature of Tenderer)

Name and Designation of Authorised person (s)
Signing the tender on behalf of the tenderer



TECHNICAL CONDITIONS OF CONTRACT (TCC)

**RECEIPT, UNLOADING, VERIFYING, SHIFTING,
STACKING, PRESERVATION, HANDLING AND
HANDING OVER OF COMPONENTS EHV
ELECTRIC SUBSTATION/HVDC TERMINAL
STATION FOR $\pm$ 800 kV, 6000MW HVDC
TERMINALS AT BHADLA IN RAJASTHAN**

Volume-A

TENDER NO.: TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27

Date: 22-09-2026



TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENT

Sl No	DESCRIPTION	Chapter
1	Project Information	Chapter-I
2	Scope of Works	Chapter-II
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III
4	List of T&P to be deployed by Contractor	Chapter-IV
5	Time Schedule	Chapter-V
6	Taxes and other Duties	Chapter-VI
7	Material Handling & Material Management of Material Received by Road	Chapter-VII
8	Deployment of safety personnel by subcontractor as per HSE PLAN FOR ± 800 KV HVDC BF SITE OPERATIONS clause 23.3 (If required by BHEL site in-charge)	Chapter-VIII
9	Penalties	Chapter-IX
10	IP Camera Specification (Fixed/PTZ)	Chapter-X
11	General list of items applicable for the project	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

1.0	PROJECT INFORMATION	
1.1.	INTRODUCTION AND CLIMATIC CONDITION	
Sl. No.	Description	Details
1.	Project Title	±800kV, 6000MW HVDC Terminals at Bhadla (HVDC) & Fatehpur (HVDC) along with associated AC substations and AC Substation extension at Bhadla-3 associated with “Transmission system for evacuation of Power from REZ in Rajasthan (20GW) under Phase-III, Part-I”
2.	Customer	M/s. RAJASTHAN PART I POWER TRANSMISSION LIMITED
3.	Consultant	M/s AESL (ADANI ENERGY SOLUTIONS LIMITED)
4.	Location	(BHADLA HVDC & BHADLA-3 EXTENSION S/S) Bhadla HVDC substation NH 911, Near Baba Ramdevji Mandir PO: Bap District: Phalodi Rajasthan 342307
5.	Nearest Airport	JODHPUR AIRPORT
6.	Nearest Railway Station	BAP RLY STATION
7.	Access By Road/Major Cities	The project site is approximately 200Km from JODHPUR
8.	Ambient Temperature	50° C
9.	Seismic Zone	Zone-III
10.	Wind Speed	47 m/s

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

1.2.	INSTRUCTIONS TO BIDDERS								
1.2.1.	The Bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and in & around the plant premises, together with site conditions, transportation routes, various distances, all the statutory, obligatory, mandatory requirements of various authorities and all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder. It is to be specifically noted that, development of Open/Closed/Semi Closed Storage spaces are envisaged by BHEL at more than one location both inside and outside the project premises (Outside- Preferably within 50Kms adjacent to Substation Premises). Contractor is therefore required to plan their mobilization and resources accordingly.								
1.2.2.	Other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors.								
1.2.3.	All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder. The information given herein is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.								
1.2.4.	The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted an authorized, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the 'Engineer' or his duly authorized representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.								
1.2.5.	No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.								
1.2.6.	Bidders may fix up their site visit in consultation with below mentioned contact person: <table border="1"> <tr> <td>Name:</td><td>Mr. Sandip Kumar Halder</td></tr> <tr> <td>Designation:</td><td>Dy. General Manager</td></tr> <tr> <td>Email:</td><td>skhaldar@bhel.in</td></tr> <tr> <td>Ph no:</td><td>9650094410</td></tr> </table>	Name:	Mr. Sandip Kumar Halder	Designation:	Dy. General Manager	Email:	skhaldar@bhel.in	Ph no:	9650094410
Name:	Mr. Sandip Kumar Halder								
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Email:	skhaldar@bhel.in								
Ph no:	9650094410								

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

2.1	Scope of Works:
2.1.1	A) RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF EQUIPMENT AND MATERIALS FOR HVDC STATION INCLUDING EHV/ AIS YARD EQUIPMENT SUCH AS: • CIRCUIT BREAKERS, ISOLATORS, CTs, CVTs, SURGE ARRESTERS, BUS CONDUCTORS, SHIELD WIRE, • 400kV/800kV CONVERTER TRANSFORMERS, POWER TRANSFORMERS / ICTs / REACTORS WITH AUXILIARIES, • CONTROL/PROTECTION, SCADA/SAS PANELS; CONTROL & INSTRUMENTATION EQUIPMENT, PANELS, • CABLES / CABLE TRAYS AND ASSOCIATED ACCESSORIES; • STATION AUXILIARY SYSTEMS (AC & DC), EARTHING MATERIALS, • PREFABRICATED STRUCTURES, LATTICE & PIPE STRUCTURE, • FIRE FIGHTING & ILLUMINATION SYSTEM AND COMPONENTS & EQUIPMENT OF VARIOUS OTHER ASSOCIATED SYSTEMS REQUIRED FOR ELECTRICAL EHV/HVDC SUBSTATION. B) SUPPLY INSTALLATION AND MAINTENANCE OF CCTV CAMERA AND PROVIDING SERVICES FOR MATERIALS MANAGEMENT AT BHADLA HVDC SITE, RAJASTHAN (INDIA).
2.1.2	<u>WEIGHMENT AND PAYMENT BASIS FOR UNLOADING:</u> Since the payment for unloading activities is based on weight, the Contractor shall ensure that all materials being unloaded are accurately weighed at the time of receipt. The Contractor shall be responsible for arranging and carrying out weighment of materials through a duly certified and approved weighbridge. For this purpose, the Material Management (MM) Contractor shall deploy necessary manpower, coordination, and resources for utilizing the services of a local certified weighbridge, as required in coordination with the BHEL Site Engineer. All weighment records shall be properly documented and submitted to BHEL for verification and certification. Payments for unloading shall be made strictly based on the verified weighment records duly endorsed by the BHEL Site In-Charge. Any discrepancy in weighment or failure to provide authenticated weighment records may lead to withholding or rejection of the corresponding payment, at the discretion of BHEL.
2.1.3	Scope of work includes Material Handling and Management (Incl. Issue, verification, stacking, shifting and record keeping etc.) of materials receipt at BHEL Site-store from various units of BHEL or from any other source of BHEL. Tentative quantities of all such materials expected to be received at site are given in the tender document. While issuing materials to other contractors at site, as per the instructions of the BHEL Site In-Charge, the scope of the Material Management (MM) Contractor shall be strictly limited to identification and indication of the storage location of the required materials.

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Chapter – II: SCOPE OF WORKS

	The responsibility for arranging all necessary Tools & Plants (T&P), handling equipment, labor, and transportation for lifting and shifting the materials from the storage location to the designated work area shall rest solely with the respective Erection, Testing & Commissioning (ETC) Contractor. Material shall be issued only against duly authorized documents/instructions from the BHEL Site In-Charge. All issues shall be recorded and acknowledged through proper documentation, including material issue slips, gate passes, or any other prescribed format. Joint verification of material quantity and condition shall be carried out at the time of handover, and the same shall be duly signed by representatives of the MM Contractor and the ETC Contractor. Upon issuance and handover of materials, the custody and responsibility for the materials shall stand transferred to the ETC Contractor.
2.1.4	Unloading of all types of structural steel and plant equipment's Including heavy consignments and/or over-dimensional consignments (e.g. EHV Equipment, Transformers and PRE-FABRICATED STRUCTURES, FIRE FIGHTING & ILLUMINATION SYSTEM AND COMPONENTS & EQUIPMENT OF VARIOUS OTHER ASSOCIATED SYSTEMS REQUIRED FOR ELECTRICAL EHV/HVDC SUBSTATION directly from trailers by suitable crane/s or by jack & sleeper method as per instruction of BHEL Engineer.
2.1.5	The required jack & sleeper, pallet lift and unloading TnP are to be arranged by the contractor.
2.1.6	Receipt of materials dispatched by road transport on door delivery basis at the BHEL stores and unloading thereof.
2.1.7	Collection of materials dispatched by road transport on go-down delivery basis from transporters' go-downs, loading at transporters go-down, local transport up to BHEL stores / storage yard and unloading thereof.
2.1.8	Preliminary verification of all materials at the time of unloading from transport vehicle or while receiving consignments from transporters' Go-down, as the case may be, reporting immediately the discrepancies like damages and shortages noticed.
2.1.9	Computers and printers with latest up-gradation, memory and compatible with BHEL computers/LAN equipment to be installed/used within BHEL site office – Computer – 01 sets and Printer cum Scanner – 01 sets, Photocopier machine 1 No. & Hard disk of 2TB or above – 01 no (for monthly backup of records) to be installed by the contractor. Above mentioned Computers, printers and photocopy machine are envisaged for various Material Management activities such as record keeping/data entry done by contractor's staff and these are to be taken back by the contractor after completion of contract.
2.1.10	Supply and installation of CCTV system around the storage boundary and inside entire storage space. The contractor shall arrange for two CCTV Displays, one display shall be at the Contractors Store and the Other at the BHEL Office at Site.
2.1.11	The contractor shall be responsible for comprehensive maintenance of the CCTV system during the contract period. This includes upkeep, repair, and replacement of cameras, cables, network components, and any other associated equipment necessary to ensure uninterrupted operation of the system.

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Chapter – II: SCOPE OF WORKS

	In the event that any CCTV camera remains non-functional for a period exceeding four (4) days, a deduction shall be applied to the bill. <u>The deduction shall be calculated at the rate Rs 400 per day per Camera.</u>	
2.1.12	Detailed verification of materials with reference to packing list and loading advice slip after unpacking of boxes & crates; repacking, where called for, after detailed verification; preparation of receipt inspection reports etc. shall be carried out within the quoted rate within 14 days. If the verification is not carried out within 14 days for reasons attributable to the contractor, then BHEL is having right to deploy the resources and recover the charges thereof from the contractor as per actual rates + 5% overhead rates.	
2.1.13	Stacking and storing at BHEL open storage yard / covered stores / closed & semi-closed sheds and submission of stacking / storing records.	
2.1.14	Preservation of the materials in accordance with BHEL preservation manual/Manufacturer storage and preservation manual and as per BHEL instructions or the Instruction of BHEL Site In-charge.	
2.1.15	General cleaning, grass cutting and upkeep of storage yard, covered and semi-closed stores sheds shall be in the scope of contractor. Providing/arranging required tools and tackles, safety PPEs, gate pass formalities, insurance of labour and T&Ps, accommodations and any other labour facilities shall be in the scope of Contractor and no separate payment is applicable for the same. If not carried out within 10 days as per instruction BHEL Site in charge, then BHEL is having right to deploy the resources and recover the charges thereof from the contractor as per actual rates + 5% overhead rates.	
2.1.16	If it is found that handling and unloading of the consignment are delayed deliberately by contractor (i.e. delay is fully attributable to contractor), which may result in to long queuing of Lorries, penalty shall be imposed as per following:	
	No. of Days of Deliberate Delay	Rate of penalty in each case
	03 to 05 days	@Rs. 500 per day per truck/lorry/trailer
	06 to 10 days	@Rs. 1000 per day per truck/lorry/trailer
	More than10 days	@Rs. 2000 per day per truck/lorry/trailer
2.1.17	Providing Materials Management Services.	
2.1.18	Re-handling and restacking of materials as and when called for by BHEL. This also includes excess/ faulty /damaged / redundant / scrap materials returned to stores by BHEL erection contractors.	
2.1.19	Handling and loading of outgoing materials those are to be sent to other destinations including scrap, if any. The work involves handling of surplus material and scrap at site. In case of scrap handling the cutting of scrap in at site to ensure full truck load weight is NOT in the scope of contractor.	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

2.1.20	Lodging of complaint (FIR/Intimation/etc.) with local authorities for any theft / Fire/damage of received/ stored material.
2.1.21	Record keeping (receipt & issue) of material.
2.1.22	The Contractor shall be responsible for arranging and carrying out weighment of materials through a duly certified and approved weighbridge. For this purpose, the Material Management (MM) Contractor shall deploy necessary manpower, coordination, and resources for utilizing the services of a local certified weighbridge, as required.
2.1.23	BHEL should have access to all data/documents related with material storage, handling, transfer, surveillance etc. without making any additional charges during and after contract period.
2.2	SCOPE OF WORK IS FURTHER DETAILED IN VARIOUS CLAUSES HEREAFTER:
2.2.1	MAJOR PACKAGES TO BE HANDLED ARE AS UNDER: Components of the following major systems are to be handled under this contract: EHV AIS Yard Equipment: 1. Circuit Breakers 2. Isolators / Earth Switches 3. CTs, CVTs/PTs 4. Surge Arresters 5. Bus Conductors (ACSR/AAAC), Jumpers 6. Insulators & Hardware 7. Equipment Mounting Structures (Lattice/Pipe Type) 8. Gantries/TOWERS 9. Clamps, Connectors 10. ICTs / Power Transformers 11. Shunt Reactors 12. Ventilation System 13. Marshalling Boxes/Junction Boxes 14. Fire Protection for Transformers 15. Control, Protection & SAS: Control & Relay Panels/Relays 16. SCADA / SAS Servers & HMI 17. GPS Time Sync System

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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	18. Metering & Communication PANELS 19. ABT Energy Meters 20. FOTE / OPGW Termination 21. Tele-protection Panels 22. Station Auxiliary System 23. AC System 24. Station Service Transformers 25. LT Panels / ACDB 26. DG Set / UPS 27. DC System 28. DC Distribution Boards 29. Cabling System 30. Power Cables (MV/LT)/Control Cables/OFC Cables 31. Cable Trays, GI Conduits 32. Glands, Lugs & Terminations 33. Earthing System /MS ROD /Copper Items / Braids / Flats and RODS/Earth Electrodes 34. Illumination & Miscellaneous Systems/High Mast Lighting 35. CCTV System 36. Fire Alarm System 37. Structural & Miscellaneous Supplies 38. Pre-fabricated Structures 39. Structural & Reinforcement Steel 40. Foundation Anchor Bolts 41. Trench Covers 42. Materials and consumables required for erection & commissioning of plant The above list is not exhaustive; it only includes most common major packages. It should in no way a basis for any claim/dispute on account of any variation. The intent of specification is to provide the complete material handling and material management services. All the work shall be carried out as per the instructions of BHEL engineer which shall be final and binding on the contractor.
2.2.2	Some of the Major Heavy Single Consignments are as furnished below:

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	S.N.	Item Description	Approx. Wt.
	1	Total approx. Weight of one Converter Transformer Tank (Without oil)	310 MT
	2	Total Approx. Weight of one Reactor Tank	92.5 MT
	3	Total Approx. Weight of 33kV GIS Bays	7.5 MT
	4	Total Approx. Weight of Thyristor Valve Crate (approx. Dimensions (1600x1200x800) requiring a Fork Lift	600 kg
The weight & Quantities indicated above are only the tentative indication and should in no way become a basis for any claim on account of any variation in actual weight.			
2.2.3	The intent of specification is to provide Material Handling and Materials Management services according to the most modern and proven Techniques and codes. The omission of specific reference to any method, equipment or materials necessary for proper and efficient unloading, transportation, verification, stacking & preservation etc. shall not relieve the contractor of the responsibility of providing such facilities to complete the work without any extra compensation.		
2.2.4	The Contractor shall provide 2 Nos personnel for Secretarial Staff to manage the Store and support the services referred to in Clause 4.5 above. Personnel deployed as Secretarial Staff, shall have successfully completed ITI from a recognized Industrial Training Institute or equivalent authority. All such personnel shall possess a minimum of 1–2 years of relevant experience in storekeeping and/or inventory management, along with working knowledge of computer applications including MS Word and MS Excel, and a basic understanding of bookkeeping and record maintenance. The cost for the secretarial staff is to be considered under Item B.1 – Secretarial Services (skilled) for store Management. Any additional manpower required for activities such as unloading, shifting, and stacking of materials shall be arranged by the Contractor as part of the scope of work. No separate payment shall be made for such manpower, and the cost shall be deemed to be included in the quoted rates.		
2.2.5	All the work shall be carried out as per the instructions and supervision of BHEL engineer. BHEL engineer's decision regarding correctness of the work and method of working shall be final and binding on the contractor.		
2.2.6	The contractor shall perform all required services which may not be specified herein but nevertheless required for the completion of work within quoted rates.		
2.2.7	All necessary certificates and licenses required to carry out this work are to be arranged by the contractor expeditiously. The Contractor shall obtain independent Labour License under the Contract Labour (Regulations and Abolition) Act, 1970 for engaging contract labour as required from the concerned Authorities based on the certificate (Form- III or as applicable) issued by the Principal Employer/Customer.		

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Chapter – II: SCOPE OF WORKS

2.2.8	All cranes, operators, transport equipment's, handling equipment, tools, tackles, fixtures, equipment, manpower, supervisors/engineers, consumables (excluding those indicated as BHEL scope), etc. required for this scope of work shall be provided by the contractor.												
2.2.9	All expenditure including taxes and incidentals in this connection will have to be borne by the contractor unless otherwise specified in the relevant clauses elsewhere here. The contractor's quoted rates shall include of all such contingencies. In this connection refer relevant clause of general conditions of contract.												
2.2.10	BHEL issued materials & T&P, shall not be under any circumstances whatsoever, and shall be taken out of the project site unless otherwise permitted by BHEL for outside job.												
2.2.11	SUPPLY INSTALLATION AND MAINTENANCE OF CCTV CAMERA IN STORAGE AREA (At Storage Spaces Locations- inside and outside project promises)												
2.2.12	Supply & installation of IP based CCTV system for storage areas, geofenced with fixed camera covering around the boundary of store area and of entire inside area of storage (both open yards and covered sheds) with cameras such that there should not be any dark patch. Surveillance camera should have a backup of at least two months. All hardware and software required to meet above intent shall be in the scope of bidder.												
2.2.13	Comprehensive maintenance of the CCTV system including all components of the original supply scope as well as accessories, required for keeping the CCTV system operational.												
2.2.14	The scope of spares and consumables as may be required is included in the scope of Contractor at no extra cost to BHEL.												
2.2.15	Contractor shall monitor the operations of CCTV in store yard. Contractor shall immediately inform BHEL in writing, in case any CCTV camera/ necessary component is found non-operational. The faulty component shall be restored within three days from the date of intimation by BHEL/Contactor. BHEL shall be informed in writing about the daily status of material handling activities carried out in the area where CCTV surveillance not being carried out.												
2.2.16	The agency shall handover all CCTV camera and related accessories including hardware and software to BHEL after completion of contract.												
2.2.17	The contractor shall provide the following components for the surveillance system of the storage space. The quantity mentioned is tentative and may be changed to suit project requirement as decided by BHEL Engineer. <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Name of Item</th></tr> </thead> <tbody> <tr> <td>1</td><td>IP based PTZ dome camera along with p2p/ PMP Outdoor CPE Antenna for wireless communication. <Server based architecture with licenses></td></tr> <tr> <td>2</td><td>IP based Fixed bullet camera along with p2p/PMP Outdoor CPE Antenna for wireless communication. <Server based architecture with licenses></td></tr> <tr> <td>3</td><td>CCTV camera database redundant server (Shall work in redundant mode, one primary and another secondary server) & Video Management Software</td></tr> <tr> <td>4</td><td>LED Display Screen – Min. 50"</td></tr> <tr> <td>5</td><td>All hardware/software including network switches, other mounting & electrical accessories including cables, adapters, Fiber Optic, patch cord, housing, connectors, junction boxes, etc.</td></tr> </tbody> </table> After the installation of the surveillance System/CCTV system, the upkeep and maintenance of the	Sl. No.	Name of Item	1	IP based PTZ dome camera along with p2p/ PMP Outdoor CPE Antenna for wireless communication. <Server based architecture with licenses>	2	IP based Fixed bullet camera along with p2p/PMP Outdoor CPE Antenna for wireless communication. <Server based architecture with licenses>	3	CCTV camera database redundant server (Shall work in redundant mode, one primary and another secondary server) & Video Management Software	4	LED Display Screen – Min. 50"	5	All hardware/software including network switches, other mounting & electrical accessories including cables, adapters, Fiber Optic, patch cord, housing, connectors, junction boxes, etc.
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5	All hardware/software including network switches, other mounting & electrical accessories including cables, adapters, Fiber Optic, patch cord, housing, connectors, junction boxes, etc.												

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	entire system shall be in scope of the contractor to ensure round the clock availability of the system. The contractor shall arrange for two CCTV Displays, one display shall be at the Contractors Store and the Other at the BHEL Office at Site.
2.3	Considering the fact that storage areas shall be developed progressively, it could be required that contractor has to mobilise its Camera Installation resources multiple times in the beginning for completing the set-up. At the end of the project the contractor shall take back
2.4	BHEL reserves the right to recover from the contractor any loss arising out of damage/ theft or any other causes or during unloading/ verification/stacking or at any time under the custody of the contractor due to negligence/ carelessness on the part of the contractor.
2.5	The bidder shall arrange skilled/ semiskilled/ unskilled labour (from local source(s) as far as available) and supervisory staff for quality execution of all civil, structural and architectural works. Organisation Chart to be included in the Tender Document.

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

Sl. No.	Description	SCOPE		REMARKS
		BHEL	BIDDER	
3.1	Establishment:			
3.1.1	For Construction Purpose:			
a	Open space for bidder's office (as per availability within project premises)	Yes		Location will be finalized after joint survey with owner.
b	Space for bidder's storage (as per availability within/nearby project premises)	Yes		Location will be finalized after joint survey with owner. Note: There can be more than one location of open storage yard, closed shed/ Semi Closed shed. Bidder shall make his establishment accordingly for material handling and MM services.
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 (if required) for the bidder's staff, supervisors and engineers etc.		Yes	
f	Firefighting equipment like buckets, extinguishers etc.		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	For living purpose of the bidder:			
a	labour accommodation & transportation		Yes	Contractor has to make his own arrangements for shelter and transportation of labours as per requirement out side project area.
3.2	Electricity:			
3.2.1	Electricity for office and stores of the bidder and illumination /lighting/CCTV system - 415/440 V within project premises.			Free metered connection
a	Single point source (free)	Yes	Yes	Construction Power shall be provided at single point source on free of charge basis as and when made available at site, however contractor has to make his own arrangement to meet power requirement in

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

Sl. No.	Description	SCOPE		REMARKS
		BHEL	BIDDER	
				case of delay in availability of single source or any kind of power interruptions during the course of the project.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	Electricity for canteen, labour colony, etc. of the bidder within project premises			Chargeable Basis/ Own arrangement by Bidder
a	Single point source (Chargeable)	Yes	Yes	Construction Power shall be provided at single point source on chargeable basis as and when made available at site, however contractor has to make his own arrangement to meet power requirement in case of delay in availability of single source or any kind of power interruptions during the course of the project.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3	Water Supply for construction, office, store, canteen etc.			
a	Water source		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution.		Yes	
3.4	Communication facilities for site operations of the bidder			
a	Telephone, internet, intranet, e-mail etc		Yes	
3.5	Demobilization of all the above facilities		Yes	

Note:

- There can be more than one location of open storage yard, Closed shed/ Semi Closed shed inside and outside project premises), bidder shall make his establishment accordingly for Material

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

	Handling and MM services. Bidders to note that currently covered storage sheds are envisaged inside the plant boundary and Open storage yard is envisaged both inside (minor portion) and outside (major portion) the plant boundary (in a vicinity of around 5 Km). 2. Furnishing all labour, materials, supervision, construction/Material Handling plans, equipment, supplies, transport, to and fro the site, fuel, electricity, water and all other incidental items and temporary works not shown or specified elsewhere but reasonably implied or necessary for the proper completion, maintenance and handling over shall be in the scope of contractor. 3. Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
3.8	Land/Open Space
3.8.1	Availability of land within plant boundary is limited and the contractor has to plan and use the existing land considering the use of land by other Civil /Mechanical/ Electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erection agencies. BHEL shall provide free of charge limited open space for office, storage area for vendor's material and T&Ps and laydown area as and where made available by Customer.
3.9	Labour and Staff Colony: Following are in the Bidder's scope of work for labour & staff colony:
3.9.1	Labour colony is to be developed / arrange by bidder for all the labourers required to be deployed for the works. All labour colony set-up is to be developed / arranged as per specifications, drawings, standard approved by BHEL/Customer and in compliance of statutory requirements.
3.9.2	Land for labor colony shall be arranged by Contractor at their own cost as per availability outside project area, Necessary levelling/dressing of land shall be done by the contractor. All arrangement for electricity and drinking/service water to be arranged by the contractor within his quoted price. However, if customer provides land to BHEL for development of labour colony during the execution of the project, same may be made available to the bidder at the same terms & conditions (including rates) as applicable for BHEL. Bidder should indemnify BHEL for all the charges levied by Customer for such land, if applicable. Necessary levelling/dressing of such allotted land shall be done by the contractor. All arrangement for electricity and drinking/service water to be arranged by the contractor within his quoted price.
3.9.3	All Civil and Structural work associated with drinking and service water for Bidder's labour and other personnel at the work site/colony/offices including pump houses, pipes, overhead tank, tube wells etc.
3.9.4	Providing and maintaining facilities for safety, welfare, drinking water and sanitation, hygiene, biennial health check-up etc. for construction workers at their workplaces as well as at labour & staff colonies.
3.9.5	Development and maintenance of above facilities for construction workers deployed by the Contractor shall solely rest with the Contractor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.10	Installation of necessary amenities and temporary infrastructure at Project site locations- Following are the minimum amenities to be provided by the bidder within the quoted price including removal/disposal of the same in environment friendly manner after its intended use/completion of scope of work: i. Labour rest sheds near work spot. ii. Canteen facility creation / arrangement. iii. Drinking water facility. iv. Labour Bio toilets near work spot in sufficient nos. with regular cleaning & maintenance arrangement. v. Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements. vi. Regular fogging in the work place and labour colony to avoid mosquitoes. vii. Statutory documents shall be submitted along with RA Bills for processing of Bills.
3.11	Construction Power:
3.11.1	Construction Power shall be provided at single metered point source on chargeable / free of charge basis (as applicable vide 3.2 above) as and when made available at site at a distance of approx. 500 meters as finalised at site, however contractor has to make his own arrangement to meet power requirement in case of delay in availability of single source or any kind of power interruptions during the course of the project.
3.11.2	Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc. and safety of personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.
3.11.3	It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
3.11.4	Contractor himself shall be responsible for any loss or damage to their equipment as a result of variations in voltage or frequency or interruptions in power supply.
3.11.5	Supply of electricity shall be governed by Indian Electricity Act and Installation Rules and other Rules and Regulation as applicable. The contractor shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases.
3.12	Construction water:
3.12.1	Bidder has to make arrangement of water at his own cost. No extra payment shall be made under this account.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter– IV: LIST OF TOOL & PLANTS TO BE DEPLOYED BY THE CONTRACTOR

4.0	LIST OF TOOL & PLANTS TO BE DEPLOYED BY THE CONTRACTOR					
4.1	Numbers of T&Ps to be deployed at site shall be decided based on site requirement. Below given Quantities of T&Ps/ Equipment are tentative and for initial planning purposes by the bidder.					
	4.1.2 List of Tools and Plants:					
	SN	Description of Equipment	Deployment period			Remarks
			Tentative Deployment	Tentative Duration	Tentative Quantity	
	1.	Pick & carry type tyre mounted mobile crane 14/12 MT Note: Hydra is not allowed.	1 st Month	36 Months	01	To be deployed as per instruction of BHEL Engineer.
	2.	Pick and Carry Crane of capacity 23 MT (in Months) Note: Hydra is not allowed.	12 th Month	12 Months	01	To be deployed as per instruction of BHEL Engineer.
	3.	WOODEN SLEEPERS (*)-Assorted sizes	Assorted sizes	As required		To be deployed as per instruction of BHEL Engineer.
	4.	SLINGS, 'D'-SHACKLES, MAX PULLER - 01 MT TO 10MT	As required	As required		To be deployed as per instruction of BHEL Engineer.
	5.	SLINGS, 'D'-SHACKLES, MAX PULLER, PULLEY BLOCKS, HYDRAULIC JACKS, ETC ABOVE 10 MT.	AS REQUIRED	AS REQUIRED		To be deployed as per instruction of BHEL Engineer, WITH TEST REPORTS
	6.	SPANNER SETS RING/D	UP TO 56 MM	TWO SET.		To be deployed as per instruction of BHEL Engineer.
7.	Tarpaulin (Fire Proof) 400 Gram/sq meter (GSM)	Assorted Size	covering 1500 SQ FT of area		Mentioned quantities to be deployed as per Instruction of BHEL Engineer	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter– IV: LIST OF TOOL & PLANTS TO BE DEPLOYED BY THE CONTRACTOR

					within the quoted rate.
	8.	Pallet Lift	AS REQUIRED	2 Nos	To be deployed as per instruction of BHEL Engineer.
	Note: Numbers of T&Ps to be deployed at site shall be decided with respect to Monthly plan and review formats based on site requirement. Contractor shall provide Operator, Fuel, consumables etc. (i.e. complete operation) for Cranes/ T&Ps to be deployed by contractor, for execution of work as per their scope, within the quoted rates <u>and no separate payment shall be made for the same.</u>				
4.2	Note:				
4.2.1	The above list is only indicative and neither exhaustive nor limiting. contractor shall deploy all necessary T&P (calibrated) to meet the schedules & as prescribed by BHEL engineer and required for completion of work. Quantities (as required) may be mutually agreed upon and minutes of meeting duly signed for deployment.				
4.2.2	For Heavy equipment such as crane, winch machine, etc., the age of the contractor deployed Heavy Equipment, at the time of deployment, as indicated above should be less than 15 years (from the current year i.e.2026). Pre-safety inspection of the equipment by the safety deptt. of BHEL/Customer shall be done before mobilizing the equipment at project site. Contractor has to provide documentary evidence/ proof for age of the crane at the time of deployment to BHEL Engineer.				
4.2.3	Considering operational safety, contractor to note that Hydra Shall not be used for material transport. agencies have to deploy the New Generation Pick & carry tyre mounted mobile crane (Farana) of required capacity.				
4.2.4	Regular maintenance period of one day per month shall be permitted and Preventive maintenance period of six days per year with each spell not exceeding three days shall be permitted for the T&Ps.				
4.2.5	All above T&Ps are to be deployed by contractor as and when required as per instruction of BHEL engineer. In case Contractor fails to deploy T&Ps as per requirement of BHEL and work gets delayed/hampered due to non-availability of above T&Ps, BHEL reserves the right to deploy own/hired/otherwise arranged resources and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads Note: In case of deployment of those T&Ps by BHEL for which item rates are indicated in BOQ, due to reasons attributable to contractor as indicated above, differential of expenses incurred by BHEL/ BHEL internal hiring rates and Corresponding BOQ rate of that T&P, shall be recoverable along with 5% overheads, as applicable.				

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter– IV: LIST OF TOOL & PLANTS TO BE DEPLOYED BY THE
CONTRACTOR

4.2.6	All the T&Ps deployed by the bidders shall have valid test certificates, fitness certificates, registration certificate, insurance etc. The documentary proof shall be submitted to BHEL engineer along with applicable valid certificates.
4.2.7	Crane log sheet for each of the crane on daily basis is to be certified by the BHEL engineer. Contractor shall submit the monthly running account bills along with duly certified log sheets
4.2.8	Any or part or all of the T & Ps of the contractor identified for the tendered package shall not be engaged for any works other than that of the works intended in this tender. However, BHEL reserves the rights to engage those T&Ps for which separate monthly rates are being paid within the project premises for its own works other than that of the works intended in this tender during the period of contract. In such cases fuel will be provided by BHEL. However, operator for the same shall be provided by the contractor.
4.2.9	The wooden/concrete sleepers shall be taken back by the contractor on as is where is basis after completion of work. No claim on account of damage /loss shall be payable by BHEL.
4.2.10	Quantities of Tarpaulin (fire proof) as indicated in scope of contractor shall be mobilized by the contractor in the first month of contract or as directed by BHEL. Additional quantities shall be supplied by BHEL.
4.2.11	The Tarpaulin supplied by the contractor shall be taken back by the contractor on as is where is basis after completion of work. No claim on account of damage /loss shall be payable by BHEL.
4.2.12	Mobilisation and demobilisation of all T&Ps shall strictly be done as per the instructions from BHEL. BHEL also reserves the right to direct the contractor to dis-continue/ de-mobilise any/all of these cranes within the contract period/extended contract period with 30 days (minimum) advance written notice without assigning any reason. No payment shall be made after, 'the notified date of demobilization/discontinuance by BHEL in its notice' or 'the actual date of demobilisation/discontinuance by contractor', whichever is earlier.
4.2.13	No separate payment shall be made to contractor for mobilisation and demobilisation of Cranes/ T&Ps

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter– V: TIME SCHEDULE

5.0	Time Schedule and Mobilization:
5.1	Initial Mobilization After issue of LOA (though Fax/courier/email) the contractor shall report to the Construction Manager/Site In-Charge of BHEL at site within seven (07) days from date of LOA and submit detailed mobilization plan to start work within 15 days from date of LOA; unless otherwise instructed by BHEL in writing. The date of “START OF CONTRACT PERIOD” shall be date of issuance of LOI
5.2	AUGMENTATION OF MOBILISATION Contractor shall subsequently augment his resources in such a manner that daily errands/activities shall be completed on daily basis and the entire work is completed within the time schedule/contract period. Mobilization of contractor’s resources shall be made and augmented from time to time in such a manner that the work in scope is carried out in an uninterrupted manner.
5.3	CONTRACT PERIOD The contract period for completion of entire work under scope shall be 40 (Forty) months from the date of issuance of LOI. If work is not completed with-in the contract period, the contract may be extended at the discretion of BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter– VI: Taxes & Duties

6.1	TAXES & DUTIES
a)	All taxes (except GST), duties, charges, royalties, cess and any other levies by Central/ State/local authorities for the execution of the contract shall be borne by the contractor and shall not be payable extra. Any increase of the same at any stage during execution of the contract shall be borne by the contractor. Quoted price of the same shall be inclusive of all such requirements.
b)	GST along with Cess (as applicable) legally leviable & payable by successful bidder as per GST Law shall be paid by BHEL, extra. Hence, bidder shall not include GST along with Cess (as applicable) in their quoted rates/ price.
c)	Contractors have to make their own arrangement at their cost for completing the formalities, if required with relevant taxation authorities, for bringing their material, plant and machinery at site for the execution of the contract. Road permits / way bill, if required shall be arranged by the contractor
d)	Contractor 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 contractor on BHEL for this project / work However, in case contractor submits GST Registration of a state other than the state wherein the site is located, then contractor has to submit an undertaking that contractor is not liable to take registration in the state wherein the site is located as per the provision of Place of Supply under CGST/SGST/IGST Act. BHEL will not be held responsible for any non-compliance of the Contractor in respect of GST laws as framed from time to time
e)	Contractor shall comply with all statutory amendment/notifications in this respect
f)	Contractor shall submit the tax invoice complying with GST Invoice Rules (Section 31 of GST Act & Rules referred thereunder). In case of raising any Supplementary Tax Invoice (Debit / Credit Note), contractor shall issue the same containing all the details as referred in Section 34 read with Section 31 of GST Act & Rules referred there under. Contractor shall comply with the Time Limit prescribed under the GST Law and rules thereof for raising the Tax Invoice
g)	Goods and Service Tax (GST) will be reimbursed to the Contractor subject to the following conditions: - I. Submission of valid GST Compliant Tax Invoice as per the GST Invoice Rules.

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Chapter– VI: Taxes & Duties

	II. The Invoice raised by the Contractor should indicate the BHEL GST Registration Number.) III. Contractor shall upload the invoices raised on BHEL in IFF/GSTR-1 within the prescribed time as given in the GST Act IV. Invoice raised and uploaded in IFF/GSTR-1 by the Contractor should be available to BHEL in FORM GSTR-2B electronically through the common portal Confirmation of payment of such GST to the Government through filing of GSTR-3B of corresponding month/quarter
h)	The GST amount should get reflected within prescribed time limit in the GSTN for BHEL to avail the input credit. If the GST Credit is reversed/ denied/ delayed to BHEL due to non-receipt/delayed receipt of Services and/or tax invoice or due to expiry of timeline prescribed in GST law or due to any other factor for availing such Input Tax Credit (ITC) or for any other reason arising out of the act directly attributable to the Contractor, GST amount shall be recoverable from Contractor from any dues payable to the Contractor along with any interest levied/ leviable on BHEL
i)	Statutory variation, if any, on account of GST will be payable by BHEL at actuals on submission of documentary evidence.
j)	TDS under Income Tax Act/ GST Act shall be deducted as per applicable rates unless Exemption certificate, if applicable, from the appropriate Authority is furnished to BHEL along with the Invoice
k)	<u>New Taxes & duties (Introduced after tender opening date):</u> If any new tax or duty is levied by the Central/State Government/Municipality/Local Authority and becomes directly applicable on items specified in the Bill of Quantities, full reimbursement shall be made subject to submission of documentation as per statute
l)	<u>Income Tax:</u> TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from contractor's bill.

6.2 BOCW Act & Cess Act

Bidder may please note that the sub-contractor/bidder of BHEL engaging building or construction worker in connection with building or other construction work, are required to follow the procedures enumerated below:	
1.	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.
2.	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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter– VI: Taxes & Duties

	gross payment made for value of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.
3.	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.
4.	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.
5.	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.
6.	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.
7.	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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: MATERIAL HANDLING & MATERIAL MANAGEMENT OF MATERIAL RECEIVED BY ROAD

7.1	MATERIAL HANDLING & MATERIAL MANAGEMENT OF MATERIAL RECEIVED BY ROAD								
i)	Contractor shall take advance action to deploy all necessary resources for local transportation, handling and unloading of the anticipated consignments so as to ensure no loss of time upon arrival of the consignments								
ii)	Payment of demurrage/ wharfage etc., which result due to contractor's fault, shall be the responsibility of contractor and to his account. If BHEL has to make payment of such demurrage/ wharfage together with freight. the amounts so paid as demurrage/wharfage for the reasons stated above shall be paid to BHEL by the contractor forthwith or shall be recovered from the bill payments due to the contractor. If it is found that handling and unloading of the consignment are delayed deliberately by contractor (i.e. delay is fully attributable to contractor), which may result in to long queuing of Lorries, penalty shall be imposed as per following: <table border="1"> <thead> <tr> <th>No. of Days of Deliberate Delay</th><th>Rate of penalty in each case</th></tr> </thead> <tbody> <tr> <td>03 to 05 days</td><td>@Rs. 500 per day per truck/ lorry/ trailer</td></tr> <tr> <td>06 to 10 days</td><td>@Rs. 1000 per day per truck/ lorry/ trailer</td></tr> <tr> <td>More than 10 days</td><td>@Rs. 2000 per day per truck/ lorry/ trailer</td></tr> </tbody> </table>	No. of Days of Deliberate Delay	Rate of penalty in each case	03 to 05 days	@Rs. 500 per day per truck/ lorry/ trailer	06 to 10 days	@Rs. 1000 per day per truck/ lorry/ trailer	More than 10 days	@Rs. 2000 per day per truck/ lorry/ trailer
No. of Days of Deliberate Delay	Rate of penalty in each case								
03 to 05 days	@Rs. 500 per day per truck/ lorry/ trailer								
06 to 10 days	@Rs. 1000 per day per truck/ lorry/ trailer								
More than 10 days	@Rs. 2000 per day per truck/ lorry/ trailer								
iii)	It would be the responsibility of the contractor to examine the packages, consignments etc. Immediately on arrival and bring to the notice of BHEL authorities regarding loss/damage/shortage/discrepancy, if any, observed in the consignments before taking delivery of the same								
iv)	Any discrepancy/shortage/damage found in the consignment after taking clean delivery from the carriers shall be the responsibility of contractor and the resultant loss to BHEL on such account shall be recoverable from the contractor due to negligence/ carelessness on the part of the contractor.								
v)	Consignments are expected to arrive during any time of the day, and count down for detention/demmurage/wharfage charges is liable to start immediately. Unloading of such consignments may be necessitated even in the night or round the clock. Contractor shall arrange to deploy his resources immediately and continue round the clock on such occasions without any additional cost to BHEL. Contractor shall arrange all necessary resources including spot lighting for working at night. The contractor shall similarly unload consignments arriving on weekly off days and holidays.								
vi)	Unloading at storage area/work site, stacking and restacking if necessity arises, of all materials including heavy/sophisticated equipments, electrical panels etc. Shall be done as per storage and preservation manual of relevant equipment/components of BHEL and/or as per directions of BHEL engineer.								

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: MATERIAL HANDLING & MATERIAL MANAGEMENT OF MATERIAL RECEIVED BY ROAD

vii)	The contractor shall verify the consignments in detail within 12 days of receipt and report the discrepancies in prescribed formats not later than 14th day . Any loss on account of delayed reporting shall be recoverable from contractor's bill/any payment due. Contractor shall arrange all facilities to open packages – where required in the presence of BHEL engineer, verify the contents, repack wherever and whenever called for and properly stack them as per storage manual or/and as may be directed by BHEL.
viii)	The material shall be so stacked that it should facilitate easy identification, retrieval and handling for issue as and when need arises.
ix)	Pre-defined identification system of the locations of open storage yard, semi-closed shed, covered stores as well as storage racks has to be designed/prepared by the contractor with the approval of BHEL. Contractor shall put up prominent identification boards of segmental locations (for open and closed stores) or inscription (on the storage racks) with clear visibility from a distance. Contractor shall also arrange to display plot plan at regular intervals in the covered/semi-closed/open storage. The contractor shall arrange proper displays/signs for various requirements as per instructions of BHEL The display boards shall be made with structural steel & M.S. plates and shall be painted with synthetic enamel paint. Contractor shall have to periodically repeat such exercise as the original displays may get lost / damaged / deteriorate with time. All materials and consumables for this purpose shall be arranged by the contractor. Contractor shall have to make his own arrangements including supply of materials for displaying the proper identification tags, boards, marking, inscription etc. As scope of work.
x)	The contractor shall execute the work in a professional manner. The stores shall be handled with due care and diligence. The contractor at his own cost shall make good, any loss to BHEL due to contractor's lapse.
xi)	HANDLING HEAVIER CONSIGNMENTS: Contractor shall submit procedure with sketches of handling of all heavy components to BHEL well in advance and obtain prior approval before unloading and stacking.
xii)	Since this contract is intended to be a complete package from material receipt through issue/transactions right up to material reconciliation, full responsibility w.r.t the proper upkeep of facilities e.g. computers, stationary items; ensuring befitting discipline among the store assistants/staff under its control and accounting of materials on stock shall rest with the contractor at all times. In the remote possibility of any untraceable material, customarily BHEL has to process the insurance claim. To kick off such claim, the contractor shall render all necessary assistance including augmentation of documents (FIR etc) within the quoted price as may be required for realization of the insurance claim.
7.2	RESPONSIBILITIES OF THE CONTRACTOR –
(a)	RECEIPT & ISSUE Scope includes execution of various activities as follows:

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: MATERIAL HANDLING & MATERIAL MANAGEMENT OF MATERIAL RECEIVED BY ROAD

i)	Receipt, unloading, carrying out receipt inspection, detailed verification, stacking and regular stock verification of materials at site.
ii)	Preparing various reports at appropriate stages and reporting damage/loss during receipt as well as storage and any other associated responsibility as assigned by BHEL from time to time. Responsibility shall include the following activities: i. Examination of incoming consignments to detect any loss or shortage or outward damage and recording it on the LR/LWB before making acknowledgement of it's receipt from the transporter and simultaneously obtaining endorsement of the vehicle driver on the same. ii. Reporting such discrepancy to BHEL immediately on receipt of the consignment. iii. Assisting BHEL in lodging insurance claims in respect of loss/damage as stated above. iv. The Contractor shall actively assist and expedite the process of obtaining Material Receipt Certificates (MRCs) from the End Customer, in timely manner. Any delay in the submission/verification of the MRCs shall entitle BHEL to initiate appropriate contractual remedies as deemed necessary.
iii)	Issue of materials to BHEL's erection contractors, preservation of stacked materials, re-stacking/re-handling as necessary, progressive and final reconciliation with BHEL's erection agencies and preparation of necessary document/ record in respect of these activities.
iv)	Return of excess/defective materials by various erection contractors of BHEL
v)	LOADING AND DISPATCH OF OUTGOING MATERIALS.
vi)	EXPECTED MINIMUM QUALITY OF SERVICE Contractor shall render the services by ensuring deployment of requisite personnel with adequate educational qualification having thorough experience in related field to enable understanding the intricacies of and special requirements involved in handling of project materials, inconsistencies and uncertainties associated with in/out flow of materials, project activities at odd hours & holidays and irregular working hours. Contractor shall ensure prompt and timely availability of such services.
(B)	<u>PRESERVATION OF COMPONENTS</u> Contractor shall arrange for preservation of components as per BHEL's storage and preservation manual and/or as per instructions of BHEL engineers. One or more of following methods shall be adopted for preservation. 1) Coating with preservative paints/lubricant/inhibitors 2) Capping/wrapping/covering 3) Filling/immersion in oil/chemicals etc. Periodic checks/maintaining required nitrogen pressure in tanks of transformers; BHEL will provide the nitrogen gas for the same. However, contractor shall handle the cylinders at stores, transport to point of use, fit-up refills and return empty cylinders to BHEL stores. BHEL WILL PROVIDE FREE OF COST ALL PRESERVATIVES LIKE PRESERVATIVE OIL, LUBRICANTS, CHEMICALS, INHIBITORS ETC EXCEPT PRIMERS & PAINTS. CONTRACTOR SHALL PROVIDE RED OXIDE ZINC CHROMATE (ROZC) PRIMER CONFORMING TO IS: 2074

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: MATERIAL HANDLING & MATERIAL MANAGEMENT OF MATERIAL RECEIVED BY ROAD

	OF REPUTED MANUFACTURES (E.G. ASIAN PAINTS, BERGER, JENSON & NICHOLSON, BOMBAY PAINTS, SHALIMAR OR ANY OTHER BHEL APPROVED MANUFACTURER) REQUIRED FOR PRESERVATION SHALL BE PROVIDED BY THE CONTRACTOR AND USED FOR THIS PURPOSE. In the process the identification marks, component/material codes, match marks may have to be repainted. This work after preservation components are to be stacked properly, periodical reports on the preservation carried out should be submitted to BHEL in the prescribed formats.												
(C)	<u>RECORD KEEPING -</u> Contractor shall prepare, maintain and update various MM records, associated with materials management operation of BHEL at project site. Two systems of record keeping/capturing information & data at various stages are in vogue viz. i. Manual ledgers & records. ii. Computerized database application: BHEL has developed a software application named E-STORE that captures all the data in the entire chain of transactions starting with master list of project materials, records of dispatch, receipt, inspection, issue, return, consumption etc. Some of these records are master shipping/packing list, LR/RR register, daybook register, stock register, records of issues to & return of materials in respect of various erection subcontractors, insurance claim records, periodical status reports in various formats covering desired aspects and output information as per BHEL/CLIENT’S requirement. Contractor will provide necessary hardware, software & stationary etc. And shall take utmost care to ensure that these properties and records are protected from any damage or loss. BHEL will recover the cost of such property / expenses of restoration from the contractor with overhead charges in case of any loss/damage attributable to negligence/failure on contractor’s part.												
(D)	<u>RESPONSIBILITIES OF THE CONTRACTOR:</u> CONTRACTOR HAS TO MOBILIZE BELOW MENTIONED MANPOWER, OTHER THAN SECRETERIAL SERVICES MANPOWER MENTIONED, ELSE WHERE IN THIS CONTRACT. Providing below mentioned manpower is included in the scope of work of Contractor and there shall not be any separate payment for this, under Section-C of rate schedule. <table><tr><th>SL NO</th><th>ACTIVITY/DESCRIPTION</th><th>REMARKS</th></tr><tr><td>1</td><td>MATERIAL RECEIPT/ UNLOADING, COLLECTION/ BOOKINGS/ PRESERVATION</td><td rowspan="4">To be deployed from the start of contract OR as per instruction of BHEL Engineer</td></tr><tr><td>2</td><td>DETAILED VERIFICATION</td></tr><tr><td>3</td><td>MATERIAL ISSUE</td></tr><tr><td>4</td><td>RECORD KEEPING</td></tr></table>	SL NO	ACTIVITY/DESCRIPTION	REMARKS	1	MATERIAL RECEIPT/ UNLOADING, COLLECTION/ BOOKINGS/ PRESERVATION	To be deployed from the start of contract OR as per instruction of BHEL Engineer	2	DETAILED VERIFICATION	3	MATERIAL ISSUE	4	RECORD KEEPING
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TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-VIII: DEPLOYMENT OF SAFETY PERSONNEL BY SUBCONTRACTOR
AS PER HSE SPEC

8.0 DEPLOYMENT OF SAFETY PERSONNEL BY SUBCONTRACTOR AS PER HSE PLAN FOR ± 800 KV HVDC BF SITE OPERATIONS (If required by BHEL site in-charge)

- a) Deployment of safety personnel may be done as per the conditions prescribed below. This shall be payable at the approved basis of monthly rates as per Table below.
- b) The qualification and experience criteria of each type of safety personnel is given Clause 23.3 of HSE Plan for ± 800 KV HVDC BF Site operations.
- c) **No. of safety personnel and duration of deployment shall be strictly as per written instructions of BHEL site in charge.**
- d) The rates payable as per table below shall be fixed for the entire contract period, including extension if any.
- e) The rates payable shall be paid without applying any percentage above/below as per quoted rates in regular BOQ.
- f) All the applicable legal and contractual obligations such as payment of applicable minimum wages, PF, bonus, ESIC, leave, insurance, medical, overtime, etc. shall be complied by agency.

Table: Schedule of rate for Safety personnel

Sl. No.	Components	Safety officer (Rs.) (Highly Skilled)	Safety Supervisor (Rs.) (Skilled)	Safety Stewards (Rs.) (Semi-skilled)
1	Schedule of rate (rounded off to nearest hundred)	34400	31600	27300

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: LIST OF PENALTIES

LIST OF PENALTIES TO BE LEVIED IN CASE DELAY/NON-COMPLIANCE BY CONTRACTOR:

9.1 If it is found that handling and unloading of the consignment received at site are delayed by contractor (i.e. delay is attributable to contractor), which may result in to long queuing of Lorries, penalty shall be imposed as per following:

No. of Days of Delay	Rate of penalty* per day per truck/lorry/trailer in each case
03 to 05 days	@Rs. 500/-
06 to 10 days	@Rs. 1000/-
More than 10 days	@Rs. 2000/-

*In case BHEL has to pay any amount on account of delay in unloading (whether called demurrage / idling / halt charges etc) to the transporter or supplier exceeding the amount mentioned above, the actual amount borne by BHEL shall be recoverable from the MM Contractor.

9.2 In case of any of the following activities are delayed by contractor (i.e. delay is attributable to contractor), after BHEL's instructions/activity plan, penalty of **Rs. 1000/- per day** shall apply for each incident for the following:

- Identification and issuance of materials to the Customer/ETC Contractor beyond the stipulated date as per the schedule/instructions issued by BHEL.
- Collection of materials from the transporter's godown beyond the stipulated date as per the schedule/instructions issued by BHEL.
- Shifting of materials to the store and proper stacking not completed within one (1) day from the date of unloading.
- Verification of materials not completed within the time period stipulated by BHEL.

The decision of BHEL regarding the occurrence of delay and its attribution shall be final and binding on the Contractor.

9.3 After instruction of BHEL. Installation of CCTV common system with redundant servers and display system to be done within Three months from the date of intimation by BHEL Construction Manager.

In case of delay, by contractor (i.e. delay is attributable to contractor), in supply or installation & commissioning of the CCTV system shall cause penalty of **Rs 1000/- per day**.

9.4 Penalty for downtime of CCTV Camera of more than three days shall be **Rs 400/- per camera per day**.

9.5 In case the contractor does not deploy or delays deployment of manpower for secretarial services at BOQ item no. B.1, BHEL shall levy penalty of **Rs 100 per service day** for delay.

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CHAPTER X : IP CAMERA SPECIFICATION

IP Camera Specification (Fixed / PTZ)	
PARAMETER	ACCEPTABLE VALUE
Image Sensor Type	Progressive Scan CMOS
Image Sensor Size	1/2.8" ~ 1/3"
Camera Image Sensing Capacity (Picture Mode)	2 MP or Better
Resolution	Full HD (1920 x 1080 Pixel) at 25/30 IPS
Day & Night Capable	Yes
IR Illumination Range (Mtr.)	200 or Better (For PTZ) 90 or Better (For Fixed)
Focal Length	4.45 ~ 4.7 to 142.4 ~ 150.4 or better (For PTZ) Varifocal Lens f = 8 ~ 50 mm (For Fixed)
Iris Range	F1.6 ~ F2.9 (For PTZ) 1.6 ~ 360 (For Fixed)
Electronic Shutter	1/50 ~ 1/10000 Auto
Sensitivity (at 6dB)	Color mode: 0.6 lux ; B/W mode: 0.04 lux @ 30IRE, F1.6 (For PTZ) Color mode: 0.21 lux ; B/W mode: 0.05 lux @ 30IRE, F1.2 (For Fixed)
Horizontal Angle of View	55.4 deg (Wide) ~ 3.5 deg (Tele) or Better
Frame Rate (fps)	25 or Better
Lens Type	Motorized Varifocal
Type of Camera housing	Dome type (For PTZ) Bullet Type (For Fixed)
IP Camera	Yes
Pan/Tilt Range	360 Deg Continuous / 90 Deg (For PTZ)
Optical/Digital Zoom	20X/12X or Better
Back Light Compensation	Required
White Balance	Automatic with mode selection options
Audio Support	Full Duplex or 2-way
Alarm Support	Minimum 2 Alarm I/Ps & 1 Alarm O/p (For PTZ) Minimum 1 Alarm I/P & 1 Alarm O/p (For Fixed)
Signal to Noise Ratio	>50 dB
Automatic Gain Compensation	Up to 18 dB
IR cut-filter	Yes
Installation Type	Outdoor
Protection	IP 65 or Better
Vandal resistant housing	Yes with Sun shroud
Mounting Bracket	Pole Mounted
Power Input	12/24 V DC / 24 V AC (Adapter to be provided). PoE
Operating Conditions	0 DegC to +60 DegC / 0% to 90% RH
ONVIF Support	Yes

BILL OF QUANTITY

SCOPE OF WORK

The scope shall include receipt, unloading, inspection, verification, shifting, stacking, preservation, handling, inventory management, and handing over of all materials and equipment for the BF800 Project at BHADLA HVDC/BHADLA-3 Site. The materials covered under this scope include, but are not limited to EHV AIS equipment , Complete electrical, control & instrumentation equipment, Panels/JB and MKs , Cables and cable trays , Equipment and components of associated systems , Pre-fabricated structures ,Structural steel as per Annexure-1 .The contractor shall ensure safe unloading, proper storage (indoor/outdoor as applicable), preservation as per OEM recommendations, periodic inspection, and protection of materials from damage or deterioration.

The Contractor shall ensure prior intimation to, and obtain necessary instructions and approvals from, the **BHEL Site Engineer** before commencement of any activity

The scope also includes supply, installation, and maintenance of CCTV systems for store and site monitoring. Comprehensive materials management services shall be provided, including maintenance of inventory records, documentation, material issue control, and coordination with site execution teams for timely handing over of materials.

Section A1 : Material Handling and Material Management for Materials received through Trucks/Trailers at Project Site

S.No	Description of Work/Item	UNIT	Quantity	Unit Rate (INR)	AMOUNT (INR) = RATE * QUANTITY
A1.1	Material Unloading – Indoor Storage: Receipt of materials, unloading from truck/trailer/carriers at site store, verification of quantity & condition, safe handling and placement in designated indoor storage area. Applicable for 33kV GIS, Junction Boxes / Marshalling Boxes , VMS, Illumination, Copper material, Testing Instruments, Accessories of Converter Transformer & Reactor & other items as per Annexure-1	MT	200.00		
A1.2	Material Unloading – Outdoor Storage (EHV Equipment): Receipt, unloading, verification, placement in designated outdoor area, stacking on sleepers/concrete blocks, covering with tarpaulin sheets and protection as per HSE norms. Applicable for 400kV, 132kV, 72.5kV, 33kV & 11kV Main Equipment / Panels, DC /AC Filter equipments & other items as per Annexure-1	MT	1,975.00		
A1.3	Material Unloading – Outdoor Storage (General Materials): Receipt, unloading, verification and placement in designated open storage area. Applicable for Structures/Angles, Cable Drums, Aluminium Tubes, Earthing Materials, Erection Hardware, Converter Transformer, ICT & Reactor Accessories, Oil Drums & other items as per Annexure-1	MT	6,625.00		
A1.4	Unloading of Converter Transformers Tanks, ICT Tanks & Reactors Tanks: Receipt, verification, unloading from trailer/hydraulic axles and placement at designated area/foundation/road as instructed, including handling as per OEM guidelines and safety requirements. (Converter Transformers - 5 Nos and 400kV ICT - 2 Nos , 400kV Reactors - 2 Nos) as per Annexure-1	MT	1,665.00		
A1.5	Dragging of Converter Transformers Tank from the area of storage area upto equipment foundation/road as instructed, including handling as per OEM guidelines and safety requirements.	Mtrs	250.00		
A1.6	Dragging of 400kV ICT/Reactor Tank from the area of storage area upto equipment foundation/road as instructed, including handling as per OEM guidelines and safety requirements.	Mtrs	200.00		

BILL OF QUANTITY

A1.7	Material Unloading : Receipt of materials, unloading from truck/trailer/carriers at site store, verification of quantity & condition, safe handling and placement in designated indoor storage area. Applicable for Thyristor Valves (Each Box Dimension- 1400 x 1000 x 600mm - Weight per box-300kg) as per Annexure-1	MT	86.40		
A1.8	Material Unloading : Receipt of Structure materials, unloading from truck/trailer/carriers at site store, verification of quantity & condition, safe handling and placement in designated outdoor storage area. Applicable for DC Yard, DC Filter Yard, Valve Hall structures & other items as per Annexure-1	MT	1,551.20		
A1.9	Material Re-shifting, Re-stacking & Handover of Spares: Internal shifting within project premises, re-stacking, loading onto truck/trailer as per Site Incharge instruction and handover of Testing equipments, spares to Customer store including documentation.	MT	335.00		
A1.10	Watch and ward : Watch and ward of stored / erected material at project site and storage area or any other locations as per instruction of site in charge. (round the clock security by authorized service agency).	Man-month per Post	48.00		
Section B : Menial and Secretarial Services of the Contractor for the above works					
S.No	Description of Work/Item	UNIT	Quantity	Unit Rate (INR)	AMOUNT (INR) = RATE * QUANTITY
B.1	Secretarial Services (Skilled) for Store Management	Man-Month	100.00		
Section D : Supply and installation of CCTV system for storage space with AMC of the CCTV System					
S.No	Description of Work/Item	UNIT	Quantity	Unit Rate (INR)	AMOUNT (INR) = RATE * QUANTITY
D.1	Supply and Installation of all hardware and software of the IP based PTZ dome camera along with p2p/PMP Outdoor CPE Antenna for wireless communication surveillance system including for storage space.	Nos.	5.00		
D.2	Supply and Installation of all hardware and software of the IP based Fixed bullet camera along with p2p/PMP Outdoor CPE Antenna for wireless communication surveillance system including for storage space.	Nos.	25.00		
D.3	Supply and Installation of LED Display Screen – Min. 50” with integration capabilities with CCTV system	Nos.	2.00		
D.4	Comprehensive maintenance of the CCTV system	Month	48.00		
Section E : HIRING OF CRANES					
S.No	Description of Work/Item	UNIT	Quantity	Unit Rate (INR)	AMOUNT (INR) = RATE * QUANTITY
E.1	Pick and Carry Crane of capacity 12/14 MT (in Months)	Months	36.00		
E.2	Pick and Carry Crane of capacity 23 MT (in Months)	Months	12.00		
E.3	Fork Lift - 2 Tn Capacity	Month	10.00		

**ANNEXURE-1 (GENERAL LIST OF ITEMS THAT ARE APPLICABLE FOR THE SUBJECT PROJECT AS THE
RESPECTIVE BOQ ITEM NO. APPLICABLE FOR BILLING PURPOSE)**

±800 kV, 6000 MW HVDC Fatehpur - Bhadla Terminals

Sl. No.	Item Description	Unit	BHADLA HVDC QTY	BHADLA-3 QTY	SL. No.
1	Converter Transformer Y-Y : 800KV DC- Accessories	Nos	2	NA	A1.1
2	Converter Transformer Y-D : 400KV DC- Accessories	Nos	3	NA	A1.1
3	Shunt reactor, oil insulated (3-Phase)- Accessories	Nos	2	NA	A1.1
4	400/33kV 50MVA Transformer (aux) (2 phase)- Accessories	Nos	2	NA	A1.1
5	CSD for 400KV Circuit Breaker (3-phase)	Nos	2	NA	A1.1
6	33kV, 1250A, 3ph, 25kA Medium Voltage Indoor GIS	Nos	4	NA	A1.1
7	33kV Cable Termination Kit Indoor/Outdoor	Nos	66	NA	A1.1
8	Heat shrink sleeve for 3" Al. tube	meter	250	NA	A1.1
9	Trefoil clamp for 33kV cable	Nos	500	NA	A1.1
10	MARSHALLING KIOSK	NO	47	10	A1.1
11	JUNCTION BOX (CT/CVT)	NO	98	5	A1.1
12	336KV LA JB	Nos	20	5	A1.1
13	SUB-DCDB FOR DC SUPPLY	SET	2	NA	A1.1
14	Cable transit System	LOT	6	2	A1.1
15	Equipment fixing hardware-AC & DC area	MT	5	2	A1.1
16	Insulating mat	LOT	1	NA	A1.1
17	FlexibleCopper Braid (50mmX6mm) With Lugs at Both Ends	Nos	1105	190	A1.1
18	ANNEALED COPPER WIRE 35 SQUARE MM	Meter	4300	NA	A1.1
19	ANNEALED COPPER WIRE 120 SQUARE MM	Meter	2000	NA	A1.1
20	Copper plate 300mm wide/0.5mm thick	Meter	330	NA	A1.1
21	Copper plate 120mm wide/0.5mm thick	Meter	400	NA	A1.1
22	3.3KV 1 C X 120SQ. MM PVC INSULATEDCOPPER CABLE	Meter	420	NA	A1.1
23	Illumination-outdoor+ Indoor	Lot	1	1	A1.1
24	Visual monitoring system	Lot	1	1	A1.1

**ANNEXURE-1 (GENERAL LIST OF ITEMS THAT ARE APPLICABLE FOR THE SUBJECT PROJECT AS THE
RESPECTIVE BOQ ITEM NO. APPLICABLE FOR BILLING PURPOSE)**

±800 kV, 6000 MW HVDC Fatehpur - Bhadla Terminals

Sl. No.	Item Description	Unit	BHADLA HVDC QTY	BHADLA-3 QTY	SL. No.
25	Air Conditioning System for SPR	Nos	6	2	A1.1
26	Tools and Testing & Maintenance equipment	LOT	1	NA	A1.1/A1.9
27	Mandatory Spares Indoor	LOT	1	1	A1.1/A1.9
28	336kV Surge arrester (1 Phase)	Nos	18	12	A1.2
29	420 kV, 4400 pF Capacitive Voltage Transformer (1-Phase)	Nos	24	12	A1.2
30	420kV, 4000A, 63kA Circuit Breaker (3-Phase) with Support Structure (WITHOUT PIR)	Nos	6	8	A1.2
31	420kV, 2000A/4000A, 63KA, Isolator (3-phase)(Double Break) without/with one/two E/S	Nos	120	24	A1.2
32	400kV, 1000A,1-Ph, 63kA for 1 Sec, Current Transformer	Nos	78	NA	A1.2
33	336kV Surge arrester (1 Phase), for reactor	Nos	6	NA	A1.2
34	9kV, class II, 10 kA, Converter Transformer Primary Neutral Arrester	Nos	8	NA	A1.2
35	LV CT for Converter Transformer (Y-Y) Arrester, 1-Ph	Nos	12	NA	A1.2
36	Valve Hall Neutral Arrester CT	Nos	4	NA	A1.2
37	36/145/245KV Solidcore Post Insulator	LOT	1	NA	A1.2
38	DC Neutral Bus Capacitors	Nos	4	NA	A1.2
39	DC Neutral Disconnectors with/without Earth Switch	Nos	17	NA	A1.2
40	DC Neutral Earth Switch	Nos	4	NA	A1.2
41	Insulators for DC Neutral Disconnectors	LOT	1	NA	A1.2
42	24kV Neutral Bus Capacitor CT	Nos	4	NA	A1.2
43	DC FILTER CT's	Nos	20	NA	A1.2
44	AC FILTER CT's	Nos	144	NA	A1.2
45	72.5kV, 1250A, 3-ph, HDB Isolators With/Without ES	Nos	6	NA	A1.2
46	72.5kV Potential Transformer (1-Ph)	Nos	6	NA	A1.2
47	72.5kV, 1250A, 3-Ph, Circuit Breaker	Nos	6	NA	A1.2
48	72.5kV,400A, 4 Core ,1-Ph Current Transformer	Nos	24	NA	A1.2
49	30kV Arrester , 1-ph	Nos	18	NA	A1.2
50	Auxiliary Service Transformer (Oil Filled) Outdoor type,33/0.433kV,2500KVA	Nos	8	NA	A1.2
51	400kV BPI-8kN/10kN WITH/WITHOUT CORONA RING	Nos	1200	240	A1.2
52	132kV BPI	Nos	24	NA	A1.2
53	72.5kV BPI	Nos	110	NA	A1.2
54	33kV BPI FOR BUS SUPPORT	Nos	250	NA	A1.2

**ANNEXURE-1 (GENERAL LIST OF ITEMS THAT ARE APPLICABLE FOR THE SUBJECT PROJECT AS THE
RESPECTIVE BOQ ITEM NO. APPLICABLE FOR BILLING PURPOSE)**

±800 kV, 6000 MW HVDC Fatehpur - Bhadla Terminals

Sl. No.	Item Description	Unit	BHADLA HVDC QTY	BHADLA-3 QTY	SL. No.
55	11kV BPI FOR BUS SUPPORT	Nos	5	NA	A1.2
56	400kV Composite Long Rod Hardwares	SET	586	298	A1.2
57	400kV Composite Long Rod - Insulator	NOS	1142	324	A1.2
58	72.5kV Composite Long Rod Insulators and Hardwares	SET	18	NA	A1.2
59	1700 KVA DG Set	Nos	4	NA	A1.2
60	Oil Handling system	Nos	1	NA	A1.2
61	Fire Fighting/NIFPS System	Lot	1	1	A1.2
62	Self propelled articulated boom type man lift, 30m	No.	1	NA	A1.2/A1.9
63	Fork Lift	No.	2	NA	A1.2/A1.9
64	Mandatory Spares Outdoor	LOT	1	1	A1.2/A1.9
65	Converter Transformer Y-Y : 800KV DC- Fittings, Oil & other Accessories	Nos	2	NA	A1.3
66	Converter Transformer Y-D : 400KV DC-Fittings, Oil & other Accessories	Nos	3	NA	A1.3
67	Shunt reactor, oil insulated (3-Phase)-Fittings, Oil & other Accessories	Nos	2	NA	A1.3
68	400/33kV 50MVA Transformer (aux) (2 phase)-Fittings, Oil & other Accessories	Nos	2	NA	A1.3
69	33kV, 1CX300 Sq mm HT Cables	meter	6000	NA	A1.3
70	400/132/72.5kV Clamps and Connectors	Lot	1	1	A1.3
71	6" IPS H Al. Tube	m	400	NA	A1.3
72	5" IPS H Al. Tube	m	3000	NA	A1.3
73	4.5" IPS EH Al. Tube	m	NA	900	A1.3
74	4" IPS EH Al. Tube	m	2800	NA	A1.3
75	3" IPS EH Al. Tube	m	1650	NA	A1.3
76	ASCR Bersimis Conductor	m	25500	23000	A1.3
77	ACSR Lapwing Conductor	m	32500	NA	A1.3
78	Cable trench material (50X50X6 MS angle)	MT	105	3	A1.3
79	Cable trench material (150mm 2.5 m long perforated trays)	No.	300	100	A1.3
80	Cable trench material (150mm 2.5 m long perforated tray cover)	No.	300	100	A1.3
81	PVC pipe 50/100/110 & Accessories	LOT	1	1	A1.3

ANNEXURE-1 (GENERAL LIST OF ITEMS THAT ARE APPLICABLE FOR THE SUBJECT PROJECT AS THE RESPECTIVE BOQ ITEM NO. APPLICABLE FOR BILLING PURPOSE)					
±800 kV, 6000 MW HVDC Fatehpur - Bhadla Terminals					
82	GI pipes 50/100/200 & Accessories	LOT	1	1	A1.3
83	40 mm dia MS Rod	MT	1500	220	A1.3
84	GI Flats-75x12 mm	MT	400	35	A1.3
85	GI Flats-50x6 mm	MT	61	12	A1.3
86	MS Flats-50x6 mm	MT	40	4	A1.3
87	GI Flats-25X3 mm	MT	10	1.5	A1.3
88	GI pipe Electrodes-3 meter long	Nos	224	0	A1.3
89	GI Shield wire	KM	28	3	A1.3
90	LT POWER/CONTROL CABLE (VARIOUS SIZES)	KM	350	70	A1.3
91	Lattice & Pipe Type structure, hardware, etc	MT	4300	600	A1.3/A1.8
92	Converter Transformer Y-Y : 800KV DC- Tank	Nos	2	NA	A1.4
93	Converter Transformer Y-D : 400KV DC- Tank	Nos	3	NA	A1.4
94	Shunt reactor, oil insulated (3-Phase)-Tank	Nos	2	NA	A1.4
95	400/33kV 50MVA Transformer (aux) (2 phase)-Tank	Nos	2	NA	A1.4
96	Thyristor Valves (Modules)	Nos	288	NA	A1.7

Notes:

- 1) This list is applicable for the items sent directly to site from the Manufacturers Works



ATL's Way of Doing Things

Storage & Preservation of Materials

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Introduction

Adani Transmission Limited (ATL) is one of the largest integrated private sector utility company in India with a presence across the western, northern and central regions of India. ATL as a developer company, constructs Transmission assets and also operates and maintains assets with longevity at optimum costs.

So it is imperative to construct project with utmost quality and in safe manner, which can lead to smooth operation and maintenance activity for the rest of the asset life. And during the construction period, storage and preservation of all materials, tools and plants, equipment's and spares are important activities to prevent degradation, increase assets' life and ensure timely availability of material for erection and operation during life-cycle of asset performance.

This document, "**ATL's way of doing things**" showcases the good practices followed for the storage and preservation of various materials, equipments and systems by ATL, during various phases of life cycle.

Methodology

"**ATL's way of doing things**" document contains photographic presentation of good practices with description for storage and preservation of all materials during various phases of transmission & S/S projects.

This document, "**ATL's way of doing things**" is presently distinctly for:

- A. Transmission Lines
- B. Substations

A. Transmission Line

1. Conductor, Earth wire & OPGW

Right Practices	Description
Storage of Conductor Drums 	• Conductor drums must be stored in open or Semi open shed in a dry flat and stable surface in its original packing. • Wooden drum must be properly covered to protect it from rain. • Sequential storage providing ease in retrieval.
Storage of Conductor Drums 	• Original stoppers must be ensured to prevent drum rolling. • OPGW/ Conductor drums should be kept on a platform above ground and away from the contact of water and they shall be tagged for easy identification. (While during construction it may be stored on firm ground; during O&M stage, the spare drum should be on brick/ tiled/ pucca surface with stoppers placed on such pucca surface.)

2. Insulators

Right Practices	Description
Stacking of Insulators 	- Insulators should be stored on a flat and stable surface with their original boxes/ cores. - Insulators should be kept on racks/ platform (sleepers made of concrete) & raised above ground. Stored area should be free of water logging. - Boxes should be sealed to prevent the entry of rodents. - The wooden piece should be provided for end support. Also stacking should be covered with tarpaulin during monsoon.

3. Tower Parts & Stub

Right Practices	Description
Storage of Tower Material 	- Tower's galvanised members/ Bundles should be stored in separate Tower-type bays, in lots as per marked numbers. - Separator should be provided between two rows of tower parts to avoid galvanizing defects due to distortion or rub-off of sections. - Stacking height should be limited to 1.5 meter. - No tower member should be used as a support for storing material.

ATL's Way Of Doing Things

Minimum Ground Clearance for Tower Material



- It should be stored above ground level by at least 150 mm up on platforms, skids or any other suitable supports to avoid distortion of sections.
- It must be stacked in such a manner to avoid accumulation of rain water.

4. Nut Bolts

Right Practices	Description
Storage of Nut & Bolts	• B&N should be stored in covered / semi shaded area. • Area should be free from water logging. • Stacking of B&N must be done on firm foundation (PCC or Sand - Tiled firm floor) • Stacking height should be limited to 1.5 meter & ensure the stability of the stacks, while de-stacking. • Nuts & bolts should to be stored separately according to their sizes (with proper demarcation) for easy stacking and retrieval and also to avoid intermixing.

5. Reinforcement Steel

Right Practices	Description
Classification & Minimum Clearance Requirement:  Storage of Reinforcement Steel: 	• For each classification (sizes and lengths) of reinforcement steel, separate areas should be demarcated for easy retrieval. • The bars should be stored at least 150 mm above the ground for prevention of rusting due to ground contact. • Also sleepers made of concrete should be used for stacking. • The bars should be covered with suitable plastic / tarpaulin to avoid rusting. if the storage is required for long duration. Also, cement slurry should be applied or other suitable preservatives as recommended should be applied to avoid rusting.

6. Cement

Right Practices	Description
Storage of Cement Bags 	• Cement bags should be placed in a building or a shed, which is dry, leak proof and as moisture-proof as possible. • Cement bags should be stacked and kept at least 150 mm above ground/ floor level. • A space of 600 mm minimum shall be left all-round between the exterior walls and the stacks. • Height of stack should not be more than 10 bags and width of the stack shall be not more than four bags length or 3 meters. • Different types of cements should be stacked and stored separately. • User should follow "First in First Out (FIFO)" system.

7. HW Fitting

Right Practices	Description
Storage of Different Hardwares Fittings 	• All the hardware and fittings should to be stored as per the storage procedure recommended by the supplier / in original packing. • Small and costly items (copper items, etc.) should be stored in lock & key arrangement. • Stacking height should be limited to 1.5 meter & ensure the stability of the stacks, while de-stacking. • The storage of each type of materials should be identified by suitable tags with material description, qty, receipt date and project name if applicable.

8. Tools & Plants

Right Practices	Description
Erection & Stringing T&P 	• Machines and tools should be kept on concrete or tiled surface having covered and dust free shed. • Chain pulley shall be stored in stand with marked with load capacity. Chains must be free from rust.
Storage of Pulley 	

9. Fire Fighting Equipment

Right Practices	Description
Placement of Fire Extenguisher & Fire Buckets:  	• Fire extinguishers should be placed on platforms or in cabinets and it should be above ground level by at least 750 mm. Such equipment if placed outside the building, should be placed under shed or in covered area. • Fire buckets should be placed on hooks attached to a suitable stand or wall and it should be above ground level by at least 750 mm. • Fire buckets should be filled with clean sand. <i>(Further, Model Rules Under The Factories Act, 1948 to be referred.)</i>

B. Substation

10. Circuit Breaker and Isolator

Right Practices	Description
Storage of CB & Isolator  	Circuit Breaker and Isolator • The circuit-breakers and Isolators must be stored indoor/ semi open shed in their original packaging to protect them from damage. • The units must be kept in a stable, horizontal position indoor and above the ground level, so as to avoid cracking. Operating mechanism • The operating mechanism shall be stored on a dry, well-drained surface. Stacking of packaging boxes • Packaging boxes of different sizes should never be stacked on top of each other. Spare parts • Spares must be stocked indoors in their original packing. This is particularly important for rubber components, (such as seals) which also needs protection from sunlight to avoid drying up.

11. Capacitor Voltage Transformer

Right Practices	Description
Capacitor Voltage Transformer 	• The CVT/Capacitor unit should under no circumstances be kept horizontally. They should be stored vertically in open/semi open shed. • It is to be stored in upright position. • The crate must be encapsulated in polyethylene sheet and placed on a flat, aligned surface.

12. Dry Type Transformer and its core

Right Practices	Description
Dry Type Transformer and its core 	• Dry-type transformers preferably should be stored indoor in a dust free dry location. • If it is necessary to leave a transformer outdoor, it should be thoroughly protected to prevent moisture and foreign material from entering.

13. Power & Control Cables

Right Practices	Description
Storage of Cables: 	• The site for storage of cable drums should be well drained, hard packed soil. • All drums should be stored in such a manner so as to leave sufficient space between drums for air circulation. • Cables should be shielded from direct sunlight or other UV sources by suitable coverings such as black plastic sheeting. • Cable ends should be sealed until use. • Cut pieces of cable/conductor shall be stored properly coiled/bundled with a tag indicating size, type and running lengths. This shall help in most economical use of cut lengths.

14. Current Transformer, Potential Transformer & Wave Trap

Right Practices	Description
	• The CT, PT & Wave Trap must be encapsulated in polyethylene sheet and stored in open or Semi open shed in a dry and dust free environment on a flat and stable surface in its original packing. • If long storage of six months is foreseen, the storage should be preferably be made in a covered area.

15. Condenser/ Porcelain Bushings

Right Practices	Description
Storage of Porcelain Bushings  	• It should be stored in horizontal position in dry and dust free area. • The Bushing should be placed inside at 15° angles with horizontal but with the head at highest point • The Cap of Transformer Bushing must be kept on upper side.

16. Power Transformer/ICT and Reactor

Right Practices	Description
Smoothing Reactor Storage: 	- The bedding for the equipment should be larger than its bottom surface - It is recommended, the transformer should be stored up to 3 months at the site without oil-filling. - During the storing time, the inert gas (nitrogen) or Dry air filling shall be maintained and pressure is monitored daily - The following articles should be stored Indoor in a dry room: - Insulation material as paper, pressboard, Bakelite, wood, cotton tape, insulated shielding bodies etc. - Breathers, drying agents. - Terminal boxes, connection boxes, control cabinets. - Gas relays, oil-level indicators, thermometers, pressure valves etc. - OLTC motor drive, Fans, Pumps, Instruments & fittings. They should be kept on racks or wooden pallets as per the size and shape. Proper identification tag to be put off such material.
Storage of MarshallingBox: 	

17. Transformer Oil

Right Practices	Description
Storage of Transformer Oil Drum: 	- Oil drums should be kept in horizontal a position with the bungs at 3 O'clock and 9 O'clock position - Drums should be placed on wooden planks; Layers should be limited to 2/ 3 numbers. - Also the oil handling procedure must be complied.

18. Paint

Right Practices	Description
Storage of Paints: 	- Storage and dispensing areas must be posted as "No Smoking" areas. - Principal of FIFO should be followed without fail based on date of manufacturing. - Paint and thinner are flammable commodity and must be stored in covered, dry and well ventilated shed.

19. Columns/Heavy Beams/Girders/Structural steel

Right Practices	Description
	• This area should be free from water logging to protect from rust/corrosion • Also it should be kept minimum 150 mm high above the ground level with suitable supports at regular intervals. • No other materials to be kept over the columns. • Columns/Heavy Beams/Girders of different size and section to be stored separately to ease in retrieval of the bundles.

20. Batteries

Right Practices	Description
	• Care should be taken that cells must be stored in dry and well-ventilated stores and protected from extreme heat and cold. • It must be wrapped individually in waxed paper. • Moreover, Ensure the compliance of manufacturer guideline for storage of different type of batteries for short duration to long period.

Note: -

1. For additional details of storage and preservation of any material related to Transmission, Substation and Building construction, S&P manuals of ATL to be referred.
2. For special equipment, storage & preservation guidelines shall be obtained from the equipment supplier.



TENDER NO.: TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27
Date: 22-09-2026

Volume – B

GENERAL CONDITIONS OF CONTRACT (GCC)

Bharat Heavy Electrical Limited
(A Govt. of India Undertaking)
Transmission Business Group-Subcontracting Management
5th Floor, BHEL Sadan, Plot-25, Sector-16A, Noida, UP-201301

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- 2.11. Extension of Time for Completion
- 2.12. Over Run Compensation
- 2.13. Secured Recoverable Advances
- 2.14. Quantity Variation
- 2.15. Supplementary Items
- 2.16. Price Variation Clause

- 2.17. Insurance
- 2.18. Strikes & Lockout
- 2.19. Force Majeure
- 2.20. Settlement of Disputes
- 2.21. Consequential Loss
- 2.22. Terms of Payments
- 2.23. Performance Guarantee for Workmanship
- 2.24. Closing of Contracts
- 2.25. Suspension of Business Dealings
- 2.26. Limitation on Liability
- 2.27. Non-Disclosure Agreement (NDA)
- 2.28. Cartel Formation
- 2.29. Fraud Prevention Policy
- 2.30. Order of Precedence
- 2.31. Other Issues

CHAPTER -1

1. GENERAL INSTRUCTION TO TENDERERS

1.1. DESPATCH INSTRUCTION

- i) The General Conditions of Contract form part of the Tender specifications. **For this tender, bidders shall use electronic Signature viz Digital Signature Certificate while uploading the tender documents on the e-procurement portal.** The information furnished shall be complete by itself. The tenderer is required to furnish all the details and other documents as required in the following pages.
- ii) Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. Should the tenderers have any doubt about the meaning of any portion of the Tender Specification or find discrepancies or omissions in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, the scope of work etc., he shall at once, contact the authority inviting the tender well in time (so as not to affect last date of submission) for clarification before the submission of the tender. Tenderer's request for clarifications shall be with reference to Sections and Clause numbers given in the tender documents. The specifications and terms and conditions shall be deemed to have been accepted by the tenderer in his offer. Non-compliance with any of the requirements and instructions of the tender enquiry may result in the rejection of the tender.
- iii) Integrity pact (IP) not applicable for this tender.

1.2. SUBMISSION OF TENDERS

- 1.2.1 The tenderers must submit their tenders to Officer inviting tender as per instructions in the NIT.
- 1.2.2 **Tenders shall be submitted through E-Procurement portal** as per instruction in NIT. Tenderers to upload offers well in advance in order to avoid last minute congestion in e-procurement website. However, after submission of the tender, the tenderer can re-submit revised tender but before due date and time of submission of tender as notified.
- 1.2.3 Tenders shall be opened by Officer of BHEL at the time and date as specified in the NIT. For this tender, bidders may attend through online mode, if provisions are available in e-procurement portal.
- 1.2.4 Tenderers whose bids are found techno commercially qualified shall be notified through e-procurement system about the date and time of opening of the Price Bids. BHEL's decision in this regard shall be final and binding.
- 1.2.5 The information given in the tender documents is for general guidance and shall not be construed as contractually binding on BHEL/ Owner. All relevant site data/ information as may be necessary for bidding shall have to be obtained/ collected by the Tenderer.
- 1.2.6 The Tenderers are advised to physically visit the site to acquaint and satisfy themselves about the weather conditions, working culture in the area, socio-political environment, safety & security aspects, law & order situation, law of the land, transportation routes, various distances, surroundings

of plant/ project premises together with all statutory, obligatory, mandatory requirements of various authorities and obtain for themselves all necessary information as to the risks, contingencies and all other circumstances, which may influence or affect the discharge of various obligations under the Contract during contract period including extended period (if any).

- 1.2.7 The submission of bid will tantamount to due diligence having been done and it shall be deemed that:
- a. the Tenderer has obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works
 - b. the Tenderer accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works
 - c. the Tenderer accepts that, the Contract Price shall not be adjusted to take account of any unforeseeable or unforeseen difficulties or costs and the Tenderer shall not raise any claims/ disputes against BHEL and/ or Owner at later date in any manner whatsoever.
- 1.2.8 The Tenderer shall mandatorily be required to submit "Site Visit Confirmation Declaration" in Form F-06 along with the Technical Bid.

1.3. LANGUAGE

- 1.3.1 The tenderer shall quote the rates in English language and international numerals. These rates shall be entered in figures as well as in words. Tenderers are requested to refer the clauses of NIT/ Vol-II "Price Bid" for more details. For the purpose of the tenders, the metric system of units shall be used.
- 1.3.2 All entries in the tender shall either be typed or written legibly in ink. Erasing and over-writing is not permitted and may render such tenders liable for rejection. All cancellations and insertions shall be duly attested by the tenderer.

1.4 PRICE DISCREPANCY:

- 1.4.1 **Price Bid opening:** During opening of price bids, if there is any difference between the amount in figures and in words, the amount quoted by the bidder in words shall be taken as correct.

1.5 QUALIFICATION OF TENDERERS

- i) Only tenderers who have previous experience in the work of the nature and description detailed in the Notice Inviting Tender and/or tender specification are expected to quote for this work duly detailing their experience along with offer.
- ii) Offers from tenderers who do not have proven and established experience in the field shall not be considered.
- iii) The offers of the bidders who are either debarred or under Interim Suspension from BHEL - TBG, or debarred from BHEL on web site <https://www.bhel.com/list-debarred-firms>, and the offer of the bidders, who engage the services of above said firms, shall be rejected.
- iv) Offers from tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt. of India shall not be considered.

1.6. EVALUATION OF BIDS

- i) Technical Bids submitted by the tenderer will be opened first and evaluated for fulfilling the Pre-Qualification criteria and other conditions in NIT/Tender documents, based on documentary evidences submitted along with the offer.
- ii) In case the same qualifying experience is claimed by more than one agency, then:
 - a. The agency who has executed the work as per documentary evidence submitted shall only be qualified. Scope of qualifying work should be totally with the agency who has executed and in case it is only labour and consumables without T&P, then the credentials of execution is assigned to the first agency and not to the agency who has executed only as labour supply contractor. Further, BHEL reserves the right to ask for any other proof for the said job.
 - b. However, if the same is on account of subletting part of scope by one agency to another agency in a project of BHEL, experience of both the agencies may be considered for the sublet portion of the work provided subletting has been done with the approval of BHEL.
- iii) In case the qualifying experience claimed by bidder is based on 'Work Order' and 'Experience Certificates' from any organization other than BHEL (main agency), then it shall be the responsibility of bidder to submit (in addition to the experience certificate from main agency) relevant certificate regarding qualifying experience from the end Customer or the Turnkey-Contractor (if any) who has awarded the work to main agency, as a proof for having executed subject qualifying work. BHEL reserves the right to ask for any other proof for the said job.
- iv) Assessing Bidder's Capacity for executing the current tender shall be as per Notice Inviting Tender.
- v) Price Bids of shortlisted bidders shall only be opened through the electronic price bid opening with/without Reverse Auction, at the discretion of BHEL. Unless specified otherwise in the tender, the L1 bidder amongst all the shortlisted bidders shall be considered for award. However, the L1 bidder shall have no claim on the award & BHEL reserves the right to award the tender at its sole discretion.
- vi) Price Bids of unqualified bidders shall not be opened. Reasons for rejection shall be intimated in due course either through system generated e-mail or through letter/e-mail after award to successful bidder.

1.7. DATA TO BE ENCLOSED

Full information shall be given by the tenderer in respect of the following. Non-submission of this information may lead to rejection of the offer.

- i) **INCOME TAX PERMANENT ACCOUNT NUMBER**
Certified copies of Permanent Account Numbers as allotted by Income Tax Department for the Company/Firm/Individual Partners etc. shall be furnished along with tender.
- ii) **ORGANIZATION CHART**
The organization chart of the tenderer's organization, including the names, addresses and contact information of the Directors/Partners shall be furnished along with the offer.
- iii) An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor.
- iv) **IN CASE OF INDIVIDUAL TENDERER:**
His / her full name, address, PAN and place & nature of business.
- v) **IN CASE OF PARTNERSHIP FIRM:**

The names of all the partners and their addresses, A copy of the partnership deed/instrument of partnership duly certified by the Notary Public shall be enclosed.

vi) **IN CASE OF COMPANIES:**

- a) Date and place of registration including date of commencement certificate in case of Public Companies (certified copies of Memorandum and articles of Association are also to be furnished).
- b) Nature of business carried on by the Company and the provisions of the Memorandum relating thereof.

1.8 AUTHORIZATION AND ATTESTATION

Tenders shall be signed by a person duly authorized/empowered to do so, for which a Power of Attorney is to be submitted along with the tender offer. For company, a Power of Attorney (as per format in Volume-I D) shall be submitted.

1.9 EARNEST MONEY DEPOSIT

1.9.1 Every tender must be accompanied by the prescribed amount of Earnest Money Deposit (EMD) in the manner described herein.

- i) EMD shall be furnished along with the offer on or before due date for bid submission in full as per the amount indicated in the NIT.

In case of e-procurement, bidder shall upload the scanned copy of EMD along with bid submission through BHEL e-procurement Portal as a Proof of EMD. However, the bidder shall send the demand draft/ banker's cheque/ pay order/ Insurance Surety Bonds, in original, to the designated officer through post/courier or by hand within reasonable time. Date of remittance of EMD should not be later than the latest due date for bid submission else Bid shall be rejected.

- ii) The EMD is to be paid only in the following forms:

- a) Cash deposit as permissible under the extant Income Tax Act
- b) Electronic Fund Transfer credited in BHEL account
- c) Banker's cheque / Pay order / Demand draft, in favour of 'Bharat Heavy Electricals Limited' and payable at New Delhi
- d) Fixed Deposit Receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL). The Fixed Deposit in such cases shall be valid for at least six months from the due date of tender submission.
- e) Insurance Surety Bonds from IRDA registered Agency as mentioned in clause 1.12.2.

Note:

- 1) No other form of EMD remittance shall be acceptable to BHEL.

1.9.2 (A) EMD by the Tenderer will be forfeited as per NIT conditions, if:

- i) After opening the tender and within the offer validity period, the bidder revokes his tender or makes any modification in his tender which is not acceptable to BHEL.
- ii) The successful bidder, on whom the work has been awarded, fails to deposit the required Security Deposit or commence the work within the period as per LOI/ LOA/ Contract or refuse to accept the LOI/ LOA/ Contract.

(B) EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" of BHEL and forfeited/ released based on the action as determined under these guidelines.

1.9.3 EMD shall not carry any interest.

1.9.4 EMD given by all unsuccessful tenderers shall be refunded normally within fifteen days of award of work.

1.9.5 EMD of successful tenderer will be retained until the receipt of full Security Deposit amount.

1.10 SECURITY DEPOSIT

1.10.1 Upon acceptance of Tender, the successful bidder should deposit the required amount of Security Deposit towards fulfilment of any obligations in terms of the provisions of the contract. The total amount of Security Deposit will be **10% of the contract value**.

The Security Deposit is to 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) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).
- iv) Bank Guarantee (including e-BG) in prescribed formats shall be from Consortium bank as mentioned in clause 1.12.1 (i).
- v) Fixed Deposit Receipt issued by Consortium bank (FDR should be in the name of the Contractor, a/c BHEL). Specific lien in favour of BHEL on the FDR shall be marked and letter from the Bank having created such lien in the format shall be submitted along with FDR. List of BHEL's Consortium Bank is mentioned in clause 1.12.1 (ii).
- vi) Insurance Surety Bonds from IRDA registered Agency as mentioned in clause 1.12.2.

Note:

BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

1.10.2 The Security Deposit should be furnished before start of the work by the contractor. In case of delay in submission of Security Deposit, a penalty equivalent to interest for the delayed period (@ Repo rate + 4%) shall be submitted by contractor in Cash/ Cheque/ DD/ Pay-order else BHEL shall recover the same from their first RA Bill. This penalty for the delayed period would be non-refundable. However, in any case, the delay in submission of Security Deposit should not exceed beyond 90 days from the date of start of work, else BHEL reserve the right to consider it as non-compliance of contractual conditions and may act as per clause 2.7.2. of GCC i.e. Breach of Contract.

1.10.3 The Security Deposit shall not carry any interest.

1.10.4 In case the value of work exceeds the awarded / accepted value, the Security Deposit shall be correspondingly enhanced as given below:

- i) The enhanced part of the Security Deposit shall be immediately deposited by the Contractor or adjusted against payments due to the Contractor.
- ii) Contract value for the purpose of operating the increased value of Security Deposit due to Quantity Variation, shall be exclusive of Price Variation Clause, Over Run Compensation and Extra works done on man-day rates.
- iii) The recoveries made from running bills (cash deduction towards balance SD amount) can be released against submission of equivalent Bank Guarantee in acceptable form, but only once, before completion of work, with the approval of competent authority of BHEL.

1.10.5 The validity of Bank Guarantees/ Insurance Surety Bonds towards Security Deposit shall be initially up to the completion period as stipulated in the Letter of Intent/ Award + 3 months, and the same shall be kept valid by proper renewal by the contractor at their own cost till the expiry of the completion period plus 3 months or acceptance of Final Bills of the Contractor by BHEL whichever is later. No additional amount shall be payable to the contractor towards bank charges or commission whatsoever.

1.10.6 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims, damages and remedies in the event of the Contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL by giving prior notice to the contractor.

1.11 RETURN OF SECURITY DEPOSIT

Security Deposit shall be released to the contractor upon fulfillment of contractual obligations as per terms of the contract after deducting all expenses / other amounts due to BHEL under the contract.

If the contractor duly performs and completes the work and material reconciliation in all respects to the entire satisfaction of BHEL and presents an absolute "No demand certificate", returns material/properties belonging to BHEL, taken, borrowed or hired by him for carrying out the said works, , Security Deposit will be released to the contractor after deducting all costs, expenses and other amounts that are to be paid to BHEL under this contract or other contracts entered into with the contractor.

It may be noted that in no case the Security Deposit shall be refunded/released prior to passing of final bill.

1.12 BANK GUARANTEES/ INSURANCE SURETY BONDS

1.12.1 Bank Guarantees

Where ever Bank Guarantees are to be furnished/ submitted by the bidder, the following shall be complied with

- i) Bank Guarantees For Security Deposit – Only from BHEL's Consortium bank and in the prescribed format of Forms and Procedure.
- ii) List of BHEL's Consortium Bank is covered in Forms & Procedures. In the event of any revision in the list of BHEL's Consortium Banks at the time of BG execution, the same shall be duly complied with by the Contractor / Vendor.
- iii) For issuance of e-BG, BHEL is a registered entity in NeSL the platform through which e-BG is issued. BHEL as a registered NeSL beneficiary can be tracked based on BHEL PAN No AAACB4146P. BGs should be duly issued in compliance with SFMS requirements.
- iv) It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be liable for issue of any reminders regarding expiry of the Bank Guarantees.
- v) In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly endorsed by the Site Incharge and submitted to the TBG Noida HQ issuing the LOI/LOA.
- vi) In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- vii) Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non-judicial stamp paper.
- viii) The Original Bank Guarantee against Security Deposit, Retention Amount & Secured Recoverable Advances shall be submitted to Subcontracting Department of BHEL from where tender is floated till signing of Contract Agreement. After Contract signing/ during execution of contract, all Bank Guarantees shall be submitted to TBG HQ, unless specified otherwise in TCC.

1.12.2 Insurance Surety Bonds

Where ever Insurance Surety Bonds are to be furnished/submitted by the contractor, the following shall be complied with:

- i) The Insurance Surety Bonds shall be as per prescribed of Forms and Procedure.
- ii) The Insurance Surety Bond shall be from an Insurer as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI).
- iii) The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state(s) where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Bidder/Insurer issuing the Insurance Surety Bond.
- iv) It is the responsibility of the bidder to get the Insurance Surety Bond revalidated/extended for the required period, in line with completion plan, as per the advice of BHEL Site Engineer /

Construction Manager. BHEL shall not be liable for issue of any reminders regarding expiry of the Insurance Surety Bond.

- v) In case extension/further extensions of any Insurance Surety Bond are not required due to fulfillment of contractual obligations as per terms of the contract, the bidders shall ensure that the same is explicitly endorsed by the Construction Manager and submitted to the TBG HQ issuing the LOI/LOA.
- vi) In case the Insurance Surety Bond are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Insurance Company in writing, without any advance notice/communication to the concerned bidder.
- vii) Bidders to note that any corrections to Insurance Surety Bond shall be done by the issuing Insurance Company, only through an amendment in an appropriate non-judicial stamp paper.
- viii) The Original Insurance Surety Bond against Security Deposit & Retention Amount shall be submitted to Subcontracting Department, TBG from where tender is floated till signing of Contract Agreement. After contract signing/ during execution of contract, all Insurance Surety Bonds shall be submitted to respective Site Incharge/Sector Office, unless specified otherwise in TCC.

1.13 VALIDITY OF OFFER

The rates in the Tender shall be kept open for acceptance for a minimum period of **FOUR MONTHS** from latest due date of offer submission (including extension, if any). In case BHEL (Bharat Heavy Electricals Ltd) calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

1.14 EXECUTION OF CONTRACT AGREEMENT

The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Intent/ Award by Bharat Heavy Electricals Limited.

After acceptance of work LOI and submission of Security Deposit and completion schedule, Work Order shall be issued by BHEL before releasing the first running bill.

The successful tenderer shall be required to execute an agreement in the prescribed form, with BHEL, within a reasonable time after the acceptance of the Work Order. The contract agreement shall be signed by a person duly authorized/empowered by the tenderer. The expenses for preparation of agreement document shall be borne by BHEL.

1.15 REJECTION OF TENDER AND OTHER CONDITIONS

- 1.15.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender nor any tender and reserves to itself full rights for the following without assigning any reasons whatsoever: -
 - a. To reject any or all of the tenders.
 - b. To split up the work amongst two or more tenderers as per NIT.
 - c. To award the work in part if specified in NIT.
 - d. In case of either of the contingencies stated in (b) and (c) above, the time for completion as stipulated in the tender shall be applicable.

- 1.15.2 Conditional tenders, unsolicited tenders, tenders which are incomplete or not in the form specified or defective or have been materially altered or not in accordance with the tender conditions, specifications etc. are liable to be rejected.
- 1.15.3 Tenders are liable to be rejected in case of unsatisfactory performance of the tenderer with BHEL or tenderer under suspension (debarred) by any unit / region / division of BHEL or tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India. The decision of BHEL will be final in this regard.
- 1.15.4 If a tenderer who is a proprietor expires after the submission of his tender or after the acceptance of his tender, BHEL may at their discretion, cancel such tender. If a partner of a firm expires after the submission of tender or after the acceptance of the tender, BHEL may then cancel such tender at their discretion, unless the firm retains its character. In case BHEL resolves to cancel the tender under this clause, BHEL will issue a notice in this regard containing reasons as to the cancellation of tender. The contractor shall be required to furnish his response to such notice within a period of 14 days from the date of receipt of such notice through any means (BHEL reserves the right to decrease the period up to 05 days). BHEL after due consideration of the representation made by contractor shall communicate its final decision within a reasonable period. In case contractor fails to submit any response to the notice issued by BHEL within the period stipulated in the notice, BHEL at its discretion may proceed to cancel the contract. Contractor shall not be eligible for any compensation whatsoever for the cancellation of contract under this clause
- 1.15.5 BHEL will not be bound by any Power of Attorney granted by changes in the composition of the firm made subsequent to the execution of the contract. BHEL may, however, recognize such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
- 1.15.6 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract if awarded and forfeit the Earnest Money/Security Deposit/any other money due.
- 1.15.7 Canvassing in any form in connection with the tenders submitted by the Tenderer shall make his offer liable to rejection.
- 1.15.8 In case the Proprietor, Partner or Director of the Company/Firm submitting the Tender, has any relative or relation employed in BHEL, the authority inviting the Tender shall be informed of the fact as per specified format, along with the Offer. Failing to do so, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.
- 1.15.9 The successful tenderer (Contractor) shall not sub-contract any portion of work detailed in the tender specification undertaken by him without written permission of BHEL's Construction Manager/Site in charge. BHEL, at its discretion, may consider the written request from the Contractor and permit subletting of part scope. However, the Contractor is solely responsible to BHEL for the work awarded to him.
- 1.15.10 The Tender submitted by a techno commercially qualified tenderer shall become the property of BHEL who shall be under no obligation to return the same to the bidder.
- 1.15.11 Unsolicited discount received after the due date and time of Bid Submission shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the

L-1 party, then the awarded price i.e. contract value shall be worked out after considering the discount so offered.

1.15.12 BHEL shall not be liable for any expenses incurred by the bidder in the preparation of the tender irrespective of whether the tender is accepted or not.

1.16 INTIMATION OF CHANGE OF NAME/ RE-CONSTITUTION OF THE ORGANIZATION

In the event of the organization (Proprietorship/Partnership/Company) undergoing any change of name or reconstitution, prior intimation of the same shall be given to BHEL. Upon such changes coming into effect, the same is to be intimated to BHEL immediately with supporting documents as applicable.

CHAPTER-2

2.1 **DEFINITION:** The following terms shall have the meaning hereby assigned to them except where the context otherwise requires

i)	BHEL shall mean Bharat Heavy Electricals Limited, a company registered under Indian Companies Act 1956, having its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI – 110 049, or its office at TBG, Noida or its Sector/Site Offices or its Authorized Officers (inviting tenders).
ii)	“EXECUTIVE DIRECTOR” or “GENERAL MANAGER (In- charge)” or “GENERAL MANAGER” shall mean the Officer in Administrative charge of the BHEL TBG.
iii)	“COMPETENT AUTHORITY” shall mean BHEL Officers who are empowered to act on behalf of BHEL.
iv)	“ENGINEER” or “ENGINEER IN CHARGE” shall mean an Officer of BHEL as may be duly appointed and authorized by BHEL to act as “Engineer” on his behalf for the purpose of the Contract, to perform the duty set forth in this General Conditions of Contract and other Contract documents. The term also includes ‘CONSTRUCTION MANAGER’ or ‘SITE INCHARGE’ as well as Officers at Site or at the Headquarters of the Sector Office. For the purpose of joint measurement, verification, certification and/ or approval of the work and/ or documents under the contract the word "Engineer" or "Engineer In-charge" shall be deemed to include the Engineers of the Customer and/ or his Consultant also.
v)	“SITE” shall mean the places or place at which the plants/equipments are to be erected and services are to be performed as per the specification of this Tender.
vi)	“CLIENT OF BHEL” or “CUSTOMER” shall mean the project authorities with whom BHEL has entered into a contract for supply of equipments or provision of services.
vii)	“CONTRACTOR” shall mean the successful Bidder/Tenderer who is awarded the Contract and shall include the Contractor’s successors, heirs, executors, administrators and permitted assigns.
viii)	“CONTRACT” or “CONTRACT DOCUMENT” shall mean and includes the Agreement or Work Order, the accepted appendices of Rates, Schedules, Quantities if any, Offer submitted by contractor including acceptance to General Conditions of Contract, Special Conditions of Contract, Instructions to the Tenderers, Drawings, Technical Specifications, the Special Specifications if any, the Tender documents, subsequent amendments /corrigendum to Tender mutually agreed upon and the Letter of Intent/Award/Acceptance issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or subsequent letters shall not form part of the contract unless, specifically accepted in writing by BHEL in the Letter of Intent/Award and incorporated in the agreement or amendment thereof.
ix)	“GENERAL CONDITIONS OF CONTRACT” shall mean the ‘Instructions to Tenderers’ and ‘General Conditions of Contract’ pertaining to the work for which above tenders have been called for.
x)	“TENDER SPECIFICATION” or “TENDER” or “TENDER DOCUMENTS” shall mean General Conditions, Common Conditions, Special Conditions, Price Bid, Rate Schedule, Technical

General Conditions of Contract (GCC)

	Specifications, Appendices, Annexures, Corrigendums, Amendments, Forms, Procedures, Site information etc. and drawings/documents pertaining to the work for which the tenderers are required to submit their offers. Individual specification number will be assigned to each Tender Specification.
xi)	“LETTER OF INTENT/ AWARD” shall mean the intimation by a Letter/Fax/email to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all terms and conditions of the contract are applicable from this date.
xii)	“COMPLETION TIME” shall mean the period by ‘date/month’ specified in the ‘Letter of Intent/Award’ or date mutually agreed upon for handing over of the intended scope of work, the erected equipment/plant which are found acceptable by the Engineer, being of required standard and conforming to the specifications of the Contract.
xiii)	“PLANT” shall mean and connote the entire assembly of the plant and equipments covered by the contract.
xiv)	“EQUIPMENT” shall mean equipment, machineries, materials, structural, electricals and other components of the plant covered by the contract.
xv)	“TESTS” shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL in order to ascertain the quality, workmanship, performance and efficiency of the contractor or part thereof.
xvi)	“APPROVED”, “DIRECTED” or “INSTRUCTED” shall mean approved, directed or instructed by BHEL.
xvii)	“WORK or CONTRACT WORK” shall mean and include supply of all categories of labour, specified consumables, tools and tackles and Plants required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipments to the entire satisfaction of BHEL.
xviii)	“SINGULAR AND PLURALS ETC” words carrying singular number shall also include plural and vice versa, where the context so requires. Words imparting the masculine Gender shall be taken to include the feminine Gender and words imparting persons shall include any Company or Associations or Body of Individuals, whether incorporated or not.
xix)	“HEADING” – The heading in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken as instructions thereof or of the contract.
xx)	“MONTH” shall mean calendar month unless otherwise specified in the Tender.
xxi)	‘Day’ or ‘Days’ unless herein otherwise expressly defined shall mean calendar day or days of twenty-four (24) hours each. A Week shall mean continuous period of seven (7) days.
xxii)	“COMMISSIONING” shall mean the synchronization testing and achieving functional operation of the Equipment with associated system after all initial adjustments, trials, cleaning, re-assembly required

	at site if any, have been completed and Equipment with associated system is ready for taking into service.
xxiii)	"WRITING" shall include any manuscript type written or hand written or printed statement or electronically transmitted messages, under the signature or seal or transmittal of BHEL.
xxiv)	"TEMPORARY WORK" shall mean all temporary works for every kind required in or for the execution, completion, maintenance of the work.
xxv)	'CONTRACT PRICE' or 'CONTRACT VALUE' shall mean the sum mentioned in the LOI/LOA/WO/Contract Agreement subject to such additions thereto or deductions there from as may be made under provisions hereinafter contained.
xxvi)	'EXECUTED CONTRACT VALUE' shall mean actual value of works executed by the contractor and certified by BHEL. This value shall not include PVC, ORC, Extra Works and Taxes.
xxvii)	"COMMENCEMENT DATE" or "START DATE" shall mean the commencement/start of work at Site as per terms defined in the Tender.
xxviii)	"SHORT CLOSING" or "FORE CLOSING" of Contract shall mean the premature closing of Contract, for reasons not attributable to the contractor and mutually agreed between BHEL and the contractor.
xxix)	"TERMINATION" of Contract shall mean the pre mature closing of contract due to reasons as mentioned in the contract.
xxx)	"DE MOBILIZATION" shall mean the temporary winding up of Site establishment by Contractor leading to suspension of works temporarily for reasons not attributable to the contractor.
xxxi)	"RE MOBILIZATION" shall mean the resumption of work with all resources required for the work after demobilization.
2.2 LAW GOVERNING THE CONTRACT AND COURT JURISDICTION	
The contract shall be governed by the Law for the time being in force in the Republic of India. Subject to clause 2.21.2 of this contract, the Civil Court having original Civil Jurisdiction at Delhi, shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.	

2.3 ISSUE OF NOTICE**2.3.1 Service of notice to the Contractor**

Any notice to be given to the Contractor under the terms of the contract shall be served by sending the same by **Email/ Registered Post/Speed Post to or leaving the same at** the Contractor's last known address of the principal place of business (or in the event of the contractor being a company, to or at its Registered Office). In case of change of address, the notice shall be served at changed address as notified in writing by the Contractor to BHEL. Such dispatch or display of the notice as the case may be shall be deemed to be good service of such notice and the time mentioned to the condition for doing any act after notice shall be reckoned from the date so mentioned in such notice.

2.3.2 Service of notice to BHEL

Any notice to be given to BHEL In-charge of the Sector Office under the terms of the Contract shall be served by sending the same by Registered / AD or Speed Post to BHEL address or changed address as notified in writing by BHEL to the Contractor.

2.4 USE OF LAND

No land belonging to BHEL or their Customer under temporary possession of BHEL shall be occupied by the contractor without written permission of BHEL.

2.5 COMMENCEMENT OF WORK

2.5.1 The contractor shall commence the work as per the time indicated in the Letter of Intent/Award from BHEL and shall proceed with the same with due expedition without delay.

2.5.2 If the contractor fails to start the work within stipulated time as per LOI/ LOA or as intimated by BHEL, then BHEL at its sole discretion shall have the right to cancel the contract. The Earnest Money and/or Security Deposit furnished by the contractor to under this tender will stand forfeited without any further reference to him and without prejudice to BHEL's other rights and remedies under this contract and the applicable laws in this regard.

2.5.3 All the work shall be carried out under the direction and to the satisfaction of BHEL.

2.6 MEASUREMENT OF WORK AND MODE OF PAYMENT:

All payments due to the contractors shall be made by e-mode only.

For progress running bill payments: - The Contractor shall present detailed measurement sheets in triplicate, duly indicating all relevant details based on technical documents and connected drawings for work done during the month/period under various categories in line with terms of payment as per contract. The basis of arriving at the quantities, weights shall be relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with BHEL Engineers and signed by both the parties.

These measurement sheets will be checked by BHEL Engineer and quantities and percentage eligible for payment under various groups shall be decided by BHEL Engineer. The abstract of

quantities and percentage so arrived at based on the terms of payment shall be entered in Measurement Book by BHEL Engineers and signed by both the parties.

These measurement sheets will be checked by BHEL Engineer and quantities and percentage eligible for payment under various groups shall be decided by BHEL Engineer. The abstract of quantities and percentage so arrived at based on the terms of payment shall be entered in Measurement Book and signed by both the parties.

Based on the above quantities, contractor shall prepare the bills, along with statutory documents, in prescribed format and work out the financial value. These will be entered in Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.

All recoveries due from the contractor for the month/period shall be affected in full from the corresponding running bills unless specific approval from the competent authorities is obtained to the contrary.

Measurement shall be restricted to that portion of work for which it is required to ascertain the financial liability of BHEL under this contract.

The measurement shall be taken jointly by persons duly authorized on the part of BHEL and by the Contractor.

The Contractor shall bear the expenditure involved if any, in making the measurements and testing of materials to be used/ used in the work. The contractor shall, without extra charges, provide all the assistance with appliances and other things necessary for measurement.

If at any time due to any reason whatsoever, it becomes necessary to re-measure the work done in full or in part, the expenses towards such re measurements shall be borne by the contractor unless such re measurements are warranted solely for reasons not attributable to contractor.

Passing of bills covered by such measurements does not amount to acceptance of the completion of the work measured. Any left-out work has to be completed, if pointed out at a later date by BHEL.

Final measurement bill shall be prepared in the final bill format prescribed for the purpose based on the certificate issued by BHEL Engineer that entire works as stipulated in tender specification has been completed in all respects to the entire satisfaction of BHEL. Contractor shall give unqualified "No Claim" Certificate. All the tools and tackles loaned to him should be returned in satisfactory condition to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Books and signed by both parties to the contract. The Final Bill shall be prepared and paid within a reasonable time after completion of work

2.6.1 Running Account Bills (RA Bills)

- i) These are for interim payments when the contracts are in progress. The bills for such interim payments are to be prepared by Contractor in prescribed formats (RA Bill forms).
- ii) Payments shall be made according to the extent of work done as per measurements taken up to the end of the calendar month and in line with the terms of payments described in the Tender documents.

- iii) Recoveries on account of electricity, water, statutory deductions etc. are made as per terms of contract.
- iv) Full rates for the work done shall be allowed only if the quantum of work has been done as per the specifications stipulated in the contract. If the work is not executed as per the stipulated specifications, BHEL may ask the contractor to redo the work according to the required specifications, without any extra cost.
- v) The contractor shall submit his monthly RA bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month.
- vi) Mode of payment and measurement of work completed shall be as per relevant clauses of General Conditions of Contract
- vii) Release of payment in each running bill including PVC Bills where ever applicable will be as per stages of progressive pro rata payments.
- viii) The contractor will be eligible for payment of RA Bills 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.
- ix) All documents like HR Clearance, Quality and Safety Compliances etc. required for processing the RA Bills should be submitted along with RA Bills.
- x) BHEL shall release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, Contractor to furnish details pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker, as per prescribed formats.
- xi) For MSMEs, at the time of submission of first RA bill, the subcontractor has to declare whether it is registered on TReDS portal and wishes to receive the proceeds through TReDS portal throughout the contract duration.
- xii) **Documents required for RA Bill:**
 - a) GST Complied Invoice of the work done as per approved BOQ.
 - b) Jointly signed Measurement sheet, Abstract (for civil works), WAM -6 for RA Bill.
 - c) Valid Bank Guarantees as applicable under the contract.
 - d) Labour Payment Certificate
 - e) copy of valid Workmen Compensation Insurance policy
 - f) Material Reconciliation statement
 - g) Power of Attorney for representative signing MBs etc, if not submitted earlier.
 - h) HR compliance documents (like PF, ESI, Wage sheets etc.)
 - i) Any other documents as per customer/statutory requirement.

Note :Site in charge has to certify that all the above required documents have been received and verified and document sl no. a) to e) duly verified are to be sent to Finance alongwith RA bills.

2.6.2 Final Bill

'Final Bill' is used for final payment on closing of Running Account for works or for single payment after completion of works. 'Final Bill' shall be submitted as per prescribed format after completion of

works as per scope, material reconciliation, removal of temporary structures, return of scrap/surplus material of BHEL. BHEL shall settle the final bills after deducting all liabilities of Contractor to BHEL:

- j) GST Complied Invoice of the work done as per approved BOQ.
- k) Jointly signed Measurement sheet, Abstract (for civil works), WAM -7, WAM-10 (if applicable)
- l) Valid Bank Guarantees as applicable under the contract.
- m) Labour Payment Certificate
- n) 'No claim' certificate from the contractor.
- o) Copy of valid Workmen Compensation Insurance policy
- p) Deviation statement showing the Executed quantities and quantities as per the contract.
- q) Handover of Data/Documented related with store management & surveillance to BHEL
- r) Material Reconciliation statement duly approved by BHEL
- s) Power of Attorney for representative signing MBs etc, if not submitted earlier.
- t) HR compliance documents (like PF, ESI, Wage sheets etc.)
- u) Final Delay Analysis.
- v) Any other documents as per customer requirement/statutory requirement.

Note:

Site incharge has to certify that all the above required documents have been received and verified and document sl no. a) to g) duly verified are to be sent to Finance alongwith Completion certificate.

2.7 RIGHTS OF BHEL

BHEL reserves the following rights in respect of this contract during the original contract period or its extensions if any, as per the provisions of the contract, without entitling the contractor for any compensation.

- 2.7.1** To withdraw any portion of work and/or to restrict/alter quantum of work as indicated in the contract during the progress of work and get it done through other agencies to fulfil BHEL's commitment to its customer or the date of completion is advance due to other emergent reasons/ BHEL's obligation to its customer.

Where the contractor fails to deploy adequate manpower to meet the contractual target, BHEL reserves the right to deploy manpower to meet such shortfall, through any other agency for expediting activities in the interest of the project. Supplied manpower shall be put on job by the contractor. Fulfilling of all obligations towards payments and other statutory compliances related to manpower shall be the contractor's responsibility. In case of contractor's failure to fulfill his obligations in respect of such manpower, BHEL shall be entitled to take action as provided herein.

2.7.2 Breach of Contract, Remedies and Termination

- 2.7.2.1** The following shall amount to breach of contract:

- I. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time.
- II. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period.

- III. The Supplier/Vendor delivers equipment/ material not of the contracted quality.
- IV. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause.
- V. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract.
- VI. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- VII. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor.
- VIII. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor.
- IX. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.
- X. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

Note

- i. Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.
- ii. In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

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 Remedies in case of Breach of Contract

- i. Wherein the period as stipulated in the notice issued under Note sl. No. (i) of clause 2.7.2.1 has expired and Contractor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.
- ii. Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Contractor. This amount shall be recovered by way of encashing the security instruments like performance bank guarantee etc available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, from the money due to the Contractor etc. with BHEL) or the other legal remedies shall be pursued.
- iii. wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
 - a) From dues available in the form of Bills payable to defaulted Contractor against the same contract.
 - b) In case the amount recovered under sub clause (a) above is not sufficient to fulfil the amount recoverable then a demand notice to deposit the balance amount within 30 days shall be issued to Contractor.
 - c) If contractor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery:
 - i) If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Contractor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD
 - ii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.
- iv. It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any

other agency and BHEL will not be required to furnish any other evidence to the Contractor for the purpose of estimation of damages.

- v. In addition to the above, imposition of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

Note:

The defaulting contractor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:

- (a) In case defaulted contractor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.
- (b) In case defaulted contractor is The Partnership Firm, any firm comprising of same partners/ some of the same partners (but not including any new partner); or sole proprietorship firm owned by any partner(s) as a sole proprietor.

2.7.3 In case Contractor fails to deploy the resources as per requirement informed by BHEL in writing to expedite the work, BHEL can deploy own/hired/otherwise arranged resources 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.

2.7.4 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customer are terminated for any reason whatsoever.

2.7.5 Whenever any Claim or Claims for payment of any sum of money(s) arises under this or any other contract against the contractor, BHEL shall be entitled to withhold and also have a lien to retain such sum of money(s) in whole or in part from any money(s) payable to contractor and/or security deposits furnished or deducted in cash from the bills of contractor, (if any) under this contract. In the event of the securities or the amounts payable to Contractor, being insufficient to cover BHEL claims, then BHEL shall be entitled to withhold and have a lien to the extent of such claims from any sum or sums found payable or which at any time thereafter may become payable to the contractor under this or any other contract with BHEL.

- i. Claim or Claims for payment of any sum of money(s) arising from the Contractor under this or any other contract against the contractor, shall mean, the sum of money(s) actually incurred by BHEL in fulfilling the contractual responsibilities of contractor under the contract, to which he has failed to fulfil plus applicable overheads (@ 5%) along with interest as applicable under the Contract on total amount (i.e. money actually incurred plus overheads)
- ii. It is an agreed term of the contract that, the sum or sums of money so withheld or retained under the lien by BHEL will be kept withheld or retained as such by BHEL till the claims arising out of this or any other contract are finally adjudicated wither through Arbitration or a Court of competent jurisdiction as the case may be in accordance with the terms of contract. Intimation given by the BHEL Engineer regarding withholding of such money(s) shall be considered as sufficient and relevant date for all purposes. No Interest shall be payable on such sum(s) of money which becomes due or as the case may be adjudged to be due from BHEL to Contractor, whether under contract or otherwise.

- iii. Where the contractor is a partnership firm, BHEL shall be entitled to withhold and also have a lien to retain towards such claims in whole or in part, from any other money(s) payable to any partner, whether in his individual capacity or otherwise.
- iv. If any money(s) shall, as a result of any claim or application made under the relevant provisions of any Labour Welfare Act and/ or Rules, including but not limited to Contract Labour Regulation & Abolition Act, Minimum Wages Act, Payment of Gratuity Act, BOCW (RE&CS) Act, Provident Fund Act, Employee State Insurance Act, be directed to be paid by the BHEL, such money shall be deemed to be moneys payable to the BHEL by the Contractor.
- v. Where the Contractor fails to repay to BHEL such moneys along with applicable overheads (@ 5%) and interest, as aforesaid within seven days of being demanded, BHEL shall be entitled to recover the same from Contractor's bills/ Security Deposit or any other money(s) payable to Contractor under this Contract or any other Contract with BHEL.

2.7.6 While every endeavor will be made by BHEL to this end, yet BHEL cannot guarantee uninterrupted work due to conditions beyond its control. The Contractor will not be normally entitled for any compensation/extra payment on this account unless otherwise specified elsewhere in the contract.

2.7.7 BHEL may permit or direct contractor to demobilize and remobilize at a future date as intimated by BHEL in case of following situations for reasons other than Force majeure conditions and not attributable to contractor:

- i) suspension of work(s) at a Project either by BHEL or Customer,
- or
- ii) where work comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than three months

In such cases, charges towards demobilization and remobilization shall be as decided by BHEL after successful remobilization by contractor at site, and decision of BHEL shall be final and binding on the contractor. After remobilization, all conditions as per contract shall become applicable. In case Contractor does not remobilize with adequate resources or does not start the work within the period as intimated, then BHEL reserves the right to terminate the contract and effect remedies under Clause 2.7.2.2. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.

2.7.8 In the unforeseen event of inordinate delay in receipt of materials, drawings, fronts etc. due to which inordinate discontinuity of work is anticipated, BHEL on its own or contractor's request at its discretion may consider to short close the contract in any of the following cases:

- a) The balance works (including but not limited to Trial Operation, PG Test etc.) are minor vis a vis the scope of work envisaged as per the contract.
- b) There has been no significant work in past 6 months OR no significant work is expected in next 6 months (example in Hydro projects or in projects where work has stopped due to reasons beyond the control of BHEL).
- c) The balance works cannot be done within a reasonable period of time as they are dependent on unit shut down or on other facilities of customer or any other such reasons not attributable to the contractor.

At the point of requesting for short closure, contractor shall establish that he has completed all works possible of completion and he is not able to proceed with the balance works due to constraints beyond his control. In such a case, the estimated value of the unexecuted portion of work (or estimated value of services to be provided for carrying out milestone/stage payments like Trial Operation/PG Test etc.) as decided by BHEL, shall however be reduced from the final contract value.

Note: The Contractor shall not be eligible for any compensation on account of Quantity Variation arising out of short-closure of contract as per clause no. 2.7.8 (b) above.

2.7.9 LIQUIDATED DAMAGES

Liquidated Damages, wherever referred under this Tender/Agreement, shall mean and refer to the damages, not in the nature of penalty, which the contractor agrees to pay in the event of delay in delivery of stores, installation, commissioning, breach of contract etc. as the case may be.

Liquidated Damages leviable upon the contractor is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by BHEL on account of delay/breach on the part of the contractor.

Liquidated Damages shall be calculated in the manner stipulated hereinafter:

In case the work is not completed within the stipulated time period, BHEL at its discretion may grant provisional time extension to contractor for the sole purpose of completion of balance works keeping its right reserved under the contract and law.

Grant of any provisional time extension shall by no means be considered as waiver of BHEL rights under the contract or law.

After the completion of work, duly certified by Engineer In-charge, a comprehensive delay analysis shall be carried out to ascertain the attribution of delays in the provisional time extensions granted to contractor. The delay analysis shall record:

- a) Delays solely attributable to contractor
- b) Delays attributable to BHEL
- c) Delays on account of Force Majeure (as specified elsewhere in the contract)

The total period under the final time extension shall be equal to the period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/ levied for the portion of time extensions solely attributable to contractor and recoverable from the dues payable to the contractor.

For the periods, wherein the delay as per the comprehensive delay analysis carried out is solely attributable to contractor, BHEL shall have the right to impose Liquidated Damage at the rate of 0.5% of the contract value, per week of delay or part thereof subject to a maximum of 10% of the contract value.

Contract Value for this purpose, shall be the final executed value exclusive of ORC, Extra Works executed on Man-day rate basis, Supplementary/ Additional Items and PVC. Before levying LD, the contractor shall be duly intimated the amount and reasons thereof for imposition of LD.

2.8 RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC.

The following are the responsibilities of the contractor in respect of observance of local laws, employment of personnel, payment of taxes etc. The subcontractor shall fully indemnify BHEL against any claims of whatsoever nature arising due to the failure of the contractor in discharging any of his responsibilities hereunder:

- 2.8.1** As far as possible, Unskilled Workers shall be engaged from the local areas in which the work is being executed.
- 2.8.2** The contractor at all times during the continuance of this contract shall, in all his dealings with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.
- 2.8.3** The contractor shall comply with all applicable State and Central Laws, Statutory Rules, Regulations, Notifications etc. such as Payment of Wages Act, Minimum Wages Act, Workmen Compensation Act, Employer's Liability Act, Industrial Disputes Act, Employers Provident Fund and Miscellaneous Provisions Act, 1952, Employees State Insurance Scheme, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Bonus & Gratuity Act, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996, The Building and Other Construction Workers' Welfare Cess Act 1996 and other Acts, Rules, and Regulations for labour/workers as applicable and as may be enacted by the State Government and Central Govt. during the tenure of the Contract and having force or jurisdiction at Site. The Contractor shall also comply with provisions of and give all such notices to the local Governing Body, Police and other relevant Authorities as may be required by the Law. The Contractor shall without any fail maintain all the registers/records in proper formats as per all the Acts, Rules and Regulations mentioned in this clause.
- 2.8.4** The Contractor shall obtain independent License under the Contract Labour (Regulations and Abolition) Act, 1970 for engaging contract labour as required from the concerned Authorities based on the certificate (Form- V or as applicable) issued by the Principal Employer/Customer. Form V is issued by the Principal Employer/End Customer and, therefore, may not be provided to any sub-contractor of the successful bidder, including consortium partners (if any). BHEL shall not be responsible for issuance or provision of Form V to any such sub-contractor. Gate pass shall also be issued only in the name of the agency to whom the labour license has been granted. The bidder shall submit its bid after duly considering the same and shall not raise any claim or dispute on this account at a later stage.
- 2.8.5** The contractor shall pay and bear all taxes, fees, license charges, Cess, duties, deposits, tolls, royalties, commission or other charges which may be leviable on account of his operations in executing the contract.
- 2.8.6** While BHEL would pay the inspection fees and Registration fees of Boiler/Electrical Inspectorate, all other arrangements for site visits periodically by the Inspectorate to site, Inspection certificate etc. will have to be made by contractor. However, BHEL will not make any payment to the Inspectorate in connection with contractor's Welders/Electricians qualification tests etc.

- 2.8.7** Contractor shall be responsible for provision of Health and Sanitary arrangements (more particularly described in Contract Labour Regulation & Abolition Act), Safety precautions etc. as may be required for safe and satisfactory execution of contract.
- 2.8.8** The contractor shall be responsible for proper accommodation including adequate medical facilities for personnel employed by him.
- 2.8.9** The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 2.8.10** The contractor shall ensure that no damage is caused to any person/property of other parties working at site/company premises. If any such damage is caused, it is responsibility of the contractor to make good the losses or compensate for the same.
- 2.8.11** All the properties/equipments/components of BHEL/their Client/customer loaned with or without deposit to the contractor in connection with the contract shall remain properties of BHEL/their Client/customer.
- 2.8.12** The contractor shall use such properties for the purpose of execution of this contract. All such properties/equipments/components shall be deemed to be in good condition when received by the contractor unless he notifies within 48 hours to the contrary. The contractor shall return them in good condition as and when required by BHEL/their Client. In case of non-return, loss, damage, repairs etc. the cost thereof as may be fixed by BHEL Engineer will be recovered from the contractor.
- 2.8.13** In case the contractor is required to undertake any work outside the scope of this contract, the rates payable shall be those mutually agreed upon if the item rates are not mentioned in existing contract.
- 2.8.14** Any delay in completion of works/or non-achievement of periodical targets/non execution of contract due to the reasons attributable to the contractor, the same may have to be compensated by the contractor either by increasing manpower and resources or by working extra hours and/or by working more than one shift. All these are to be carried out by the contractor at no extra cost.
- 2.8.15** The contractor shall arrange, coordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.
- 2.8.16** All safety rules and codes applied by the Customer/BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment/material and works to be performed by him and shall maintain all light, fencing guards, slings etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards. Due precautions shall be taken against fire hazards and atmospheric conditions. Suitable number of Clerical staff, watch and ward, store keepers to take care of equipment/materials and construction tools and tackles shall be posted at site by the contractor till the completion of work under this contract.

The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per prescribed standards and practices.

Contractor has to ensure the implementation of Health, Safety and Environment (HSE) requirements as per directions given by BHEL/Customer. The contractor has to assist in HSE audit by

BHEL/Customer and submit compliance Report. The contractor has to generate and submit record/reports as per HSE plan/activities as per instruction of BHEL/Customer.

- 2.8.17** The contractor shall be directly responsible for payment of wages to his workmen/labours before the expiry of seven days from the last day of wage period and to ensure disbursement of wages in the presence of the representative from BHEL. A pay roll sheet giving all the payments given to the workers and duly signed by the contractor's representative should be furnished to BHEL site for the purpose of maintaining the records for compliance.

Contractor shall create awareness amongst their workforce by helping & encouraging in opening bank accounts and to encourage them to adopt digital mode of transactions. While releasing wages/ salary to their workers/ supervisors/ staff, Contractor shall comply with the GOI's guidelines for maximizing such transactions through Non-Cash / digital means.

- 2.8.18** In case of any class of work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.
- 2.8.19** Also, no idle charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour and Tools & Plants being rendered idle due to any reason at any time.
- 2.8.20** The contractor shall take all reasonable care to protect the materials and work till such time the plant/equipment has been taken over by BHEL or their Customer whichever is earlier.
- 2.8.21** The contractor shall not stop the work or abandon the site for whatsoever reason of dispute, excepting force majeure conditions. All such problems/disputes shall be separately discussed and settled without affecting the progress of work. Such stoppage or abandonment shall be treated as breach of contract and dealt with accordingly.
- 2.8.22** The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.
- 2.8.23** The contractor shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/ or as per the instructions of the Engineer.
- 2.8.24** The Contractor to note that some of BHEL's T&Ps/MMDs may not be insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL shall to recover the loss from the contractor.
- 2.8.25** Contractor shall be fully responsible for the safety of their T&Ps and other material mobilized at site. In any case, BHEL shall not be liable for any damage/loss/misuse of any item(s) belong to the contractor.

2.8.26 Contractor will ensure that the work/job is executed through his/her employees on and under no circumstances, the contractor shall subcontract the job without prior written permission from BHEL.

2.8.27 The liability for any compensation on account of injury sustained by an employee of the contractor will be exclusively that of the contractor.

2.9 PERFORMANCE EVALUATION

2.9.1 The Contractors performance shall be continuously monitored during execution of work at site.

2.9.2 In case of contractor's performance is found not satisfactory during the execution of work at site, BHEL may take alternate remedial measures and may not consider the contractor for further tenders, if the contractor performance is not improved in spite of opportunities given by BHEL.

2.10 TIME OF COMPLETION

2.10.1 The time for completion shall be as mentioned in the LOA/Contract. The time for completion shall be reckoned from the date of commencement of work at Site as certified/notified in writing by BHEL Engineers.

2.11 EXTENSION OF TIME FOR COMPLETION

2.11.1 If the completion of work as detailed in the scope of work gets delayed beyond the contract period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the Contract. If the completion of work gets delayed for reasons not attributable to the contractor, the contract period may be suitably extended at the sole discretion of BHEL

2.11.2 The works balance at the end of original contract period less the backlog attributable to the contractor shall be quantified, and the number of months of 'Time extension' required for completion of the same shall be jointly worked out. Within this period of 'Time extension', the contractor is bound to complete the portion of backlog attributable to the contractor. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.

2.11.3 However, if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take under Clause 2.7.2 of GCC i.e. Breach of Contract, Remedies and Termination.

2.11.4 Planning, progress monitoring, monthly review and performance monitoring shall be carried out as per clause 2.9 of GCC.

2.12 OVERRUN COMPENSATION

(Not Applicable)

2.13 SECURED RECOVERABLE ADVANCES:

(Not Applicable)

2.14 QUANTITY VARIATION

The individual quantities given in the Bill of quantities are tentative and may change to any extent (both in plus side and minus side). No compensation becomes payable in case the variation of the final executed contract value is within the limits of Minus (-) 30% of awarded contract value. Also, no compensation becomes payable in case the contract gets partially executed/ short closed/ terminated/ work withdrawn under Rights of BHEL mentioned in GCC. In case of work terminated/ short closed under clause 2.7.4 of GCC, compensation may be considered only if BHEL receives compensation from customer.

In case the actual value of executed work including extra work on completion of work becomes less than 70% of the basic/original contract value than the following method shall be adopted.

The actual executed value shall be raised by 7% (For arriving at the final payment against work executed) subject to the condition that total value of work executed plus increase by 7% as above shall be limited to 70% of the basic/original contract value. The rate quoted shall be firm irrespective of any upward variation in the contract price. It is further clarified that the enhancement/rate revision on the basic rate as per PVC clause shall not be accounted for the purpose of operating this clause.

2.15 SUPPLEMENTARY ITEMS

2.15.1 Supplementary items / works are those item / works which are not covered in the original scope or BOQ of contract but essentially required for completion of entire work. The Supplementary items/ works are due to any of the reasons as mentioned below: -

- a) All rectifications/modifications, revamping and reworks required to be executed by engaging manpower and major T&Ps like cranes, Induction Heating Machine, huge quantities of scaffolding pipes, costly consumables etc., due to any change in drawings/design of equipment, operation/maintenance requirements, mismatching or due to damages in transit, storage, erection, testing, commissioning & other allied works required for completion of entire work, but not due to the fault of the contractor.
- b) Additions /alterations in the original scope of works as per contract
- c) Non-availability of BOQ (Rate Schedule),
- d) Change in Specifications of materials/works

Execution of Supplementary Works by the contractor or to engage any other party shall be at the sole discretion of BHEL. Supplementary Work shall be considered as part of executed contract value for the purpose of Quantity Variation as per clause 2.14 mentioned above.

Subject to certification of such works as supplementary items/works by BHEL Engineer and approval from competent authority, Rates for Supplementary item for completing Non-Civil Works and Civil Works shall be derived on the basis of mutual agreement. BHEL Engineer's decision regarding fixing the rate as above is final and binding on the contractor. The procedure mentioned as below: -

2.15.2 The procedure for deciding the Rates shall be in the following order;

- i) Based on percentage breakup/rates indicated for similar/nearby items.
- ii) In case (i) above does not exist, then BHEL/site may derive the percentage breakup/rates to suit the type of work with prevailing market rates.

2.16 PRICE VARIATION COMPENSATION –**(PVC Applicable for items S.no. 1 to 9 (A1.1 to A1.9))****(PVC Not Applicable for other items)**

2.16.1 In order to take care of variation in cost of execution of work on either side, due to variation in the index of LABOUR, HIGH SPEED DIESEL OIL, Price Variation Formula as described herein shall be applicable.

2.16.2 85% component of Contract Value shall be considered for PVC calculations and remaining 15% shall be treated as fixed component. The basis for calculation of price variation in each category, their component, Base Index, shall be as under:

NO.	CATEGORY	INDEX/ AVERAGE MINIMUM WAGE	PERCENTAGE COMPONENT ('K')
i)	LABOUR (ALL CATEGORIES)	(a) 'MONTHLY ALL-INDIA AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS' published by Labour Bureau, Ministry of Labour and Employment, Government of India. (50% weightage out of component 'K') (Website: labourbureau.nic.in)	80
		(b) Arithmetical average of minimum wages of Unskilled, Semi-skilled, Skilled and Highly skilled workers as applicable at project site location (50% weightage out of component 'K')	
ii)	HIGH SPEED DIESEL OIL	Name of Commodity: HSD Commodity Code: 1202000005 (See Note E)	5

2.16.3 Payment/recovery due to variation in index shall be determined on the basis of the following notional formula in respect of the identified COMPONENT ('K') viz LABOUR, HIGH SPEED DIESEL OIL.

$$P = K \times R \times \frac{(X_N - X_0)}{X_0}$$

Where,

- P = Amount to be paid/recovered due to variation in the Index for Labour, High Speed Diesel Oil.
- K = Percentage COMPONENT ('K') applicable for Labour, High Speed Diesel Oil.
- R = Value of work done for the billing month (Excluding Taxes and Duties if payable extra)
- X_N = Revised Index for Labour, Revised Average Minimum Wages for Labour, Revised Index for High Speed Diesel Oil for the billing month under consideration
- X₀ = Index for Labour, Average Minimum Wages for Labour, Index for High Speed Diesel Oil, as on the Base date

2.16.4 PVC shall not be payable for the ORC amount, Supplementary/Additional Items. However, PVC will be payable for items executed under quantity variation of BOQ items under originally awarded contract.

2.16.5 Base date shall be calendar month of the 'last date of submission of Tender'.

- 2.16.6** PVC shall not be payable for the ORC amount, Supplementary/Additional/Extra Items. However, PVC will be payable for work executed under quantity variation of BOQ items under originally awarded contract
- 2.16.7** The contractor shall furnish necessary monthly bulletins in support of the requisite indices from the relevant websites along with his Bills.
- 2.16.8** The contractor will be required to raise the bills for price variation payments on a monthly basis along with the running bills irrespective of the fact whether any increase/decrease in the index for relevant categories has taken place or not. In case there is delay in publication of bulletins (final figure), the provisional values as published can be considered for payments and arrears shall be paid/recovered on getting the final values.
- 2.16.9** PVC shall be applicable for the entire original contract period plus the extended period, i.e. for the complete execution period.
- 2.16.10** PVC shall not be applicable for time extension provided for the delays solely attributable to the contractor.
- 2.16.11** No PVC is payable during the period of Provisional Time Extension till grant of final time extension. Applicability of PVC will be decided at the time of grant of final time extension.
- 2.16.12** The total amount of PVC shall not exceed 10% of the cumulatively executed value of items for which PVC is applicable (i.e. BOQ item no. 1 to 9 (A1.1 to A1.9)). Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works except items due to quantity variation.
- 2.17 INSURANCE**
- 2.17.1** BHEL/their customer shall arrange for insuring the materials/properties of BHEL/customer covering the risks during transit, storage, erection and commissioning.
- 2.17.2** It is the sole responsibility of the contractor to insure his materials, equipment, workmen etc. against accidents and injury while at work and to pay compensation, if any, to workmen as per Workmen's compensation Act. The work will be carried out in a protected area and all the rules and regulations of the client /BHEL in the area of project which are in force from time to time will have to be followed by the contractor.
- 2.17.3** If due to negligence and or non-observation of safety and other precautions by the contractors, any accident/injury occurs to the property / manpower belong to third party, the contractor shall have to pay necessary compensation and other expense, if so decided by the appropriate authorities.
- 2.17.4** The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/ loss due to theft or otherwise till the same is taken over by BHEL or customer. For lodging / processing of insurance claim, the contractor will submit necessary documents. BHEL will recover the loss including the deductible franchise from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's custody, matter shall be reported to Police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance. However, this will not relieve the contractor of his contractual obligation for the material in his custody.

2.18 STRIKES & LOCKOUT

2.18.1 The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, it may be considered as 'Breach of Contract' under Clause 2.7 and the remedies under Clause 2.7.2.2 may be executed, at the discretion of BHEL.

2.18.2 For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

2.19 FORCE MAJEURE

2.19.1 "Force Majeure" shall mean circumstance which is:

- i) beyond control of either of the parties to contract.
- ii) Either of the parties could not reasonably have provided against the event before entering into the contract,
- iii) Having arisen, either of the parties could not reasonably have avoided or overcome, and
- iv) Is not substantially attributable to either of the parties and prevents the performance of the contract.

2.19.2 Such circumstances include but not limited to

- i) War, hostilities, invasion, act of foreign enemies.
- ii) Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war.
- iii) Riot, commotion or disorder by persons other than the contractor's personnel and other employees of the contractor and sub-contractors.
- iv) Strike or lockout not solely involving the contractor's personnel and other employees of the contractor and sub-contractors.
- v) Encountering munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity.
- vi) Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc.
- vii) Epidemic, pandemic etc.

2.19.3 The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, go-slow or similar labour difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.

2.19.4 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event.

2.19.5 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event.

2.19.6 Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not

- i) Constitute a default or breach of the Contract.
- ii) Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.

2.19.7 BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Supplier/Vendor cannot consider deemed short-closure after 1 year of imposition of Force Majeure.

2.20 SETTLEMENT OF DISPUTE

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Supplier/Vendor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place referred to Designated Engineer (**General Manager & Project Director-BF800 HVDC**) for amicable resolution by the parties. who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Supplier/Vendor who shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not.

If after the Designated Engineer (**General Manager & Project Director-BF800 HVDC**) has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Supplier/Vendor being dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018 as per Clause 2.20.1

2.20.1 CONCILIATION

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. 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 for conduct of conciliation proceedings" (as available in www.bhel.com)).

Note: Ministry of Finance has issued OM reference No. 1/2/24 dated 03.06.2024 regarding "Guidelines for Arbitration and Mediation in Contracts of Domestic Public Procurement. In the said OM it has been recommended that Government departments/

Entities/agencies are to encourage mediation under the Mediation Act. 2023 . The said Act has not yet been notified by the Government. Therefore, the clause "Settlement of Disputes" shall be modified accordingly as and when the Mediation Act 2023 gets notified.

2.20.2 ARBITRATION

- i) 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 2.21.1 herein above 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, refer the disputes to Arbitral Institution i.e. **"India International Arbitration Centre (IIAC) Delhi"** and such dispute to be adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution.
- ii) A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution. The Notice shall be addressed to the **Executive Director, TBG, BHEL, Noida**, and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.
- iii) After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institutions and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.
- iv) The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.
- v) The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be **Delhi**
- vi) Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at **Delhi**.
- vii) Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.
- viii) The Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores.

- ix) In case the disputed amount (Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.
- x) In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose of clause 2.20.2 (ix). Disputes having cumulative value of less than 10 crores shall be resolved through arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.

2.20.3 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. 05/0003/2019-FTS-10937 dated 14-12-2022 as amended from time to time.

2.20.4 NO INTEREST PAYABLE TO CONTRACTOR

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

2.21 CONSEQUENTIAL LOSS

2.21.1 Neither party shall be liable to the other for any indirect or consequential loss or damage, including but not limited to loss of use, loss of profits, or loss of contracts, or special, punitive, exemplary losses whatsoever arising out of or in connection with this contract.

2.22 TERMS OF PAYMENTS

2.22.1 For BOQ items (A1.1 to A1.6)

80% of the contract item price on the monthly progressive bills on prorated basis after Unloading, Shifting to Open/Covered Stores and Proper Stacking as certified by site in charge.

Note: If unloading and stacking is done by BHEL/Other Agency, the payment under this head (i.e. 80%) shall not be paid to the Contractor.

10% of the contract item price on the monthly progressive bills on prorated basis after Verification of Material and Updation of Receipt details, in store Material Registers/BHEL MM Package system. Updation of Verification details in Material stock registers, Submission of reports as per specified formats for shortage/open delivery, lodging of police reports if required, documents for insurance claims etc, and preparation of Material Receipt Certificates (MRC) in prescribed formats where ever applicable, as certified by BHEL site In-charge

Last 10% of the contract item price on the monthly progressive bills on prorated basis after identification of material in ready to lift position for issue to BHEL/ Erection agency/, and updation of issue details in stores Records and completion of all Completion of contractual obligations, as certified by BHEL site In-charge.

2.22.2 For BOQ items (A1.7 to A1.9)

80% of the contract item price on the monthly progressive bills on prorated basis after Loading and transportation of Material as certified by site in charge.

10% of the contract item price on the monthly progressive bills on prorated basis after Unloading and stacking, as certified by BHEL site In-charge

Last 10% Updation of store material register / BHEL MM package system, as certified by BHEL site In-charge.

2.22.3 For BOQ items (A1.10, B.1, C.1 to C.4 & D.1 to D.3)

100% of the contract item price on the monthly progressive bills on pro rata basis against submission of invoice and on certification of engineer in-charge of BHEL.

2.23 PERFORMANCE GUARANTEE FOR WORKMANSHIP

2.23.1 Even though the work will be carried out under the supervision of BHEL Engineers the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of Twelve months from the date of commencement of guarantee period as defined in Technical Conditions of Contract, for good workmanship and shall rectify free of cost all defects due to faulty erection detected during the guarantee period. In the event of the Contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works by itself, without prejudice to any other rights and recover the cost incurred for the same along with 5% overheads from the Security Deposit.

2.23.2 BHEL shall release the Security Deposit subject to the following

- i) Contractor has submitted 'Final Bill'
- ii) Guarantee period as per contract has expired
- iii) Contractor has furnished 'No Claim Certificate' as per clause no. 2.6.10 of GCC
- iv) BHEL Site Engineer/Construction Manager has furnished the 'No Demand Certificate' in specified format
- v) Contractor has carried out the works required to be carried out by him during the period of Guarantee and all expenses incurred by BHEL on carrying out such works is included for adjustment from the Security Deposit refundable.

2.24 CLOSING OF CONTRACTS

The Contract shall be considered completed and closed upon completion of contractual obligations and settlement of Final Bill or completion of Guarantee period whichever is later. Upon closing of Contract, BHEL shall issue a performance/ experience certificate as per standard format, based on specific request of Contractor as per extant BHEL guidelines through the online portal available at <https://siddhi.bhel.in> only.

2.25 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.

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, 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 tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage:

http://www.bhel.com/vender_registration/vender.php

2.26 LIMITATION ON LIABILITY:

Notwithstanding anything to the contrary in this Contract or LOA or any other mutually agreed document between the parties, the maximum liability, for damages, of the contractor, its servants or agents, shall under no circumstances exceed an amount equal to the Price of the Contract or the Work Order. The Contractor shall not in any case be liable for loss of profit or special, punitive, exemplary, indirect or consequential losses whatsoever. This shall not be applicable on the recoveries made by Customer from BHEL on account of Contractor, any other type of recoveries for workmanship, material, T&P etc. due from the contractor.

2.27 NON-DISCLOSURE AGREEMENT:

The bidders shall enter into the Non-disclosure agreement totally voluntarily, with full knowledge of its meaning and without duress. (Format F-08).

2.28 CARTEL FORMATION

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

2.29 FRAUD PREVENTION POLICY

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.

2.30 ORDER OF PRECEDENCE

In the event of any ambiguity or conflict between the contract Documents, the order of precedence shall be in the order below:

- I. Contract agreement with its Amendments
- II. Work order with its amendments
- III. Letter of Award with its Amendments
- IV. Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL
- V. Notice Inviting Tender (NIT)
- VI. Price Bid
- VII. Technical Conditions of Contract (TCC)—Volume-A
- VIII. General Conditions of Contract (GCC) —Volume-B
- IX. Forms and Procedures —Volume-C

2.31 OTHER ISSUES

- 2.31.1** Value of Non judicial Stamp Paper for Bank Guarantees and for Contract Agreement shall be not less than Rs 100/- unless otherwise required under relevant statutes.
- 2.31.2** In case of any conflict between the General Conditions of Contract and Special Conditions of Contract, provisions contained in the Special Conditions of Contract shall prevail.
- 2.31.3** Unless otherwise specified in NIT, offers from 'Consortium'/ 'JVs (formed specifically for participating in the tender)', shall not be considered.



Bharat Heavy Electrical Limited

(A Govt. of India Undertaking)

Transmission Business Group-Subcontracting Management

5th Floor, BHEL Sadan, Plot-25, Sector-16A, Noida, UP-201301

VOLUME-C **FORMS** **AND** **PROCEDURES**

BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

FORMS & PROCEDURES

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1.6	Declaration confirming knowledge about Site Conditions	F-06 (Rev 00)	
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1.8	Non-Disclosure Certificate	F-08 (Rev 00)	
1.9	Bank Account Details for E-Payment	F-09 (Rev 00)	
1.10	Form for seeking clarifications	F-10 (Rev 00)	
1.11	Analysis of Unit Rates Quoted	F-11 (Rev 00)	
1.12	Contract Agreement	F-13 (Rev 00)	
1.13	Proforma of Insurance Surety Bond towards Earnest Money Deposit	F-17 (Rev 00)	
1.14	Bank Guarantee for Performance Security	F-18 (Rev 00)	WAM-22
1.15	Proforma of Insurance Surety Bond towards Security Deposit	F-19 (Rev 00)	
1.16	Indemnity Bond	F-24 (Rev 00)	
1.17	RA Bill Format	F-26 (Rev 00)	WAM-6
1.18	Final Bill Submission format with No Claim Certificate and No Demand Certificate	F-27 (Rev 00)	WAM-7
1.19	Refund of Security Deposit	F-28 (Rev 00)	WAM-10
2.0	Procedure for Conduct of Conciliation Proceedings Process		
2.1	Statement of Claim/Counter Claim To Be Submitted To IEC By Both The Parties	F-30 (Rev 00)	
2.2	Format For Notice Invoking Conciliation Clause By BHEL For Referring The Disputes To Conciliation Through IEC	F-31 (Rev 00)	
2.3	Format For Notice Invoking Conciliation Clause by a stakeholder for referring the Disputes for conciliation through IEC	F-32 (Rev 00)	
2.4	Format for intimation to the Arbitrator about Appointment of Conciliator/IEC	F-33 (Rev 00)	
	Annexure – 01 for Current list of BHEL Consortium Bank		

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER

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

Offer Reference No:.....

Date:.....

To,

**Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub : Submission of Offer against Tender Specification No:

I/We hereby offer to carry out the work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited, Transmission Business Group (TBG) in accordance with the terms and conditions thereof.

I/We have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Amendments/Clarifications/Corrigenda/Errata/etc., issued in respect of the Tender documents by BHEL
2. Notice Inviting Tender (NIT)
3. Price Bid
4. Technical Conditions of Contract
5. Special Conditions of Contract
6. General Conditions of Contract
7. Forms and Procedures

Should our Offer be accepted by BHEL for Award, I/we further agree to furnish 'Security Deposit' for the work as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

I/We further agree to execute all the works referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

I/We have deposited/depositing herewith the requisite Earnest Money Deposit (EMD) as per details furnished in the Check List.

Authorised Representative of Bidder

Signature :

Name :

Address :

Place:

Date:

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301

Dear Sir,

Sub : **Declaration by Authorised Signatory**

Ref : 1) NIT/Tender Specification No:,
2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

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

Date:

Place:

Enclosed: Copy of Valid Power of Attorney

POWER OF ATTORNEY for SUBMISSION OF TENDER/ SIGNING CONTRACT AGREEMENT

(To be typed on non-judicial Stamp Papers of appropriate value as applicable and Notarised)

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr.
....., whose signature given below herewith to be true and lawful Attorney of
M/s..... hereinafter called 'Company', for submitting Tender/entering into
Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s
Bharat Heavy Electricals Ltd, Transmission Business Group (TBG), in connection
with.....
.....vide
Tender Specification No : _____, dated _____.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully
done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the
powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF the common seal of the company has been hereunto affixed in the manner hereinafter
appearing on the document.

Dated at _____, this _____ day of _____

Director/CMD/Partner/Proprietor

Signature of Mr.....(Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness:

Notary Public

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER

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

To,

**Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub : Declaration by Authorized Signatory regarding Authenticity of submitted documents.

Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

I/We, hereby certify that all the documents submitted by us in support of possession of “Qualifying Requirements” are true copies of the original and are fully compliant required for qualifying / applying in the bid and shall produce the original of same as and when required by Bharat Heavy Electricals Limited.

I / We hereby further confirm that no tampering is done with documents submitted in support of our qualification as bidder. I / We understand that at any stage (during bidding process or while executing the awarded works) if it is found that fake / false / forged bid qualifying /supporting documents / certificates were submitted, it would lead to summarily rejection of our bid / termination of contract. BHEL shall be at liberty to initiate other appropriate actions as per the terms of the Bid / Contract and other extant policies of Bharat Heavy Electricals Limited.

Yours faithfully,

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

Date:

Place:

NO DEVIATION CERTIFICATE

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

To,

**Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact (if applicable).

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

Date:

Place:

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS

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

To,

**Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub : **Declaration confirming knowledge about Site conditions**

Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

I/We, _____ hereby declare and confirm that we have visited the Project Site as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Wage structure, Availability of T&P/material/Manpower, resources, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

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

Date:

Place:

DECLARATION FOR RELATION IN BHEL

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,

**Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub : **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:,

I/We hereby submit the following information pertaining to relation/relatives of Proprietor/Partner(s)/Director(s) employed in BHEL

Tick (✓) any one as applicable:

1. The Proprietor, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprietor, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

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

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable action against the Bidder/Contractor.

NON DISCLOSURE CERTIFICATE

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

I/We understand that BHEL, Transmission Business Group (TBG), is committed to Information Security Management System as per their Information Security Policy.

Hence, I/We M/s..... who are submitting offer for providing services to BHEL against Tender Specification No: _____, hereby undertake to comply with the following in line with Information Security Policy of BHEL.

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.
- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL, TBG.

(Signature, date & seal of Authorized
Signatory of the bidder)

Date:

Place:

FORMAT FOR E-PAYMENT

To,

AGM/FINANCE

**Transmission Business Group,
Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, Distt. – Gautam Buddha Nagar, UP-201301**

Dear Sir,

Sub: e-Payment vide RTGS/NEFT

I / We hereby request and authorise you to effect E-Payment vide any of the two modes to my bank account as per the details given below:

Vendor Name	
Title / Name of account in the bank	
Account Type (Saving / Current)	
Bank account number	
Name and address of the bank	
Bank / Branch contact person's Name	
Bank / Branch Telephone Number with STD Code	
Bank Branch MICR Code (Please enclose a copy of a cheque. This Cheque should not be a payable at par cheque.)	
Bank Branch RTGS IFSC Code	
Bank Branch NEFT IFSC Code	
Vendor email address	
Name of authorised signatory of Vendor	
Vendor's Contact persons name	

I/We confirm that information provided above is correct & any consequences due to any mistake in above will be borne by us.

Thanking you,

Name and Designation of Authorised person (s)

We confirm that we are enabled for receiving RTGS/NEFT credits and we further confirm that the account number of _____, the signature of the authorised signatory and the MICR and IFSC codes of our branch mentioned above are correct.

Bank's Verification
(Manager's / Officer's Signature under bank stamp)

Note : Please attach cancelled original Cheque leaf

FORMAT FOR SEEKING CLARIFICATION

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

To,

**Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301**

Dear Sir,

Sub : **Request for Clarification**

Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

Sl. No	Reference clause of Tender Document	Existing provision	Bidder's query	BHEL's clarification
1				
2				
3				
4				
5				
6				

Yours faithfully,

(Signature, date & seal of Authorized
Representative of the Bidder)

Date:

Place:

ANALYSIS OF UNIT RATES QUOTED

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

Offer Reference No:.....

Date:.....

To,
Ashok Kumar Meena
AGM/Subcontracting,
Transmission Business Group, Bharat Heavy Electricals Limited,
5th Floor, BHEL SADAN, Plot No. 25,
Sector-16A, Noida, U.P.-201301

Dear Sir,

Sub : Analysis of Unit Rates Quoted

Ref: Tender Specification No:

Analysis of Unit Rates quoted by us in respect of above Tender is as detailed

SI. No.	DESCRIPTION	% OF QUOTED RATE	REMARKS
01	SITE FACILITIES VIZ., ELECTRICITY, WATER OTHER INFRASTRUCTURE.		
02	SALARY AND WAGES + RETRENCHMENT BENEFITS		
03	CONSUMABLES		
04	T&P DEPRECIATION & MAINTENANCE		
05	ESTABLISHMENT & ADMINISTRATIVE EXPENSES		
06	OVERHEADS		
07	PROFIT		
	TOTAL	100%	

Yours faithfully,

Date:

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

Place:

CONTRACT AGREEMENT

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Transmission Business Group
5th Floor, BHEL SADAN,
Plot No. 25, Sector-16A, Noida, U.P.-201301

AGREEMENT NO. _____

NAME OF WORK	
NAME OF THE CONTRACTOR WITH FULL ADDRESS	
VALUE OF WORK AWARDED	
LETTER OF AWARD NO.	
TIME ALLOTTED FOR COMPLETING THE WORK (DATE OF COMPLETION)	

SIGNATURE OF CONTRACTOR

(SIGNATURE OF BHEL OFFICER)

CONTRACT AGREEMENT

THIS AGREEMENT MADE THIS _____ DAY OF _____ between BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Enterprise) a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort New Delhi- 110049 (herein after called BHEL) of the ONE PART.

AND

M/s _____ (hereinafter called the 'Contractor') of the SECOND PART.

WHEREAS M/s -----state that they have acquired and possess extensive experience in the field of -----And Whereas in response to an Invitation to Tender No. ----- issued by BHEL for execution of ----- the contractor submitted their offer No.----- dated ----- And whereas BHEL has accepted the offer of the Contractor on terms and conditions specified in the Letter of Award No.-----dated -----read with the references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties as follows:

1. That the contractor shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter of Award dated -----and such other instructions, Drawings, Specifications given to him from time to time by BHEL.
2. The Contractor is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid upto ----- for a sum of Rs.----- towards satisfactory performance and completion of the Contract.
3. The Contractor has furnished to BHEL Security Deposit in the following form;
 - a) Cash portion of EMD of Rs.----- submitted vide _____ has been retained as part of SD.
 - b) Rs. _____ in the form of cash/ approved Securities.
 - c) Bank Guarantee bearing no.-----dated -----for a sum of Rs.-----executed by ----- in favour of BHEL towards Security Deposit valid up to -----
4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Contractor fails to obtain such extension(s) from the Bank, the Contractor, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the contractor further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----

OR

In case the contractor furnishes the bank guarantee at a later date the contractor hereby agrees to extend the validity of bank guarantee for such further period or periods as may be required by BHEL and if the contractor fails to obtain such extension(s) from the bank, the contractor shall pay forthwith or accept recovery of the amount of bank guarantee given in lieu of security deposit from the bills in one installment and the contractor further agrees that failure to extend the validity of bank guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Contractor by BHEL in accordance with this Agreement the Contractor hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and the documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorized by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.
8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of Award has been issued to the Contractor.
10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax as per prevailing Income Tax Act.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.
14. That it is hereby agreed by and between the parties that non- exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.
15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Award and other documents governing this Agreement, the provisions in the Letter of Award shall prevail.

16. The following documents

a) Invitation to Tender No-----and the documents specified therein.

b) Contractor's Offer No----- dated-----

c) _____

d) _____

e) _____

f) Letter of Award No_____ dated_____

g) _____

shall also form part of and govern this Agreement.

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

1.

2.

(CONTRACTOR)
(to be signed by a person holding
a valid Power of Attorney)

WITNESS

1.

2.

(For and on behalf of BHEL)

PROFORMA OF INSURANCE SURETY BOND TOWARDS EARNEST MONEY DEPOSIT

(To be stamped in accordance with Stamp Act of India)

Insurance Surety Bond No.

Date.....

To

Bharat Heavy Electricals Limited,
Transmission Business Group (TBG), 5th Floor, BHEL SADAN,
Plot No. 25, Sector-16A, Noida, U.P.-201301

Dear Sirs,

In accordance with Invitation for Bids under your Tender Ref. No., M/s.....
 [Bidder's Name] having its Registered/Head Office at
 (hereinafter called the 'Bidder') wish to participate in the said bid for [Name of Package]
 as an irrevocable

Insurance Surety Bond against Earnest Money Deposit for an amount of(*) valid for
(**) days from(***) required to be submitted by the Bidder as a condition precedent for
 participation in the said bid which amount is liable to be forfeited on the happening of any contingencies as
 mentioned under the Bidding Documents.

We, the [Name & address of the Insurer] having our Head Office at
(#)..... guarantee and undertake to pay immediately on demand by **Bharat Heavy
 Electricals Limited** (hereinafter called the 'Employer') the amount of(*) without any
 reservation, protest, demand and recourse. Any such demand made by the 'Employer' shall be conclusive and
 binding on us irrespective of any dispute or difference raised by the Bidder and/or any right/remedy available to
 the bidder in terms thereof.

This Insurance Surety Bond shall be unconditional as well as irrevocable and remain in full force for a period of
(**) days from the latest due date of bid opening and a claim period of(@).....days. If any further
 extension of this Insurance Surety Bond is required, the same shall be extended to such required period (not
 exceeding one year) on receiving instructions from M/s [Bidder's Name] on whose behalf this
 Insurance Surety Bond is issued.

PROFORMA OF INSURANCE SURETY BOND TOWARDS EARNEST MONEY DEPOSIT

(To be stamped in accordance with Stamp Act of India)

In witness where of the Insurer, through its authorized officer, has set its hand and stamp on this.....day of..... 20..... at

(Signature)

(Name)

(Designation with Insurer Stamp)

Authorised Vide Power of Attorney

No.....

Date.....

WITNESS :

1.(Signature)
(Name)
(Official Address)

2.(Signature)
(Name)
(Official Address)

NOTE :

1. (*) The amount as specified in the Notice inviting Tender (NIT).
 (**) This shall be the duration of Offer Validity Date.
 (***) This shall be the latest date of opening of Techno-Commercial bids.
 (#) Complete mailing address of the Head Office of the Insurer to be given.
 (@) This date shall be expiry of claim period & may be kept 3-6 months beyond the validity date
2. The Insurance Surety Bond shall be from an Insurer as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI) as amended from time to time.
3. The Employer shall be the Creditor, the Bidder shall be the Principal debtor and the Insurance company/Insurer shall be the Surety in respect of the Insurance Surety Bond to be issued by the Insurer.
4. The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state (s) where the Insurance Surety Bond is submitted or is to be acted upon or the rate prevailing in State where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Bidder/Insurer issuing the Insurance Surety Bond.
5. While getting the Insurance Surety Bond issued, Bidders are required to ensure compliance to the points mentioned in Form of Bank Guarantee/Insurance Surety Bond Verification Check List enclosed in this Section of Bidding Documents. Further, Bidders are required to fill up this Form and enclose the same with the Insurance Surety Bond.

BANK GUARANTEE FOR PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India and only from any of BHEL's Consortium Banks)

Bank Guarantee No:

Date:.....

To

**Bharat Heavy Electricals Limited,
Transmission Business Group (TBG), 5th Floor, BHEL SADAN,
Plot No. 25, Sector-16A, Noida, U.P.-201301**

Dear Sirs,

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 _____ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at _____ hereinafter referred to as the 'Vendor / Contractor / Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated valued at Rs..... (Rupees -----)/FC.....(in words.....) for (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs ----- (Rupees -----) without any demur, immediately on first 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. _____.

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

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We thebank 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/satisfactory completion of the performance guarantee

BANK GUARANTEE FOR PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India and only from any of BHEL's Consortium Banks)

period as per the terms of the 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 or discharged.

WeBANK 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 Vendor / Contractor / Supplier 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 Vendor / Contractor / Supplier 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 reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier 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 Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier's liabilities.

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

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier 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.

Unless a demand or claim under this guarantee is made on us in writing on or before thewe shall be discharged from all liabilities under this guarantee thereafter.

This Bank Guarantee shall be governed, construed and interpreted in accordance with the laws of India.

Courts at Delhi shall alone have exclusive jurisdiction over any matter arising out of or in connection with this Bank Guarantee.

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....
- b) This Guarantee shall be valid up to

BANK GUARANTEE FOR PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India and only from any of BHEL's Consortium Banks)

- c) Unless the Bank is served a written claim or demand on or before _____ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ PROJECT/SUPPLY DETAILS

⁶ BG AMOUNT IN FIGURES AND WORDS

⁷ VALIDITY DATE : The validity of Bank Guarantee towards Security Deposit shall be till actual completion work (Contract period) + Guarantee Period + 3 months

⁸ DATE OF EXPIRY OF CLAIM PERIOD : The Claim period may be kept 3 to 6 months beyond the validity date

Note:

1. Bidders are advised that expiry of claim period may be kept 3-6 months after validity date.
2. 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.

BANK GUARANTEE FOR PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India and only from any of BHEL's Consortium Banks)

3. 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). The BG Format provided to them should clearly specify the same.

PROFORMA OF INSURANCE SURETY BOND TOWARDS PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India)

Insurance Surety Bond No.....

Date.....

To,

Bharat Heavy Electricals Limited,**Transmission Business Group (TBG), 5th Floor, BHEL SADAN,****Plot No. 25, Sector-16A, Noida, U.P.-201301**

Dear Sirs,

In consideration, to **Bharat Heavy Electricals Limited** (Hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns), for having awarded, **M/s ... (Contractor's name) ...** having its Registered /Head Office at ... (Address) ... (Hereinafter referred to as the 'Contractor', which expression shall unless repugnant to the context or meaning thereof, include its successors administrators, executors and assigns), a Contract by issue of Letter of Award No.
dated ...dd/mm/yyyy... and the same having been unequivocally accepted by the contractor, valued at **Rs. (Rupees only)** and the Contractor having agreed to provide Security Deposit towards fulfilment of any obligations in terms of the provisions of the contract equivalent to% (percent) of the said value of the Contract to the Employer amounting **Rs. (Rupees Only).**

We **[Name & Address of the Insurer]** having its Head Office at (hereinafter referred to as the 'Insurer', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, on demand any and all amount payable by the Contractor in terms of the agreement to provide Security Deposit, to the extent of **Rs (Rupees Only)** as aforesaid at any time up to ...dd/mm/yyyy... **[#]** without any condition, demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the Insurer shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or the Insurer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Insurer undertakes not to revoke this Insurance Surety Bond during its currency and or any period extended under the contract, without prior consent of the Employer and further agrees that the guarantee herein contained shall be enforceable till ...dd/mm/yyyy... **[@]**.

The Employer shall have the fullest liberty, without affecting in any way the liability of the Insurer under this Insurance Surety Bond, from time to time to extend the performance of the Contract by the Contractor for the

PROFORMA OF INSURANCE SURETY BOND TOWARDS PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India)

purpose of which, the Insurer shall be liable to extend the validity of the present Insurance Surety Bond without any demur, condition, protest and the Insurer shall at no point in time have an option of revoking the same, The Employer shall have the fullest liberty, without affecting this Insurance Surety Bond, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Insurer shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Insurer.

The Insurer also agrees and undertakes that the Employer at its option shall be entitled to enforce this Insurance Surety Bond against the Insurer as a Surety, 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.

Notwithstanding anything contained herein above our liability under this Insurance Surety Bond is restricted to **Rs.** (**Rupees** **Only**) and it shall remain in force up to and including ...dd/mm/yyyy... **[#]** and shall be extended from time to time for such period, as may be desired by **M/s** ...(Contractor's name)... on whose behalf this Insurance Surety Bond has been given.

Dated this..... day of..... 20 at.....

(Signature)

(Name)

(Designation with Insurer Stamp)

Authorised Vide Power of Attorney

No.....

Date.....

WITNESS :

1.(Signature)
.....(Name)
.....(Official Address)

2.(Signature)

PROFORMA OF INSURANCE SURETY BOND TOWARDS PERFORMANCE SECURITY

(To be stamped in accordance with Stamp Act of India)

.....(Name)

.....(Official Address)

Notes:

- 1) **# Validity date:** The validity of Insurance Surety Bond towards Security Deposit shall be till actual completion work (Contract period) + Guarantee Period + 3 months.
- 2) **@ Date of Expiry of Claim Period:** The Claim period may be kept 3 to 6 months beyond the validity date.
- 3) The Insurance Surety Bond shall be from an Insurer as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI).
- 4) The Employer shall be the Creditor, the Contractor shall be the Principal debtor and the Insurance company/Insurer shall be the Surety in respect of the Insurance Surety Bond to be issued by the Insurer.
- 5) The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state(s) where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Bidder/Insurer issuing the Insurance Surety Bond

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

This Indemnity Bond executed by <name of company> having their Registered Office at <xxxxxxxxxx> in favour of M/s Bharat Heavy Electricals Limited, a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort, Asiad, New Delhi - 110049 through its Unit at Bharat Heavy Electricals Limited, TBG, BHEL SADAN, Plot No. 25, Sector-16A, Noida, (U.P.) – 201301 (Hereinafter referred to as the Company) And whereas the Company has entered into a Contract with M/s xxxxxxxx, the executants of this Deed (hereinafter referred to as the Contractor) as its contractor in respect of the work of “xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx”.

AND WHEREAS under the provisions of GCC further stipulates that the Contractor shall indemnify the Company against all claims of whatever nature arising during the course of execution of Contract including defects liability period of <xx Months > i.e till <xx xx xxxx>

Now this deed witness that in case the Company is made liable by any Authority including Court to pay any claim or compensation etc. in respect of all labourers or other matters at any stage under or relating to the Contract with the Contractor, the Contractor hereby covenants and agrees with the Company that they shall indemnify and reimburse the Company to the extent of such payments and for any fee, including litigation charges, lawyers' fees, etc, penalty or damages claimed against the Company by reason of the Contractor falling to comply with Central/States Laws, Rules etc, or his failure to comply with Contract (including all expenses and charges incurred by the Company).

The Contractor further indemnifies the Company for the amount which the Company may be liable to pay by way of penalty for not making deductions from the Bills of the Contractor towards such amount and depositing the same in the Government Treasury.

The Contractor further agree that the Company shall be entitled to withhold and adjust the Security Deposit and/or withhold and adjust payment of Bills of Contractor pertaining to this Contract against any payment which the Company has made or is required to make for which the Contractor is liable under the Contract and that such amount can be withheld, adjusted by the Company till satisfactory and final settlement of all pending matters and the Contractor hereby gives his consent for the same.

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

The Contractor further agrees that the terms of indemnity shall survive the termination or completion of this contract.

The contractor further agrees that the liability of the contractor shall be extended on actual basis notwithstanding the limitations of liability clause, in respect of :

1. breach of terms of contract by the contractor
2. breach of laws by the contractor
3. breach of Intellectual property rights by the contractor
4. breach of confidentiality by the contractor

Nothing contained in this deed, shall be construed as absolving or limiting the liability of the Contractor under said Contract between the Company and the Contractor. That this Indemnity Bond is irrevocable and the condition of the bond is that the Contractor shall duly and punctually comply with the terms and the conditions of this deed and contractual provisions to the satisfaction of the Company.

In witness where of M/s xxxxxxxxxxxx these presents on the day, month and year first, above written at xxxxxxxx by the hand of its signatory Mr. xxxxxxxxxxxx.

Signed for and on behalf of
M/s xxxxxxxxxxxxxxxx

Witness:

- 1.
- 2.

Form WAM 6

BHARAT HEAVY ELECTRICALS LIMITED
DIVISION.....
Running Account Bill
(Para 4.3.1 of Works Accounts Manual)

Name of the Contractor

Name of the Work:

Sanctioned Estimate:

Code No.:

Contract Agreement No.:

Dated:

Division:

Date of written order to
commence the Work:

Date of commencement
of work:

Due date of completion as per
agreement

Date of approval of Competent Authority for time extension as applicable
(copy to be enclosed).

Departmental Bill No.

Date:

Sub-Division:

Period of work covered in this
bill:

I. ACCOUNT OF WORK EXECUTED

Adhoc payment for work not previously measured **			Item No. of work	Description of work	Quantity as per agreement	Quantity executed upto date	Rate	Unit	Payment on the basis of actual measurement upto date	Quantity executed since last RA bill	Payment on the basis of actual measurement since last running account bill	Remarks
Total as per last running account bill	Since last running account bill	Total upto date										
1	2	3	4	5	6	7	8	9	10	11	12	13

** 1. Whenever payment is made on adhoc basis without actual measurements the amount in whole rupees should be entered in columns 1 to 3 only and not in columns 7 to 12

2. Whenever there is an entry in column 12 on the basis of actual measurement, the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total upto date in column 3 may become nil.

Total value of work done upto date (A) -----

Deduct value of work shown on the last Running Account Bill (B) -----

Net value of work done since last Running Account Bill (C) -----

Rupees (in words) Only

Note :
Wherever adhoc payments to contractors against running bills are made in accordance with the extant Works Policy, the amount so paid shall be adjusted.

Form WAM 6 (Contd).

II. MEMORANDUM OF PAYMENTS

		I	II
1.	Total value of work actually measured as per Account No. I, Column 10	(A) -----	-----
2.	Total upto date adhoc payment for work covered by approximate or plan measurements as per Account I, Col. 3	(B) -----	-----
4.	Total upto date payments [(A)+(B)]	(C) -----	-----
5.	Total amount of payments already made as per entry (D) of last Running Account Bill No. dated forwarded to the Accounts Department on	(D) -----	-----
6.	Balance [(C) - (D)]		-----
7.	Payments now to be made:	-----	
	a) by cash / cheque	-----	
	b) by deduction for value of materials supplied by BHEL vide Annexure A attached	-----	
	c) by deduction for hire of tools and plant vide Annexure B attached	-----	
	d) by deduction for other charges vide Annexure C attached	-----	
	e) by deduction on account of security deposit	-----	
	f) by deduction on account of Income Tax	-----	-----
Note :		Amounts relating to items 4 to 6 above should be entered in column II and those relating to item 7 in column I. The amount shown against item 6 and the total of item 7 should agree with each other.	

III. CERTIFICATE OF THE ENGINEER IN CHARGE

1	The measurements on which the entries in column 7 to 12 of Part I of this Bill (Account of work executed) are based were made by ----- and are reorded at pages - ----- of Measurement Book No. ----- (Name and Designation)
2	Certified that the methods of measurement are correct and the work has been carried out in accordance with the terms and conditions, schedules, specifications and drawings etc. forming part of the contract agreement, subject to deviations included in the deviation statement (Annexure D)
3	Certified that in addition to and quite apart from the quantities of work actually executed as shown in column 10 of Part I, some work has actually been done in connection with several items and the value of the such work is, in no case, less than the adhoc payments as per column 3 of Part I, made or proposed to be made, for the convenience of the contractor in anticipation of, and subject to the results of, detailed measurement which will be made as soon as possible.
4	Certified that measurements by Engineer-incharge and test check of prescribed percentage of measurements by the concerned superior authorities has been carried out.
5	Certified that there are no pending recoveries from the contractor on account of chargeable items (e.g T&P, consumables, material, etc.) issued either by BHEL or by the customer and other recoveries like power, water, quarter, tax liability towards declaration forms etc.
6	Certified that with regard to the free issues, regular reconciliation is being done, completed upto ----- and there are no recoveries pending from the contractor on account of such issues in excess of requirement for execution of work as per contract.
7	Certified that there is no pending recovery for damaged material issued free of cost.
8	Certified that the contractor has fulfilled all the requirements as per contract with reference to statutory obligations (PF, ESI, Minimum Wages, BOCW, Insurance etc.), support services such as service manpower, computer system , T&P etc

Signature of Contractor

Date:

Signature of Engineer in Charge

Designation:

Date:

1	Certified that the measurements have been check measured to the prescribed extent by at site and also by the undersigned and the relevant entries have been initialed in the Measurement Book. (vide pages) (Name and Designation)
2	Certified that all the measurements recorded in the measurement book have been correctly billed for
3	Certified that all recoverable amounts in respect of materials tools and plant etc. and other charges have been correctly made vide annexures A to C attached.

* Here specify the net amount payable.

Signature of Senior Engineer

Code No.:

ALLOCATION

Estimate No :

Debit

Credit

(Gross amount)

(Deductions)

Name of Work :

Account code head

Total

Total**Total****Finance Executive**

Date:

Form WAM 6 (Contd.)

ANNEXURE A

Statement showing details of materials issued to the contractor Shri / M/S..... in respect of Contract Agreement / Work Order No.....Dated..... and covered by the agreement													
Sl.No.	Stores Issue Voucher No. and date	Issue voucher No. and date allotted by stores to the SIV	Description of material issued issued to the contractor	Quantity issued		Quantity actually incorporated in the work	Balance quantity with contractor		If recoverable from the contractor				
				Free	Chargeable		Free	Chargeable	Rate at which recoverable	Amount recoverable	Amount recovered upto previous bill	Balance now recovered	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Certified that (balance quantity of free issue material as per Col. 8 above) is physically available with the Contractor.

Total

Signature of Contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

ANNEXURE B

Statement showing tools and plant issued to the contractor Shri/M/s..... in respect of Contract Agreement No.....Dated.....							
Sl. No.	Description of Tools and Plant Issued	Period for which issued	Rate at which recovery is to be made	Amount recoverable	Amount recovered upto previous bill	Balance Recovered now	Remarks
1	2	3	4	5	6	7	8

TOTAL

Signature of Contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date :

Date :

Date:

Form WAM 6 (Contd.)

ANNEXURE C

Statement showing details of other recoveries to be made from the contractor Shri/M/s-----in respect of contract Agreement No.Dated

S. No.	Particulars	Unit	Quantity	Rate	Amount recoverable	Amount recovered up to previous bill	Amount now recovered	Remarks
1	2	3	4	5	6	7	8	9
1	Water charges							
2	Electricity charges							
3	Seignorage charges							
4	Medical charges							
5	Cost of empty gunny bags and empty containers not returned							
6								
7								
8								
TOTAL								

Signature of Contractor
Date :

Signature of Engineer in Charge
Date :

Signature of Senior Engineer
Date:

ANNEXURE D
DEVIATION STATEMENT

Name of the Contractor:

Contract Agreement No

Name of Work:

Date:

S. No.	Description of Item	Unit	Quantity as per agreement	Quantity as executed	Quantity further anticipated	Total quantity anticipated on completion	Rate as per agreement	Rate as executed	Amount as per agreement	Amount as executed	Amount further anticipated	Total Amount anticipated on completion	Difference		Reason for deviation with authority, if any
													Excess	Savings	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Signature of Engineer in Charge
Date :

Signature of Senior Engineer
Date :

Form WAM 7

BHARAT HEAVY ELECTRICALS LIMITED
DIVISION.....
.....And Final Bill
(Para 4.3.2 of Works Accounts Manual)

Departmental Bill No:

Date:

Name of the Contractor:

Name of the Work:

Division:

Date of Written order to commence the work:

Sub-Division:

Sanctioned Estimate:

Contract Agreement/ Work Order No:

Date of actual completion of the work:

Date of commencement of the Work:

Dated:

Due date of completion as per Agreement:

I. ACCOUNT OF WORK EXECUTED

Adhoc payment for work not previously measured **			Item no. of the agreement / work order	Description of work	Quantity as per agreement	Quantity executed upto date	Rate	Unit	Payment on the basis of actual measurement upto date	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill	Remarks
Total as per last running account bill	Since last running account bill	Total upto date										
1	2	3	4	5	6	7	8	9	10	11	12	13

** Whenever there is an entry in column 12 on the basis of actual measurement, the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total upto date in column 3 may become nil.

Total value of work done upto date	(A)	-----
Deduct value of work shown on the last Running Account Bill	(B)	-----
Net value of work done since last Running Account Bill	(C)	-----
Rupees (in words) Only		

Form WAM 7 (Contd.)

II. MEMORANDUM OF PAYMENTS

1	Total value of work actually measured as per Account No. I column 10	(A)	-----
2	Deduct amount of payments already made as per last running account bill No. dated	(B)	-----
3	Payment now to be made [(A) - (B)]	(C)	-----
4	Deduct amounts recoverable from the contractor on account of :		
	a) Materials supplied by BHEL vide Annexure A attached		-----
	b) Hire of tools and plant vide Annexure B attached		-----
	c) Other charges vide Annexure C attached		-----
	d) Income Tax		-----
	Total Deductions		-----
5	Balance		-----
6	Refunds of Security Deposit		-----
7	Net amount to be paid to the contractor		-----
	Net value Rupees (in words)		Only

I/ We hereby certify that I/We have performed the work as per the terms and conditions of Contract Agreement/Work Order No.....Dated.....for which payment is claimed as above and that I/We have no further claim under this agreement/work order.

Signature of the Contractor

Date:

III CERTIFICATE OF THE ENGINEER IN CHARGE

1. The measurements on which the entries in columns 7 to 11 of Part I of this bill (Account of work executed) are based were made by.....
.....are recorded at pages.....of measurement book No..... (Name and Designation)
2. A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.

Date:

Signature of Engineer incharge

Designation:

Form WAM 7 (Contd.)

IV CERTIFICATE OF THE SENIOR ENGINEER

1. Certified that I have personally inspected the work and that the work has been physically completed on the due date in accordance with the terms and conditions, schedules, specifications and drawings etc., forming part of the contract agreement, subject to the deviations noted in Deviation Statement (Annexure D).
2. Certified that the measurements have been check measured to the prescribed extent by..... and by the undersigned at site and the relevant entries have been initiated in the measurement book (vide pages.....) (Name and Designation)
3. Certified that the methods of measurement are correct.
4. Certified that the measurements have been technically checked with reference to contract drawings, deviations etc.
5. Certified that the measurements recorded in the measurement book have been correctly billed for at the contract rates or approved rates.
6. Certified that all recoverable amounts in respect of stores, tools and plant, water, electricity charges etc. have been correctly made vide Annexures A to C and that there are no other demands outstanding against the contractor on this contract.
7. Certified that the issues of all stores as per statement attached (whether charged to the contractor or direct to the work) have been technically checked and represent fair and reasonable issues for the items of work executed vide Annexure E.
8. Certified that all statutory requirements including PF, ESI, Minimum wages, Insurance, GST, BOCW, etc. are complied with by the Contractor. This should be duly backed by the relevant documents.

Certified for payment of * Rs.....(Rupees.....only).

*Here specify the net amount payable

Signature of Senior Engineer

Date

IV ENTRIES TO BE MADE IN THE FINANCE DEPARTMENT

Passed for.....Rs.....
Less Deductions.....Rs.....
Net Amount Payable.....Rs.....
(Rupees.....only)

Account code head	Debit	Credit
	(Gross Amount)	(Deductions)
TOTAL		

Assistant

Date:

Accountant

Date:

Finance Executive

Date:

Form WAM 7 (Contd.)

ANNEXURE A
Part I

Statement showing details of materials issued to the contractor Shri / M/S.....in respect of Contract Agreement / Work Order No.....Dated..... and covered by the agreement.

Sl.No.	Stores Issue Voucher No. and date	Issue voucher No. and date allotted by stores to the SIV	Description of material issued issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverable from the contractor or supplied free	If recoverable from t he Contractor				
							Rate at which recoverable	Amount recoverable	Amount recovered upto previous bill	Balance now recovered	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Total

Signature of Contractor

Date:

Signature of Engineer in Charge

Date:

Signature of Senior Engineer

Date:

ANNEXURE A
Part II

Statement showing details of materials issued to the contractor Shri / M/S..... in respect of Contract Agreement / Work Order No.....Dated..... and not covered by the agreement

Sl.No	Stores Issue Voucher No. and Date	Issue Voucher No. and date allotted by stores to the SIV	Description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Issue Rate	Amount recoverable	Amount recovered upto previous bill	Balance now recovered	Remarks
1	2	3	4	5	6	7	8	9	10	11

TOTAL
Add Departmental Charges
Add GST (Wherever applicable)
GRAND TOTAL

Signature of Contractor

Date:

Signature of Engineer-in-Charge

Date:

Signature of Senior Engineer

Date:

Note: Cost of materials recovered in this bill should be shown against item 4 (a) of the memorandum of payments. The amounts of taxes and departmental charges recovered in this bill should be incorporated in Annexure C.

Form WAM 7 (Contd.)

ANNEXURE B

Statement showing tools and plant issued to the contractor Shri /M/S.....in respect of contract Agreement / Work Order No.....Dated.....

Sl.No.	Description of Tools and Plant Issued	Period for which issued	Rate at which recovery is to be made	Amount recoverable	Amount recovered upto previous bill	Balance now recovered	Remarks
1	2	3	4	5	6	7	8

TOTAL

Signature of Contractor

Signature of Engineer-in-Charge

Signature of Senior Engineer

Date

Date

Date

ANNEXURE C

Statement showing details of other recoveries to be made from the contractor Shri/M/s..... In respect of Contract Agreement / Work Order No.....Dated.....

Sl.No.	Particulars	Unit	Quantity	Rate	Amount recoverable	Amount recovered upto previous bill	Amount now recovered	Remarks
1	2	3	4	5	6	7	8	9
1	Water charges							
2	Electricity charges							
3	Medical charges							
4	Cost of empty gunny bags and empty containers not returned							
5								
6								
7								

TOTAL

Signature of Contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date

Date

Date

Form WAM 7 (Contd.)

ANNEXURE D
DEVIATION STATEMENT

Name of the Contractor: Contract Agreement/Work Order No.
Name of the Work: Date:

SL. No.	Description of Item	Unit	Quantity as per agreement	Quantity as executed	Rate as per agreement	Rate as executed	Amount as per agreement	Amount as executed	Difference		Reason for the deviation with authority, if any
									Excess	Savings	
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Engineer in Charge Signature of Senior Engineer
Date: Date:

ANNEXURE E

Statement showing the consumption of materials issued to the contractor Shri/M/s..... In respect of Contract Agreement / Work Order No.....Dated.....

Name of the Work:

SL. No.	Description of material	Unit	Quantity actually issued	Quantity actually incorporated in the work	Balance	Particulars of disposal of balance	Quantity to be issued as per approved data for work actually done	Variation in consumption (difference between colum 5 & 8)		Rate chargeable for excess/short consumption, if any	Amount Recoverable for excess/short consumption, including materials not returned, if any	Remarks
								More	Less			
1	Cement											
2	Bricks											
3	Wood											
4	Asbestos Sheet											
5	Iron Material											
6												
7												

Signature of Contractor Signature of Engineer in Charge Signature of Senior Engineer
Date: Date: Date:

Note

1. The quantities shown in columns 4 and 5 above should tally with those shown in columns 5 & 6 respectively of Annexure A (Part I and II)
2. Data statement of theoretical consumption should be attached in support of quantity specified in column 8.

ANNEXURE F

Form WAM 7 (Contd.)

Statement showing details of materials issued to the contractor Shri/M/s..... in respect of Contract Agreement / Work Order No.....dated.....

Name of the Work:

FREE OF COST

Sl.No	Stores Issue Voucher No.	Description of material	Unit	Quantity issued	Quantity required as per data	Quantity consumed in the work	Balance (if any)	Nature of disposal for the balance	Rate chargeable for material not returned	Amount recoverable for material not returned	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

Form WAM 7 (Contd.)

ANNEXURE G
QUESTIONNAIRE TO BE ANSWERED BY THE ENGINEER IN CHARGE AND SENIOR ENGINEER
(Correct particulars and answers to be recorded)

1. Name of the Work:
2. Name of the Contractor:
3. Date of commencement of the Work:
4. Contract agreement /Work Order No. and date:
5. Reference to the supplementary Agreement No. if any:
6. Whether administrative approval and technical sanction has been accorded by the competent authority? If so, cite reference?
7. Whether sanction of the competent authority and financial concurrence of the Finance Department for award of the work has been accorded? If so, cite reference.
8. Whether the work has been completed in time? If not whether penalty has been levied or sanction of the competent authority for extension of time granted and communicated to the Finance Department with reasons for grant of extension? (Due and actual date of completion of the work and reference to letter No. and date granting the extension of time should be given).
9. (a) Whether the rates allowed in the bill have been checked with the contract agreement?
 (b) Whether the rates for extra/supplemental items have been approved by the competent authority and the sanction communicated to the Finance Department together with rate analysis? If so, cite reference
10. Whether deviations have been approved by the competent authority? If yes, give reference to the approval; if not, give reasons.
11. Whether the rates of recovery of stores issued to the contractor which are not provided for in the contract agreement have been settled in consultation with Finance?
12. Whether discrepancies pointed out by the Finance department in the stores statement have been reconciled and accepted by the Finance Department?
13. Whether materials issued to the contractor in excess of the theoretical requirements have been returned to the Stores department and the No. and date of such returned stores vouchers have been shown in Stores statement? If not, whether the cost of such excess materials has been recovered at the prescribed rate? Whether consumption statements in respect of materials chargeable to the work have been attached to the bill?
14. Whether consumption of materials shown has been technically checked by Senior Engineer?
15. Whether materials issued and used in the work is not less than that required for consumption in work according to our specifications? If consumption is less, whether necessary recovery has been made in the bill?
16. Whether measurements have been checked by the Engineer and Senior Engineer to the extent required and certificates of check recorded in the measurement books?
17. Whether contractor has signed the bill and the measurement books without reservations? If not, whether reasons have been intimated to the Finance Department?
18. Whether arithmetical calculations have been checked and certificate recorded in the measurement books by a person other than the one who calculated initially?
19. Whether any work was done at the risk and cost of the contractor and whether such cost has been recovered from him? Give particulars.
20. Whether all advance payments on running accounts have been recovered?
21. Whether all the recoveries due for services given to the contractor like rent of accommodation, water charges, electricity charges have been recovered and whether payments made by the company on behalf of the contractor have been adjusted?
22. Whether the files containing abstracts from measurement books/standard measurement books have been completed/updated?
23. Whether hire charges for tools & plant have been recovered and the statement of hire charges with full details attached?
24. Whether the certificate of workmanship and completion of work according to specifications, drawings etc. is recorded by Engineer Incharge/Senior Engineer and whether recoveries have been made for defective works, if any?
25. Whether all corrections in the bill/measurement books etc. have been neatly made and attested and there are no overwriting?
26. Whether final measurements have been taken as soon as possible after completion of the work and the certificate of completion issued? If not, whether reasons for delay have been recorded and communicated to finance department?
27. In respect of quantities reduced in the final bill as compared to the running payment, whether adequate reasons have been recorded and communicated to finance department?
28. Whether the expenditure has been classified correctly according to heads of account recorded in the sanctioned estimate?
29. Whether the work has been completed within the estimated cost? If not, what is the percentage of excess over the sanctioned estimate/ administrative approval? In case the excess is beyond the competency of the Senior Engineer, what action has been taken for obtaining the approval of the authority competent to sanction the excess?
30. (a) If the contractor has furnished bank guarantee in lieu of cash security deposit towards proper execution of works and guarantee against defects during the maintenance period, whether the period of currency of the bank guarantee covers the entire maintenance period?
 (b) If not whether security deposit has been proposed to be recovered from the final bill?
31. Whether all the previous audit objections raised on running account bills have been settled? If so, cite references.

Signature of Engineer in Charge
 Date:

Signature of Senior Engineer
 Date:

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. Date on which security deposit refund falls due as per contract:
8. Amount deposited/recovered

Details	Mode	Amount

9. 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 (%) :

10. Net amount recommended for release (8-9)

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 BHELfor the work done or for labor or material supplied or any other account arising out of or connected with the contract agreement/work order (No.....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**

PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS

1. 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 herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counterclaims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings. If BHEL is to initiate Conciliation, then, the invitation to Conciliate shall be extended to the concerned Stakeholder in **Form-31** hereto. Where the stakeholder is to initiate the Conciliation, the notice for initiation of Conciliation shall be sent in **Form-32** hereto.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL. The appointment of Conciliator(s) shall be completed and communicated by the concerned Department/Group of BHEL Unit/Division/Region/Business Group to the other party and the Conciliator(s) within 30 days from the date of acceptance of the invitation to conciliate by the concerned party in the **Form-33**. The details of the Claim, and counter-claim, if any, shall be intimated to the Conciliator(s) simultaneously in **Form-30**.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months

with the consent of the Parties subject to cogent reasons being recorded in writing.

- 7.** The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within 15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.
- 8.** Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
- 9.** In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
- 10.** Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
- 11.** When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
- 12.** In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
- 13.** Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.

- 14.** In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
- 15.** The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
- 16.** Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
- 17.** In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
- 18.** A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
- 19.** The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.
- 20.** Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.

- 21.** Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
- 22.** The proceedings of Conciliation under this Scheme may be terminated as follows:
- a.** On the date of signing of the Settlement agreement by the Parties; or,
 - b.** By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
 - c.** By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - d.** By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - e.** On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.

- 23.** The Conciliator(s) shall be entitled to following fees and facilities:

Sl No	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator) In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per Conciliator)

SNo	Particulars	Amount
		In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator) Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on the, Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.
3	Secretarial expenses	Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC. Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC
4	Travel and transportation and stay at outstation Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)	As per entitlement of the equivalent officer (pay scale wise) in BHEL.
	Others	As per the extant entitlement of whole time Functional Directors in BHEL. Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region /

Sl No	Particulars	Amount
		Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

- 24.** The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
- 25.** If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.
- 26.** The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
- 27.** Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.
- 28.** The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 4 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.

- 29.** The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/ regulatory body, as the case may be.
- 30.** The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
- a.** Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
 - b.** admissions made by the other party in the course of the Conciliator proceedings;
 - c.** proposals made by the Conciliator;
 - d.** The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
- 31.** The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
- 32.** None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
- 33.** The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.
- 34.** The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

**STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO THE
IEC BY BOTH THE PARTIES**

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Claim(s)/Counter Claim(s):

SI. No.	Description of claim(s)/Counter Claim	Amount (in INR)Or currency applicable in the contract	Relevant contract clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

Note– *The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.*

**FORM FOR NOTICE INVOKING CONCILIATION CLAUSE BY BHEL FOR
REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC**

To,

M/s. (Stakeholder's name)

Subject: **NOTICE FOR INVOCATION OF THE CONCILIATION CLAUSE OF THE
CONTRACT BY BHEL**

Ref: Contract No/MoU/Agreement/LOI/LOA& date _____.

Dear Sir/Madam,

As you are aware, with reference to above referred Contract/MoU/Agreement/LOI/LOA, certain disputes have arisen, which, in spite of several rounds of mutual discussions and various correspondences have remained unresolved. The brief particulars of our claims which arise out of the above- referred Contract/MoU/Agreement/LOI/LOA are reproduced hereunder:

Sl. No.	Claim description	Amount involved

As you are aware, there is a provision in the captioned Contract/MoU/Agreement/LOI/ LOA for referring disputes to conciliation.

In terms of Clause -----of Procedure i.e., Annexure ----- to the Contract/MoU /Agreement / LOI / LOA, we hereby seek your consent to refer the matter to Conciliation by Independent Experts Committee to be appointed by BHEL. You are invited to provide your consent in writing to proceed with conciliation into the above mentioned disputes within a period of 30 days from the date of this letter along with details of counter-claims, if any, which you might have with regard to the subject Contract/ MoU/ Agreement/ LOI/ LOA.

Please note that upon receipt of your consent in writing within 30 days of the date of receipt of this letter by you, BHEL shall appoint suitable person(s) from the BHEL Panel of Conciliators.

This letter is being issued without prejudice to our rights and contentions available under the contract and law.

Thanking you
Yours faithfully

Representative of BHEL

Note: The Form may be suitably modified, as required, based on facts and circumstances of the case.

**FORM FOR NOTICE INVOKING CONCILIATION CLAUSE BY A
STAKEHOLDER FOR REFERRING THE DISPUTES TO CONCILIATION
THROUGH IEC**

To,

BHEL (Head of the Unit/Division/Region/Business Group)

Subject: **NOTICE FOR INVOCATION OF THE CONCILIATION CLAUSE OF THE
CONTRACT BY A STAKEHOLDER**

Ref: Contract No/MoU/Agreement/LOI/LOA& date _____.

Dear Sir/Madam,

As you are aware, with reference to above referred Contract/MoU/Agreement/LOI/LOA, certain disputes have arisen, which, in spite of several rounds of mutual discussions and various correspondences have remained unresolved. The brief particulars of our claims which have arisen out of the above- referred Contract/MoU/Agreement/LOI/LOA are enumerated hereunder:

Sl. No.	Claim description	Amount involved

As you are aware, there is a provision in the captioned Contract/MoU/Agreement/LOI/ LOA for referring inter-se disputes of the Parties to conciliation.

We wish to refer the above-said disputes to Conciliation as per the said Clause of the captioned Contract/MoU/Agreement/LOI/ LOA. In terms of Clause -----of Procedure i.e., Annexure ----- to the Contract/MoU /Agreement / LOI / LOA, we hereby invite BHEL to provide its consent in writing to proceed with conciliation into the above mentioned disputes within a period of 30 days from the date of this letter along with details of counter-claims, if any, which it might have with regard to the subject Contract/ MoU/ Agreement/ LOI/ LOA and to appoint suitable person(s) as Conciliator(s) from the BHEL Panel of Conciliators.

This letter is being issued without prejudice to our rights and contentions available under the contract and law.

Thanking you
Yours faithfully

Representative of the Stakeholder

Note: The Form may be suitably modified, as required, based on facts and circumstances of the case.

FORM FOR INTIMATION TO THE STAKEHOLDER ABOUT APPOINTMENT OF CONCILIATOR/IEC

To,

M/s. (Stakeholder's name)

Subject: **INTIMATION BY BHEL TO THE STAKEHOLDER AND CONCILIATOR(S) ABOUT APPOINTMENT OF CONCILIATOR/IEC**

Ref: Contract No/MoU/Agreement/LOI/LOA& date _____.

Sir,

This is with reference to letter dated ----- regarding reference of the disputes arising in connection with the subject Contract No /MoU/Agreement/LOI/LOA to conciliation and appointment of Conciliator(s).

In pursuance of the said letter, the said disputes are assigned to conciliation and the following persons are nominated as Conciliator(s) for conciliating and assisting the Parties to amicably resolve the disputes in terms of the Arbitration & Conciliation Act, 1996 and the Procedure ---- to the subject Contract/MoU/Agreement/LOI/LOA, if possible.

Name and contact details of Conciliator(s)

a)

b)

c)

You are requested to submit the Statement of Claims or Counter-Claims (strike off whichever is inapplicable) before the Conciliator(s) in Form 29 (enclosed herewith) as per the time limit as prescribed by the Conciliator(s).

Yours faithfully,

Representative of BHEL

CC: To Conciliator(s)... for Kind Information please.

Encl: As above

Note: The Form may be suitably modified, as required, based on facts and circumstances of the case.

ANNEXURE – 01

The current list of approved BHEL Consortium Banks

List of Consortium Banks	
Sl No	Name of Bank
1	State Bank of India
2	Canara Bank
3	IDBI Bank Limited
4	ICICI Bank Limited
5	HDFC Bank Limited
6	Axis Bank
7	IndusInd Bank Limited
8	Bank of Baroda
9	Exim Bank
10	Indian Bank
11	Punjab National Bank
12	Union Bank of India
13	Yes Bank Limited
14	RBL Bank Ltd.
15	Indian Overseas Bank
16	Kotak Mahindra Bank Limited
17	Federal Bank Limited
18	HSBC
19	South Indian Bank

HSE SCOPE MATRIX FOR UNLOADING PACKAGE AT ±800KV BF HVDC			Rev0- dt 14.09.26 Annexure- A
SR NO	HSE POINT FOR REVIEW	CONTRACTOR'S SCOPE	REMARKS
1	FIRST AID		
1.1	First Aid Room with facilities and AC	BHEL a/c , Hitachi resources	-
1.2	First Aider	BY CONTRACTOR	Certificate (can get with 3 days training)
1.3	First Aid Medicines and consumables	BY CONTRACTOR	As per BOCW
2	Safety Team with qualifications		
2.1	Safety Steward (per 50)	BY CONTRACTOR	As per contract with customer
	FACILITIES AT SITE		
3	Toilets /Urinals (1 per 50 manpower) with daily cleaning	BY CONTRACTOR	As per contract with customer
4	Drinking Water	BY CONTRACTOR	As per contract with customer
5	Daily cleaning staff for toilets/urinals + cleaners	BY CONTRACTOR	As per contract with customer
6	Rest Shade with light, Cooler and Water	BY CONTRACTOR	As per contract with customer
7	HSE Training		
8	Induction Training Centre with TV/projector, AC, Chairs, table, computer and other facilities, safety park, dummies	BHEL a/c , Hitachi resources	
9	Safety Trainer	BHEL a/c , Hitachi resources	
10	Height Pass related arrangements		
10.1	Site Setup for height pass	BHEL a/c , Hitachi resources	
10.2	Height works related PPEs (RFA, RGFA, Safety harness, lifelines, safety nets, rescue kit, BP Kit)	BY CONTRACTOR	As per BOCW & BIS Code
11	Medical Facilities		
11.1	General Health Check-up at induction as per BOCW	BY CONTRACTOR	As per BOCW
11.2	Special tests for > 40 yrs	BY CONTRACTOR	As per BOCW
11.3	Height pass medical test	BY CONTRACTOR	As per BOCW
12	Labour Colony		
12.1	Beds + Mattresses + Bedsheets	BY CONTRACTOR	As per contract with customer
12.2	Rooms with Fan / Cooler	BY CONTRACTOR	
12.3	Bathing + Washing facilities	BY CONTRACTOR	
12.4	Toilets with STP-Soak pits facility	BY CONTRACTOR	
12.5	Recreation/Common Room	BY CONTRACTOR	
12.6	Kitchen and Dining area	BY CONTRACTOR	
12.7	Security guard at Labour Colony, as per requirement	BY CONTRACTOR	As per contract with customer
12.8	Bus facility to transport labour, as per requirement	BY CONTRACTOR	As per contract with customer
13.1	Electrical Safety Requirements at site including Cable, DBs, Industrial plugs & sockets, earthing, rain cover, MCCBS, RCCBs, earth pits, earth pit resistance testers, conduits, props, multimeters, other insulated tools, arc flash suit, shoes, gloves etc	BY CONTRACTOR	As per contract with customer
13.2	licensed Electrician and Engineer.	BY CONTRACTOR	As per contract with customer
14	Illumination and Signs/Posters	BHEL a/c	
15	Machinery Deployment plan with maintenance plan monthly.	BY CONTRACTOR	

HSE SCOPE MATRIX FOR UNLOADING PACKAGE AT ±800KV BF HVDC

Rev0- dt 14.09.26

Annexure- A

SR NO	HSE POINT FOR REVIEW	CONTRACTOR'S SCOPE	REMARKS
16	Penalty Provisions for non adherence or safety violations.	BY CONTRACTOR	Also with ref to the special conditions of HSEP-14
17	Ladders - Usage of commercial available (Al or Steel) ladders only. Ladder usage restricted period of 30 mins only. Fibre ladders for electrical works.	BY CONTRACTOR	As per contract with customer
18	Lifting plan submission and usage of MEWP (Mobile elevated work platforms) and certification for the manlifts etc	BY CONTRACTOR	As per contract with customer/JV Partner
19	Stores-separate facility for flammable liquid storage with bund wall, concrete floor	BY CONTRACTOR	As per contract with customer
20	Pest control, fogging, deforestation, etc	BY CONTRACTOR	As per contract with customer
21	Dust supression & housekeeping	BY CONTRACTOR	As per contract with customer
22	TPI of machines, T&Ps, PPEs	BY CONTRACTOR	As per BOCW & BIS Code
23	Competence certificate to operators	BY CONTRACTOR	As per contract with customer
24	Fire Fighting items for contractors premises/stores/offices	BY CONTRACTOR	As per contract with customer
Brief list of Penal Provisions as per Schedule-02 of HSEP-14, (Customer Contract provisions)			
1	Not complying with the minimum manpower requirements as mentioned in BOCW rules.	Rs. 50,000 or 5% of the contract value, whichever is less, per month for first month and Rs. 100000 or 5% of the contract value, whichever is less, for subsequent months.	
2	Not filling up the vacancies created due to HSE personnel leaving the contractor within 14 days.	Rs. 50,000 or 5% of the contract value, whichever is less, per month for first month and Rs. 1,00,000 or 5% of the contract value whichever is less for subsequent months.	
3	Disobedience / Improper conduct of any HSE personnel.	Rs. 10,000 for first violation and Rs.20,000 for subsequent violations	
4	Induction training, Refresher training not given or Tool-box talk not conducted as per schedule	Rs. 5,000 for first violation on and Rs. 10,000 for subsequent violations	
5	Fatal accidents	Rs. 15,00,000 or 5% of the contract value, whichever is	
6	Grievous Injury, such as loss of limb or a loss of more than twenty one (21) man-days	Indian Rupees Five Lakhs (INR 5,00,000) or five percent (5%) of the SO Price, whichever is less, for the first	
7	Dangerous Occurrence	Rs.1,00,000 or 5% of the contract value, whichever is less,	
8	Any Incident Involving injury to a Member of the Public	Rs.50,000 or 5% of the contract value whichever is less for first violation and Rs.1,00,000 or 5 % of the contract value whichever is less for subsequent violations	

HSE SCOPE MATRIX FOR UNLOADING PACKAGE AT ±800KV BF HVDC

Rev0- dt 14.09.26

Annexure- A

SR NO	HSE POINT FOR REVIEW	CONTRACTOR'S SCOPE	REMARKS
9	Housekeeping maintenance register not properly maintained up to date. Surrounding areas of drinking water tanks / taps not hygienically cleaned / maintained. stores, toilet / urinals not properly cleaned and maintained Required dustbins at appropriate places not provided / not cleaned Lumber with protruding nails left as such Truck tires are not cleaned Vehicles / equipments parked / placed on roads obstructing free flow of traffic. Unused surplus cables / steel scraps lying scattered. Wooden scraps, empty wooden cable drums lying scattered Non-compliance of any observation given by representative of BHEL/Owner	Rs. 5,000 per single violation Compounded to a maximum of Rs. 20,000 at any single instance	
10	Working at Height / Ladders and Scaffolds	Indian Rupees Five Thousand Only (INR 5000/-) per violation with a ceiling of Indian Rupees One Lakh Only (INR 1,00,000/-) per contract exceeding which the Employer can terminate the Contract.	
11	Lifting appliances and gear, Lifting operation. Non-adherence of any of the provisions mentioned in the BOCW rules and Project HSE Plan.	Rs. 10,000 per single violation Compounded to a maximum of Rs.1,00,000 or 5% of contract value, whichever is less, at any single instance	
12	Fire precaution	Rs.5,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance.	
13	PPE	Indian Rupees One Thousand Only (INR 1000/-) per violation.	
14	Not using Full Body Harness or Fall arrestor and/or Full Body Harness not anchored PPE - Not conforming to BIS standard or damaged	Indian Rupees Five Thousand Only (INR 5000/-) per violation with a ceiling of Indian Rupees One Lakh Only (INR 1,00,000/-) per contract exceeding which the Employer can terminate the Contract.	
15	Labour Welfare measures -Violation of any clause as described in BOCW act & rules	Rs. 10,000 per single violation Compounded to a maximum of Rs. 50,000 at any single instance	
	Note: For details regarding safety and penalty provisions, HVDC/HSEP-14 "Special Conditions" may please be referred.		

STANDARD HSE PLAN FOR SITE OPERATIONS (SUB-CONTRACTORS)



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP, NOIDA



Transmission Business Group

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(SUB-CONTRACTORS)

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HSE PLAN FOR ± 800 KV HVDC BF SITE OPERATIONS (SUB-CONTRACTORS)

DOCUMENT CONTROL

Document number:	HVDC/HSEP:14		
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Prepared by	Checked by	Approved and Issued for use by	
Name	Arvind Kumar Pandey	Ratheen Sarkar	Ratheen Sarkar
Designation	Dy. Manager	AGM	AGM
Signature			
Date	14.09.2026	14.09.2026	14.09.2026
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TBG/HSEP:14 - Record of Revisions

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BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP, NOIDA

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LIST OF ABBREVIATIONS

Sr. No.	Terminology	Full name of the term
1	AERB	Atomic Energy Regulatory Board
2	AICTE	All India Council for Technical Education
3	BARC	Bhabha Atomic Research Centre
4	BHEL	Bharat Heavy Electricals Limited
5	BOCW	Building and Other Construction Workers Welfare Act-1996
6	Doc.	Document
7	ELCB	Earth Leakage Circuit Breaker
8	EPRP	Emergency Preparedness and Response Plan
9	GI	Galvanized Iron
10	GIS	Gas Insulated Switchyard
11	HIRA	Hazard Identification and Risk Analysis
12	HQ	Head Quarter
13	HSE	Occupational Health Safety and Environment
14	HSEMS	Occupational Health, Safety and Environment Management System
15	HT/LT	High Tension/Low Tension
16	HV	High Voltage
17	I-Card	Identity Card
18	IS	Indian Standard
19	JSA	Job Safety Analysis
20	kN	Kilo Newton
21	LPG	Liquefied Petroleum Gas
22	LTI	Lost Time Injury
23	MBBS	Bachelor of Medicine and Bachelor of Surgery
24	MT	Metric Ton
25	NDE	Non Destructive Examination
26	NFPA	National Fire Protection Association
27	OCP	Operational Control Procedures
28	OHS	Occupational Health and Safety
29	P&M	Plant and Machinery
30	PCB	Pollution Control Board
31	PG	Post Graduate
32	PPE	Personal Protective Equipment
33	PTW	Permit to Work
34	PVC	Poly Vinyl Chloride
35	RCA	Root Cause Analysis
36	RCCB	Residual Current Circuit Breaker
37	SCTE&VT	State Council for Technical & Vocational Training
38	T&P	Tools & Plants
39	TBG	Transmission Business Group
40	TM	Transit Mixture
41	V	Volt
42	W/O	Work Order



1.0 PURPOSE

- 1.1 To provide systematic approach for identification, evaluation, prevention and/or control of general workplace hazards, specific job hazards, potential hazards and environmental impacts that may arise from foreseeable conditions during installation and commissioning of transmission, substations/switchyard projects.
- 1.2 This document shall be followed by BHEL's subcontractors at all the sites of dismantling, installation and commissioning projects. In case of customer's specific documents are to be implemented, this document will be followed in conjunction with such documents.
- 1.3 To promote and maintain a safe, healthy and environmentally compliant workplace for all employees, contractors, visitors and any others who may get affected by the construction activities,
- 1.4 Strive for a "GOAL of ZERO REPORTABLE INCIDENTS" on the project.
- 1.5 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 prevail.
- 1.6 In case the customer has any specific requirement, the same is also to be fulfilled.

2.0 SCOPE

This document is applicable to all the sub-contractors of BHEL-TBG working at various Transmission Project sites across Bharat as per the relevant contractual obligations, and provides the minimum HSE requirements to be followed during various stages of execution of the project.

This HSE Plan is a living document which shall be revised as / if necessary to ensure that the contractual and regulatory requirements are met during the performance of the work at the project site.

3.0 OBJECTIVES

This HSE Plan shall reflect BHEL's priority upon the Occupational Health, Safety and Environment at workplaces and is prepared with objectives to:

- Ensure the Health and Safety of all persons at work site by the possible adverse effects of the project works.
- Ensure protection of environment of the work site.
- Comply with the relevant statutory and contractual HSE requirements at all times.
- 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.
- Effectively control, co-ordinate and monitor the activities of all personnel at the Project sites with respects to 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 who may be affected by the work.
- Ensure fitness of all T&Ps and Lifting appliances like cranes, chain pulley blocks, winch machines etc. are to be inspected and certified by competent authority.
- 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 and corrective action.

3.1 GOALS AND TARGETS -

- To achieve "Zero Fatal Incident at Site"
- 100% compliance of all legal/statutory requirements related to HSE.
- 100% HSE Induction training attendance for all the workers and staff of sub-contractors.
- 100% High Risk activities to be carried out only after approved Method Statement, HIRA/JSA and Permit to Work are implemented.
- 100% PPEs compliance in high & medium risk activities.
- 100% incident reporting, recording and reviewing for corrective actions.
- A monthly review shall be scheduled and conducted to assess HSE compliance and to close any identified gaps to improve safety management and incident prevention.

4.0 REFERENCES

- Contract documents
- Relevant legislations
- HSE Management System Manual
- HSE Procedures:



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5.0 LIST OF HSE PROCEDURES

Table 5.1

S No	Procedure No.	Procedure Name
1	TBG/HSEP:01	HSE Procedure for Register of OHS Hazards & Risks
2	TBG/HSEP:02	HSE Procedure for Register of Environmental Aspects & Impacts
3	TBG/HSEP:03	HSE Procedure for Register of Regulations
4	TBG/HSEP:04	HSE Procedure for Training & Awareness
5	TBG/HSEP:05	HSE Procedure for Control of Documents
6	TBG/HSEP:06	HSE Procedure for Emergency Preparedness & Response
7	TBG/HSEP:07	HSE Procedure for HSE Performance Measurement, Monitoring & Review
8	TBG/HSEP:08	HSE Procedure for Incident Investigation, Reporting & Corrective Action
9	TBG/HSEP:09	HSE Procedure for Non-conformity Handling & Corrective Action
10	TBG/HSEP:10	HSE Procedure for Control of Records
11	TBG/HSEP:11	HSE Procedure for Internal Audit
12	TBG/HSEP:12	HSE Procedure for Permit to Work
13	TBG/HSEP:13	HSE Plan for site operations (Customer)
14	TBG/HSEP:14	HSE Plan for HVDC site operations (Sub-Contractor)
15	TBG/HSEP:15	HSE Procedure for Operational Control



6.0 BHEL HSE POLICY

6.1 BHEL HEALTH, SAFETY & ENVIRONMENT POLICY (हिन्दी)



स्वास्थ्य, सुरक्षा एवं पर्यावरण नीति

बीएचईएल अपने कर्मचारियों और संगठन के लिए काम करने वाले अन्य लोगों के व्यावसायिक स्वास्थ्य और सुरक्षा को सुनिश्चित करने और सक्रिय नेतृत्व के माध्यम से अपनी गतिविधियों, उत्पादों और सेवाओं के पर्यावरणीय पदचिह्नों को कम करने एवं आवश्यक संसाधनों की उपलब्धता सुनिश्चित करने के लिए प्रतिबद्ध है। इसके अलावा, हम अपने पर्यावरण, सामाजिक और प्रशासन (ESG) प्रदर्शन को निम्नलिखित द्वारा लगातार बेहतर बनाने के लिए प्रतिबद्ध हैं:

- शून्य क्षति के लक्ष्य को प्राप्त करने के उद्देश्य से सुरक्षा संस्कृति को मजबूत करना,
- प्रदूषण की रोकथाम, जैव विविधता और पारिस्थितिकी तंत्र की सुरक्षा और जलवायु परिवर्तन शमन (mitigation) और अनुकूलन सहित पर्यावरण की सुरक्षा के लिए गतिविधियों को और सुदृढ़ता से करना,
- 2047 तक शुद्ध शून्य (Net Zero) उत्सर्जन (स्कोप 1 और स्कोप 2) प्राप्त करने के लिए कदम उठाना,
- संसाधनों का संरक्षण करना तथा उनका उपयोग कम करना / पुनर्वर्तन करना / पुनः उपयोग करने (Reduce / Recycle / Reuse) के दृष्टिकोण के आधार पर स्थायी अपशिष्ट प्रबंधन प्रथाओं को अपनाना,
- उन्मूलन / प्रतिस्थापन / कमी / नियंत्रण (elimination / substitution / reduction / control) दृष्टिकोण के माध्यम से पर्यावरणीय प्रभावों तथा व्यावसायिक स्वास्थ्य एवं सुरक्षा जोखिमों का प्रबंधन करना,
- लागू विधानों, विनियमों तथा बीएचईएल प्रबंधन प्रणालियों का अनुपालन सुनिश्चित करना,
- व्यावसायिक निर्णयों, उत्पादों की अवधारणा एवं डिजाइन, संयंत्रों, प्रौद्योगिकियों एवं सेवाओं के चयन, खरीद तथा आउटसोर्स प्रक्रियाओं में उपयुक्त व्यावसायिक स्वास्थ्य, सुरक्षा एवं पर्यावरण मानदंडों को शामिल करना,
- एच.एस.ई. प्रबंधन प्रणाली (एच.एस.ई.एम.एस.) में सुधार के लिए श्रमिकों एवं अन्य हितधारकों से परामर्श एवं भागीदारी सुनिश्चित करना तथा उनकी प्रासंगिकता, उपयुक्तता एवं प्रभावशीलता सुनिश्चित करने के लिए समय-समय पर इस नीति एवं एच.एस.ई.एम.एस. की समीक्षा करना,
- हमारे कार्यस्थलों पर कार्यरत व्यक्तियों को उचित संरचित प्रशिक्षण प्रदान करना तथा एच.एस.ई. मुद्दों पर ग्राहकों, ठेकेदारों एवं आपूर्तिकर्ताओं के बीच जागरूकता को बढ़ावा देना,
- बीएचईएल के भीतर इस नीति का संचार करना तथा दृष्टिकोण पक्षों को इसे उपलब्ध कराना।

(यह नीति अद्यतन एवं प्रबंध निदेशक, बीएचईएल द्वारा अनुमोदित है)



भारत हेवी इलेक्ट्रिकल्स लिमिटेड



6.2 BHEL HEALTH, SAFETY & ENVIRONMENT POLICY (ENGLISH)



Health, Safety & Environment Policy

BHEL is committed to ensure occupational health & safety of its employees and other people working for the organisation and minimising the environmental footprints of its activities, products and services through active leadership and ensuring availability of required resources. Further, we commit to continually improve our Environmental, Social and Governance (ESG) performance by:

- Strengthening safety culture with an objective to attain Zero Harm,
- Taking up activities for protection of the environment, including prevention of pollution, protection of biodiversity & ecosystems and climate change mitigation & adaptation,
- Taking steps for attaining Net Zero emissions (Scope 1 and Scope 2) by 2047,
- Conserving resources and adopting sustainable waste management practices based on Reduce / Recycle / Reuse approach,
- Managing Environmental impacts and Occupational Health & Safety risks through elimination / substitution / reduction / control approach,
- Ensuring compliance with applicable legislations, regulations and BHEL Management Systems,
- Incorporating appropriate Occupational Health, Safety and Environment criteria into business decisions, conceptualisation and design of products, selection of plants, technologies and services, procurements and in outsourced processes,
- Ensuring consultation and participation of workers and other stakeholders for improvements in the HSE Management System (HSEMS) and reviewing periodically this policy and HSEMS to ensure their relevance, appropriateness and effectiveness,
- Imparting appropriate structured training to persons engaged at our workplaces and promoting awareness amongst customers, contractors and suppliers on HSE issues,
- Communicating this policy within BHEL and making it available to interested parties.

(This policy bears the approval of Chairman & Managing Director, BHEL)



Bharat Heavy Electricals Limited



7.0 TERMS AND DEFINITIONS

7.1 DEFINITIONS

7.1.1 INCIDENT

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

7.1.2 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".

7.1.3 MAN-HOUR WORKED

Total number of employee hours worked by all employees including persons of the subcontractor(s) working in the premises. It includes managerial, supervisory, professional, technical, clerical and other workers including contract laborer. 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 to be added together.

7.1.4 FIRST AID CASES

First aids are the cases, where an injured person is given medical treatment and discharged immediately for reporting on duty, without counting any lost time.

7.1.5 INJURY OTHER THAN FIRST-AID: (LTI- LOST TIME INJURY)

Reporting of accidents:

Notice of any accident on the construction site which either causes loss of life or disables a building worker from working for a period of forty-eight hours or more immediately following the accident, shall forthwith be sent by telegram, telephone, fax, e-mail or similar other means including special messenger within four hours in case of fatal accidents and seventy-two hours, in case of other accidents involving building workers, to the concerned authorities as per guidelines given in Article no. 210 of BOCW Act-1996.

Fatal incident and Serious Incident:

If the victim dies in or after the incident, it will be treated as a fatal incident.

If the injured person is likely to be absent for more than 20 days from his duties due to injuries, it will be treated as Serious Incident. In such cases also, the notices shall be given to the authorities as per the extant rules of article no. 210 of BOCW Act-1996.

**Minor Incident:**

When an accident causes bodily injury resulting into the compulsory absence of the injured person from work for a period not less than 48 (forty-eight) hours, but limited to 20 days. The management shall inform the concerned statutory authorities as per the extant rules of article no. 210 of BOCW Act-1996.

Dangerous Occurrences

A dangerous occurrence is a specific, high-potential unplanned event that does not result in an injury, but is serious enough under health and safety laws to be officially reported, such as the collapse of scaffolding, equipment failures, or major electrical short circuits.

All dangerous occurrences on site must be reported in writing to concerned site in-charge within 24 hours, irrespective of the occurrence of casualties.

7.1.6 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. 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.

7.1.7 TOTAL REPORTABLE FREQUENCY RATE (FR)

Frequency rate is the number of Reportable Lost Time Injury (LTI) per one Million Man hours worked.

Mathematically, the formula read as:

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

7.1.8 SEVERITY RATE (SR)

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:

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

7.1.9 INCIDENCE RATE

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

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



8.0 HSE ORGANISATION

8.1 NUMBER OF HSE PERSONNEL:

The subcontractors shall appoint required OHS personnel (Safety officers, safety supervisors & safety stewards) meeting statutory competence requirements, with a minimum qualification and experience of safety management

approved by BHEL on the basis of his qualification and experience. The documentary evidence shall be submitted to BHEL and consent shall be taken to appoint.

Subcontractor has to deploy 1 Qualified Safety Officer for every 500 workers and

1 Safety Supervisor for every 100 workers or

1 Safety Supervisor for every 50 workers – If Critical Nature of High-Risk Works

1 trained safety stewards for every fifty (50) personnel for ensuring safety vigilance.

8.2 DEPLOYMENT & REPORTING:

The subcontractor shall deploy sufficient HSE officers, Safety supervisor and shall nominate sufficient number of HSE-stewards, as per requirement given above in line with contract and shall review the numbers in proportion to the added strength in work force.

8.3 INADEQUATE OHS PERSONNEL

If the Contractor fails to provide the minimum required manpower as illustrated above or fails to fill up vacancies created within 14 days, the same may be provided by BHEL at 1.5 times the actual cost to the Contractor's cost. (Any administrative expenses involved to provide this cover, e.g. newspaper advertisement or manpower consultant charges, etc., shall also be at the cost of the subcontractor).

All HSE personnel are to report to the HSE Manager, who shall report directly to BHEL Site In-charge.

No HSE personnel shall be required or permitted to do any work which is unconnected to, inconsistent with or detrimental to the performance of the HSE duties.

8.4 QUALIFICATION AND EXPERIENCE

The minimum educational qualification and the work experience are -

Safety Officers must be qualified as per Legal requirements made under BOCW Act & Rules and with minimum 3 to 5 years of experience.

Safety Supervisor should be a graduate with Diploma in Safety having minimum 3 to 4 years of experience on project site.

Safety steward Qualification – 10+2 and Certificate Course in Safety

8.5 APPROVAL FROM BHEL/CUSTOMER

All subcontractors must take consent for deployment of HSE Officer and HSE Supervisor from the site in-charge/BHEL or HSE Manager of customer before deployment. The name, address, educational qualification,



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work experience and health condition of each personnel deployed for HSE jobs shall be submitted to BHEL in the format prescribed for the purpose for comments and consent well before the start of the work.

Only on consent by BHEL these personnel are authorized to work.

In case any of the HSE personnel leaves the contractor site, the same shall be intimated to BHEL. The subcontractor shall recruit new personnel and fill up the vacancy within a week if required.

BHEL will monitor the strength of HSE Officer / Supervisor fortnightly physically and monthly in writing to ensure deployments are relevant to workforce strength of contractors.

8.6 QUALIFICATION FOR HSE PERSONNEL

Sl	Designation	Qualification	Experience
1.	HSE officer (Construction Agency)	Degree or Diploma in Engineering with full time diploma in Industrial Safety.	Minimum 3 years of experience for degree in engineering and 5 years for diploma in engineering on project sites.
2.	Safety Supervisor	B.Sc. or Degree in Engineering with full time diploma in Industrial Safety	3-4 years of experience on project sites.
3.	Safety Steward	10+2 Passed with Certificate Course in Safety	-

8.7 RESPONSIBILITIES

8.7.1 SITE IN -CHARGE OF SUBCONTRACTOR

- Shall engage qualified safety officer(s) as per clause 7.1
- Shall adhere to the rules and regulations mentioned in this code, strictly practice them in his area of work in consultation with BHEL's concerned engineer and the safety coordinator.
- Shall ensure health check-up and required competence level of the workers before engaging them on the job and periodically thereafter as required.
- Shall not engage any employee who is below 18 years of age.
- Shall arrange for all necessary PPEs like safety helmets, full body harness, safety shoes, face shield, hand gloves, reflective jackets etc. before starting the job.
- Shall ensure that no working men/women carry excessive weight more than stipulated in BOCW Act-1996.
- Shall ensure that all T&Ps engaged are tested for fitness and have valid certificates from competent authorities.
- Shall ensure that provisions stipulated in the Contract Labour Regulation Act 1970, Chapter V, such as canteen, rest rooms/washing facilities for the contract employees at site are met.
- Shall adhere to the instructions laid down in Operational 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.



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- 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 periodic HSE audit, mock drill, medical camps, induction training and training on HSE at site.
- Shall ensure full co-operation during HQ/External /Customer HSE audits.
- 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 suitable and adequate fire extinguishers, having validity, are provided at the work site.
- Shall ensure availability of sufficient number of toilets, restrooms and adequate drinking water at work site and labour colony.
- Shall ensure availability and functioning of adequate emergency preparedness plan.
- Shall be member of site HSE committee and attend all meetings of the committee

8.7.2 HSE 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 BHEL Site safety coordinator / Site In-charge 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 & JSAs.
- Convene HSE meeting & minute the proceeding for circulation & follow-up action.
- Plan procurement of PPE & Safety devices and inspect their healthiness.
- Report to Site In-charge/Sector on all matters pertaining to status of safety and promotional program at site level.
- Record daily observations in observation register and follow-up for their closure. **(TBG/HSEP14:29)**
- Facilitate administration of First Aid.
- Facilitate safety induction training to workmen and staff.
- Conduct mock drill and facilitate emergency preparedness (Format no. **TBG/HSEP14:F07**)
- Design campaigns, competitions & other special emphasis programs to promote safety in the workplace.



- Apprise Sector/HQ 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 Misses along with improvement initiatives on safety. **(TBG/HSEP14:F28)**
- Shall work as interface between various agencies such customer, Engineer-in-charges, subcontractors on HSE matters.
- Shall prepare daily/weekly/monthly reports, share them to appropriate levels and keep proper records. **(TBG/HSEP14:F31)**

8.7.3 SAFETY SUPERVISOR OF SUBCONTRACTOR

- Shall report to HSE officer (BHEL).
- Shall ensure that all the works being executed as per approved OCPs, and control measures are taken as per risk analysis.
- Shall ensure availability of approved OCPs with each gang.
- Ensure that TBT is conducted at the start of work and shall get the records and communicate.
- Shall ensure induction training and prior job specific training to all the persons.
- Shall arrange the display of safety posters/caution boards, and barricades at site
- Shall check that all the height workers have valid height pass and medical fitness
- Ensure height workers use safety belts, anchor it, use life line with applicable attachments.
- Shall ensure that no high-risk job is started without a valid PTW and competent supervisor.
- Shall carry out inspection of PPEs and T&Ps to ensure its healthiness.
- Shall ensure valid TPI is available for all applicable machines, T&Ps
- Shall ensure compliance of all audit observations/non-conformances raised.

8.7.4 ALL EMPLOYEES

- To adopt safe working practices wherever they are undergoing.
- To take corrective action/actions in case any non-conformity is observed on product / process / system with respect to Occupational Health, Safety and Environment.
- To report all incidents including near miss to HSE officer or HSE coordinator (Site) / Site In-charge.
- In case any particular activity / work has extremely high consequential risk or high environmental impact, the employee shall bring it to the notice of Site In-charge before starting the work.
- To ensure that the workers are engaged by the contractor for the job after undergoing induction training.
- To ensure that the persons engaged in his area follow the safety rules like using appropriate PPEs.
- To get involved in exercises like Job Safety Analysis and Work Permit System.
- To engage licensed electricians for site electrical works.



- To report any incident including near misses or safety lapses immediately to safety officer/HSE coordinator.
- To interfere/ stop work as & when identified unsafe.
- To maintain & promote improved level of house-keeping all the time at site.
- To support/co-operate with audit team members as & when safety audits are carried out.
- To involve in investigation, if any incident occurs in his work area.
- To participate in safety promotional programs.
- To attend the safety committee meeting, if he is a member/invitee
- To ensure that only fit T&Ps and qualified persons are engaged.

8.7.5 SITE HSE COMMITTEE

- Site HSE committee shall consist of Site In-charge (Chairman), Site HSE coordinator (Secretary/Convener), Engineers (Member), Site In-charge of Subcontractors (Member) and Safety officer of Subcontractors (Member).
- Shall evaluate a suitable course of action for the effective implementation of safety system & procedures. Committee will also ensure that all the relevant codes & acts / rules are followed.
- Shall meet monthly and as and when required, to discuss ways and means to eliminate unsafe acts/condition.
- Shall monitor the performance of the HSE programs and suggest improvements as required.
- Shall discuss exception points relating to HSE Audits, sub-contractors HSE practices, incident reports, near miss reports, etc.
- Shall analyse the high risk activities to be undertaken in the near future to identify hazards and decide on the control measures to be taken.
- Shall inspect the site on regular intervals to locate unsafe conditions with reference to the inspection checklist.
- Shall investigate all accidents and strengthening the safety programme by additional precautions, if any based on the accident investigate.

9.0 PLANNING BY SUBCONTRACTOR

9.1 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. A documented daily prior to use inspection checklist shall be completed by the end user and periodic inspection shall be arranged by in-house competent authority for acceptance as applicable. All Tools & Plants shall be certified by a third-party COMPETENT person before these are put to use. As far as possible, this certification shall be made available to site HSE function by the contractor before entry into the site. The certification shall be renewed annually, otherwise, the equipment shall be



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withdrawn from the work area. The fitness of T&Ps shall be monitored by site HSE on quarterly basis and alert/ reminder shall be issued to the concerned agency with a copy to BHEL site in-charge.

- The machinery and equipment to be embraced for this purpose shall include but not limited to the following:

- Mobile cranes. - Forklifts. - Grinding machine. - Drilling machine. - Air compressors. - Welding machine. - Batching Plants - Generator sets.	- Tippers (Dump Trucks). - Excavators (Poclain). - Dozers - Grit Blasting Equipment. - Hand tools. - Man lifts (Sky Climbers) - Lifts - Transit Mixtures/Ajax Fiaory
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- Subcontractor shall notify the engineer in-charge/BHEL of his intention well in advance 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.

9.2 MOBILISATION OF MANPOWER BY SUBCONTRACTOR

- All persons present at site must be at least 18 years of age (minimum legal working age) and carry a valid police verification along with proof of identity, which must be presented on request. Any document approved as proof of the identity of the holder, such as Aadhar card, Voter ID, driving license, PAN card, passport, etc. is accepted as proof of identification.
- As a measure to ensure that manpower being mobilized to the construction site is fit and competent for safe working, screening arrangement shall be made by the sub-contractors to fulfill contractual as well as legislative requirement.
- Examination of medical fitness shall be conducted through qualified medical professional for all workers to be deployed. (Format No. **TBG/HSEP14:F16**).
- Induction training of all workers to be ensured as per clause 9.1 (Format No. **TBG/HSEP14:F09**).
- Only after completion of induction training and medical checkup, permanent gate passes shall be issued to the workers
- All personnel shall be issued a photo identity card duly signed by the authorized representative of the subcontractor as per procedure laid down by BHEL/customer before they are engaged in work. (Format no. **TBG/HSEP14:F30**)



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- Appropriate accommodation shall be arranged for all workmen in safe & hygienic condition.
- The sub-contractor shall ensure that all personnel are competent to perform the job assigned to them. In the event of any person whose activities can directly impact on the works' HSE performance, BHEL shall remove that person from the site without any procedural formalities.
- 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.
- For female workers, duty hours beyond 18:00PM till 08:00AM not allowed in normal conditions.
- Sub-contractor shall submit safety check list prior to commencement of work in the format **TBG/HSEP14:F01**
- Sub-contractor shall display a project information board as per format no. **TBG/HSEP14:F13**.
- Sub-contractor shall issue employment card to all workers in Format no. **TBG/HSEP14:F17**.
- Contractor shall also issue personnel HSE handbook in a language known to the workers, which provides information on HSE and emergency procedures that all personnel working on contract are required to know and the need to follow.

9.3 PROVISION OF PPEs

- The subcontractor shall at all times keep and maintain an adequate supply of suitable personnel protective equipment which shall be readily available for use at all times on the sites,
- All sites shall be designated as HARD HAT and SAFETY BOOTS SITES
- The following matrix recommends usage of minimum PPEs against the respective job, apart from Helmet, safety shoes and reflective vests. The color of reflective vests should be different that of BHEL (Light green) and preferably different from other sub-contractors also. The company logo shall be prominently visible on the vest.

Sl. No	Type of work	PPEs
1	Excavation, leveling/grading, gravelling work	Safety shoes/Gum boot, reflective vest, safety helmet, cotton hand gloves.
2	Concrete and asphalt mixing	Nose mask, hand glove, apron and gum boot



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3	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
4	Stone/ concrete breakers	Ear muffs, safety goggles, hand gloves
5	Electrical Work	Rubber hand glove, Electrical Resistance shoes,
6	Insulation Work	Respiratory mask, Hand gloves, safety goggles
7	Work at height	Double lanyard full body harness, life line & Fall arrestor
8	Grit/Sand blasting	Blast suit, blast helmet, respirator, leather gloves
9	Painting	Plastic gloves, Respirators (particularly for spray painting)
10	Radiography	As per BARC guidelines

- If the Contractor fails to provide the personnel Protective Equipment, the same may be provided by the Owner at the rate of 1.5 times the actual cost to the Contractor and the cost will be deducted from the Contractor's RA Bills.
- The subcontractor shall remove from the site any worker who consistently refuses to wear the appropriate personal protective equipment.



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9.3.1 PPE Matrix

Activity	Type of Protection						
	Head	Foot	Hand	Eye	Ear	Body	Respiratory
Mandatory PPEs for Site	Safety Helmet	Safety Shoes	Gloves	-	-	Reflective Jacket	-
Gas Welding/ Cutting	Safety Helmet	Safety Shoes	Leather Gloves	Welding Goggle	-	Boiler Suit	Supplied Air Mask/Hood / Self
Electric arc Welding	Helmet Mounted Welder's Shield	Safety Shoes	Leather Gloves	Helmet Mounted Welder's Shield	-	Boiler Suit, Leather Gloves	Contained Breathing Apparatus (Confined Space)
Rigging	Safety Helmet	Safety Shoes	Cotton Gloves	Safety Goggle	-	Reflective Jacket	-
Lathe Operations	Safety Helmet	Safety Shoes	Leather Gloves	Safety Goggle	Ear plug	Reflective Jacket	-
Working at Height	Safety Helmet	Safety Shoes	-	-	-	Full Body Harness	-
Grinding / Chipping	Safety Helmet	Safety Shoes	Cotton Gloves	Safety Goggle / Face shield	Ear plug	Boiler Suit	-
Working in High Noise area	Safety Helmet	Safety Shoes	-	-	Ear plug / Ear muff	Reflective Jacket	-
Handling of Cement /Concrete	Safety Helmet	Gumboot	Rubber Gloves	Safety Goggle	-	Reflective Jacket	Dust mask
Blasting	Safety Helmet	Safety Shoes	Cotton Gloves	Safety Goggle	Ear plug	Reflective Jacket	-
Excavation	Safety Helmet	Gumboot	Cotton Gloves	Safety Goggle	Ear plug	Reflective Jacket	-
Chemical Handling	Safety Helmet	Safety Shoes	PVC Gloves	Chemical Splash Goggles	-	PVC Apron	-



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

9.3.2 Relevant IS-Codes for personal protection

1	IS: 10291 -1982	Code of dress in civil engineering works
2	IS: 2925-1984	Safety helmets
3	IS: 1179-1967	Welding helmets
4	IS: 7524 -1979 (Part-I)	Safety goggles
5	IS: 9167 -1979	Ear muff /Ear plugs
6	IS: 6994 -1973 (Part-I)	Canvas hand gloves, Cotton hand gloves, Chrome leather gloves
7	IS: 4770 -1991	Rubber hand gloves tested for 15,000 volts
8	IS: 3521 -1999	Full body safety harness
9	IS: 11057 -1984	Specification for Industrial safety nets
10	IS: 13415 -1992	Protective Barriers in & around buildings (Code of safety)
11	IS: 13416 -1992	Preventive measures against Hazards at work places-Recommendations part-I Falling materials hazards Prevention part-I
12	IS: 13416 -1992	Preventive measures against Hazards at work places-Recommendations part-II Fall Prevention
13	IS: 15298 -2011 (Part 1&2)	Personal Protective Equipment -Safety shoes
14	IS: 12254 -1993	Poly vinyl chloride (PVC) industrial boots
15	IS: 5557:2004	Industrial and Protective Rubber knee and Ankle boots
16	IS: 2878 -2004	Co2 Type fire extinguisher
17	IS: 2171 -1999	Dry chemical powder fire extinguisher
18	IS: 13849 – 1993	Fire extinguisher for ABC fires
19	IS: 10204-2001	Mechanical Foam type extinguisher (Foam used shall conform to IS: 4989 -1974 and Co2 cartridge shall conform to IS: 4947 -1985)
20	IS: 3786 -1983	Methods for computation of Frequency rate and Severity rates for Industrial injuries and classification of Industrial accidents (First revision)

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

- 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
- The visitors shall also use Reflective Vests, Helmet and any other PPEs as deemed appropriate for the area of work.



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- Color scheme for Helmets:
 1. Workmen: Yellow
 2. Safety staff: Green or white with green band
 3. Electrician: Red
 4. Maintenance Staff: Blue
 5. Others including visitors: White
- All the PPEs shall be checked visually for its suitability and healthiness for use before issue apart from periodical inspection. The users shall be advised to check the PPEs themselves for any defect before putting them 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 full body harnesses shall be serial numbered.
In case, contractor fails to provide PPEs in time, BHEL/Customer may provide the same and the cost as deemed appropriate by BHEL/Customer shall be debited.

9.4 DRESS CODE FOR LADIES WORKER

- The Contractor has to strictly follow the below Dress Code Specification guideline on project site. This Dress code applies to all employees of subcontractors.
- Purpose: The Dress code is intended to protect female workers / employees at all work location of project sites from any possible Hazards related to Loose Clothing.
 - As a first preference use of full pants and regular fit half / full shirt will be promoted.
 - Sleeves have to be buttoned up and shirt has to be in (In shirt).
 - Hairs have to be tied up and placed inside the Helmet.
 - Normal safety shoes are to be used with this Dress code.
 - Female workers can be allowed at par with other male workers at all project location with the use of these dress codes.
 - For each Female workers / employees who insist on coming in traditional dress of Saree / Salwar suit, it will be mandatory to wear a **Full Sleeve Cotton Coat / Apron** of any color, fully buttoned up (example like a doctor's coat / apron).
 - In any case, it will be ensured that loose hairs, loose dupatta, loose muffler etc. are not allowed & Use of normal PPE is followed.
 - In case of any Night working / Dark areas, it will be mandatory to wear florescent jacket.
 - This is applicable with immediate effect from first day of work.



9.5 ARRANGEMENT OF INFRASTRUCTURE

9.5.1 Drinking Water

- As per Section 32 of BOCWA the subcontractor shall make in every worksite, effective arrangements to provide sufficient supply of wholesome drinking water with minimum quantity of 5 liters per workman per day.
- "Drinking Water" Container shall be legibly marked "पेने का पानी / Drinking Water" on placard displayed in local language also, understood by majority of workers.
- While locating these drinking water facilities due care shall be taken so that these are easily accessible within a distance of 200m from the place of work for all workers at all location of work sites. No such point shall be situated within six meters of any washing place, urinal or latrine.
- Cleaning of the storage tank shall be ensured at least once in every week indicating date of cleaning and next due date. The tank shall be thoroughly cleaned using mild cleaning detergents as used for cleaning vessels and scrubbers (3M or equivalent) shall be used for removing scales and deposits on the inside surface. with potable water only, before it is refilled. Record of such cleaning shall be maintained.
- Employees should use their own cup for collecting water, no cup shall be shared.
- Potability of water should be tested as per IS:10500-2012 standard at least once in every year.
- Apart from above, those who are engaged in work producing significant heat, shall be served saline water or Sharbat at the rate of 2 litres per day.
- Storage of drinking water shall be min 6M away from any toilet and washroom

9.5.2 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.
- If water used for washing is not potable, it shall be marked "Do Not Drink" in English and local language.

9.5.3 Toilets and Urinals

- Latrine and urinals shall be provided as per Section 33 of BOCWA and maintained as per Rule 243 of BOCWR and shall also comply with the requirements of public health authorities
- The Contractors shall ensure that an adequate number of toilets are made available at the work sites with the ratio being no less than one toilet for every 50 workers or part thereof.



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- The contractor shall provide one latrine seat for every 20 workers up to 100 workers and thereafter one for every additional 50 workers. In addition, one urinal accommodation shall be provided for every 100 workers.
- When women are employed, separate latrine and urinals accommodation shall be provided on the same scale as mentioned above.
- Latrines and urinals with water availability and shall be adequately illuminated and shall be maintained in a clean and hygienic condition at all times by daily cleaning.
- Provision (including maintenance and emptying) of sanitary disposal units.
- Hand-wash facility shall be provided
- In case if the contractor fails to provide required number of urinals and latrines or fail to maintain it as per the requirements of Public Health laws, BHEL shall have the right to provide/maintain through renowned external agencies like "Sulabh" at the cost of the contractor.

9.5.4 Provision of Shelter During Rest

- Proper Shed & Shelter shall be provided for rest during break. Taking rest at height and hazardous locations shall not be allowed and shall be seen as a punishable offence.
- Areas provided for welfare facilities shall ensure a high standard of cleanliness for all activities including rest.
- Provision for separate rest rooms and washrooms for male/female with signages; rest rooms should be free from electrical hazards (loose/naked wires) and no arrangements for burning heaters for winter etc.

9.5.5 Medical Facilities (Sharing with Other Sub-Contractors at Site Is Permitted)

9.5.5.1 First Aider

- Must have a competence certificate in First-aid issued by an agency recognised by the Govt.
- Ensure availability of one Qualified First-aider throughout the working hours for every 150 workmen engaged.
- 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.

9.5.5.2 First Aid Box & Medical Facilities

First Aid Box (As Per Schedule III of BOCW)

- The subcontractor shall provide and maintain necessary first aid facilities at every major work place.
- 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 of a building so as to make them available within the reach and at the quickest possible time.
- Portable first aid boxes will be maintained fully equipped at each offices and work locations where 20 or more persons work at a time. The contractor shall ensure one First-aid box for 100 workers at a construction site
- 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 sub-contractor site manager/safety officer vide format no. **TBG/HSEP14:F02**.
- The subcontractor shall conduct periodic first –aid training to keep his supervisor and Engineers properly trained for attending to any emergency.

9.5.5.3 Health Check-Up (As Per Schedule VII And Form XI Of BOCW)

- The contractor shall not permit any employee / workmen to enter the work area prior to physical fitness certificate as prescribed in under the law (BOCW Rules)
- The contractor shall not permit any employee / workmen to enter the work area in influence of alcohol or any drugs.
- The persons engaged at the site shall undergo mandatory health check-up from a qualified doctor (Min. MBBS) as per the approved format no. **TBG/HSEP14:F16** before induction. The persons engaged in the following works shall undergo health check-up at least once in a year:
 - Height workers
 - Drivers/crane operators/riggers
 - Confined space workers
 - Shot/sand blaster
 - Welding and Gas cutting personnel
 - Cook(s) and attendant(s)

9.5.5.4 Vertigo (Acrophobia) Test

- The persons engaged in working at heights (above 1.8 meters) to be assessed for Vertigo and associated conditions by using a Vertigo Testing Facility (see Annexure-D)
- Such workers shall be allowed to work on height only on clearing this test (a record of the pass workers shall be maintained), otherwise they shall be allocated ground jobs.
- For all workers at height, all required PPEs and safety arrangements shall be ensured.

9.5.5.5 Occupational Health Centre

- Where required by the contract, the subcontractor shall establish and maintain an Occupational Health Centre where hazardous processes are involved such as working at height, roof work, steel work, working above or below water, demolition and confined space etc (as per schedule IX of BOCW).
- The Occupational Health Centre shall be served by a full-time medical officer holding a medical degree in allopathic medicine with a minimum of five-year experience in Occupational Health/Medicine. A nurse, one dresser/compounder and one sweeper-cum-ward boy who will all be available during entire construction operation during the day shall assist the medical officer. One additional Medical Officer shall be posted for every additional thousand construction workmen along with the team of nurse, compounder and ward boy.
- The Occupational Health Centre shall be capable of undertaking emergency care services or emergency treatment facilities which shall include emergency life-saving aids and appliances to handle head and spinal



injuries, severe fractures, snake bites, burns of all nature, electric shocks, cases of asphyxiation and such other severe injuries as could be reasonably anticipated at the facilities and shall meet provisions of any governing statute.

- The subcontractor shall ensure at a construction site an occupational health centre, mobile or static is provided and maintained in good order. Services and facilities as per the scale lay down in Schedule X of BOCWR. A construction medical officer appointed in an occupational health centre possesses the qualification as laid down in Schedule XI of BOCWR.
- Required Medical Staff shall be available at all times during work on the project site.

NOTE – Arrangement of the above, may be done for subcontractors on contributory basis either by BHEL or JV Partner M/s Hitachi or Customer as the case be. Subcontractors shall be required to share the established and the running cost till completion of their scope of works or engagement of labour/s at site.

9.5.5.6 Ambulance Room (First Aid Room)

- The Contractor shall establish an **Ambulance Room** (First Aid Room), in accordance with BOCWR-226 at each of his principal work areas.
- In case more than 500 workers are employed, an effective communication system shall be provided in the ambulance room and such ambulance room is in the charge of a qualified nurse.
- The Ambulance Room (First Aid Room) shall be equipped with the articles specified in Schedule IV of BOCW.
- The Ambulance Room (first-aid Room) shall be provided with air conditioning and shall be kept in a clean and tidy state at all times.
- Following are the minimum requirement in the FIRST AID ROOM:
 - A treatment room fitted with two treatment couches,
 - A hand wash basin with running water;
 - Lockable cupboards to contain sufficient medical supplies;
 - Bed.
 - Six Chairs with footrests
 - Desk and chair.
 - Six Stretchers (Which can be lifted and lowered by a crane.)
 - Pillows and blankets.
 - Refuse containers.
 - Medical dressings. (Bandages, plasters, antiseptic wipes.)
 - Eye irrigation sterile solution.
 - Paper towels.
 - Disposable gloves.
- Availability & Function -
 - Ensure availability of Qualified First-aider throughout the working hours.



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- 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 to be displayed at conspicuous places.

9.5.5.7 Ambulance Van

- A fully equipped ambulance and driver shall be provided at the Ambulance Room (first aid Room) during all working hours. The ambulance shall be equipped with emergency life support equipment suitable for application in construction site accidents and with other standard facilities specified in Schedule V of BOCW.
- Ambulance van is mandatory at sites where
 - The site ordinarily deploys 500 or more workers and involves hazardous processes as defined under Schedule IX of the BOCW Rules, including but not limited to: working at height, roof work, structural steel erection, working above or adjacent to water, demolition work, and confined space operations.
 - The site is located at a driving distance of 40 kilometres or more from the nearest hospital or occupational health facility capable of treating site-specific medical emergencies. or
 - The nearest equipped medical facility lacks a dedicated, functional ambulance service available for immediate dispatch to the site. or
 - The terrain, road infrastructure, or local traffic conditions are such that the estimated travel time from the site to the nearest hospital exceeds 1 hour.

Note: Where multiple independent agencies, operate within the same continuous site or project boundary, they may pool their resources to deploy a single, common on-site ambulance van and occupational health centre to distribute and optimize operational costs.

9.5.6 Provision of Canteen Facility (Can Be Shared Among the Agencies) (Rule 37 Of BOCW Act)

If the number of workers exceeds 250 number, a canteen facility shall be provided for the workmen of the project inside the project site on the permission of customer.

- Charges for food stuff shall be based on 'no profit no loss' basis. The price list of all items shall be conspicuously displayed in such canteen.
- 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.
- In every workplace wherein not less than 250 workers are ordinarily employed the subcontractor shall provide an adequate canteen conforming to Section 37 of BOCWA, Rule 244 of BOCWR and as stipulated in Rule 247 of BOCWR the charges for food stuff shall be based on '**no profit no loss**' basis. The price list of all items shall be conspicuously displayed in such canteen.



9.5.7 Provision of Accommodation/Labour Colony

- The subcontractor shall arrange for the accommodation of workmen at nearby houses or by making a labour colony. A monthly inspection shall be done as per format no. **TBG/HSEP14:F21**
- Camp site shall be clearly separated by fence or walls from work area/public area.
- Around 25 to 30 sq-ft for per occupant is the indicative requirement that may be applied gross for campsite plot selection, including space required for roads, general facilities, and recreational areas, depending on existing infrastructure layout.
- The shelter to be made with Fireproof material with Smooth cement flooring.
- Keep enough clearance between the shelters. So that truck/fire engine/ Ambulance can easily access inside.
- As a precautionary measure for preventing the reptiles entering the workman camp, a sharp cut/trench shall be made around the workmen camp. Repellent's Chemicals shall be sprayed regularly around the camp.
- Regular housekeeping of the labour colony shall be ensured.
- Proper sanitation and hygienic conditions shall be maintained and inspected once in a month.
- Adequate number of toilet facilities with water for workers as per norms to be provided. There must be separate toilet for women workers. Drinking water and electricity to be provided at the labour colony.
- Sanitary and toilet facilities shall be designed in such a way to provide workers with adequate privacy, including ceiling to floor partitions and lockable doors
- Bathroom flooring shall be made of anti-slip hard washable materials.
- Potable water shall be tested once in six months as per IS:10500-2012.
- First aid facility shall be provided in the labour camp under the administration of trained first aiders.
- Common kitchen facilities to be ensured and cooking inside the room to be avoided. The canteen should be maintained in hygienic condition. Kitchen shall have door, which can be locked.
- Cooking Gas Stove shall be kept above gas cylinder height.
- Exhaust fan for adequate ventilation and Fire Extinguisher shall be available in kitchen.
- Food waste and other refuse are to be adequately deposited in sealable containers and removed from the kitchen frequently to avoid accumulation.
- Food preparation tables are to be equipped with a smooth durable washable surface.
- All kitchen floors, ceiling and wall surfaces adjacent to or above food preparation and cooking areas are built using durable, non-absorbent, easily cleanable, non-toxic materials.
- Room ventilation and electrification to be ensured. Each shelter shall be provided with two ceiling fans.
- Shelter roof/terrace shall have waterproof coating to avoid leakage from roof.
- Provision of emergency light shall be done in case of power failure.
- Provision for three numbers 5 amp Plug points with switch boards for gadgets recharging.
- A separate bed for each worker shall be provided with a minimum space between beds of 1 meter.
- Each worker shall be provided with a comfortable mattress, pillow, cover and clean bedding.
- Bed linen shall be washed frequently and applied with repellents and disinfectants where conditions warrant (malaria).



- All doors and windows shall be lockable and provided with mosquito screens where conditions warrant.
- There shall be mobile partitions or curtains to ensure privacy.
- Awareness training shall be organized for the workers regarding fire safety, safe use of LPG, Health & Hygiene, and electrical safety etc. on monthly basis.
- Provision for all weather approach roads and adequate slope and drainage shall be provided to avoid stagnant water which causes proliferation of potential disease vectors such as mosquitoes, flies and others.
- Workers shall not be transported in open vehicles i.e. trailers, truck beds etc. within project boundaries which includes the labour colony.
- Worker's transportation shall be done with standard passenger vehicle / bus if applicable when the distance between camp and site is more than 1km.
- Queue systems need to be followed for boarding the bus for trip for which Handrail arrangement is made with gate both at camp and at site (during returning)
- Adequate illumination inside camp and on the access roads to be ensured.
- Provision of steel shoe racks to keep shoes to protect from rain and insects/reptiles.
- Emergency communication system shall be established.
- Provision for securing personal items (e.g., lockers).
- Emergency communication system shall be established.

9.5.8 PROVISION OF EMERGENCY VEHICLE (in addition to Ambulance)

Generally, one vehicle (4 wheeler) is identified by each major package holder (sub-agency). Minor package holders are permitted to have a tie-up with major package holder

9.5.9 PEST CONTROL AND PREVENTION OF MOSQUITO BREEDING

- Regular pest control should be carried out at all offices, mainly laboratories, canteen, labour colony and stores.
- Measures shall be taken to prevent mosquito breeding at site. The measures to be taken shall include:
- Empty cans, oil drums, packing and other receptacles, which may retain water shall be deposited at a central collection point and shall be removed from the site regularly.
- Still waters shall be treated at least once every week with oil in order to prevent mosquito breeding.
- subcontractor's equipment and other items on the site, which may retain water, shall be stored, covered or treated in such a manner that water could not be retained.
- Water storage tanks shall be provided with covers.
- Posters in both Hindi and English, which draw attention to the dangers of permitting mosquito breeding, shall be displayed prominently on the site.
- The contractor at periodic interval shall arrange to prevent mosquito breeding by fumigation / spraying of insecticides. Most effective insecticides shall include SOLFAC WP 10 or Bay text, etc.

**9.5.10 Scrapyard**

- In consultation with customer, scrap yard 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 in such a way to avoid possible hazards such as contamination, fire, etc.

9.5.11 Illumination

- Adequate and suitable light shall be provided at all work places & their approaches including passage ways as per IS: 3646 (Part-II).
- 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 risk, in case of breakage of lamp.
- Emergency lighting provision for night work shall be made to minimize 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.

The subcontractor shall take every effort to illuminate the work site as per BHEL's requirement illustrated in **Schedule 05: Minimum Illumination Level**

10.0 HSE TRAINING & AWARENESS

(Trainer, venue and infrastructure shall be decided by site HSE team headed by BHEL site in-charge). Cost shall be borne by respective contractor alone or on sharing basis on case-to-case basis. Refer TBG/HSEP:04 The contractor shall organize quality HSE training to engage Managers, Supervisors and Other personnel to improve safety performance. Minimum 2 days / year training to each employee shall be imparted.

A class room with all required facilities should be arranged by subcontractor at site for imparting HSE training to the workforce. It should also contain all Personal Protective equipment (PPEs) & exhibition of posters along with Do's and Don'ts. (TBG/HSEP04:01 & TBG/HSEP04:02)

The subcontractor shall arrange behavior-based training programs for all the executives to identify recognize and eliminate unsafe act and unsafe conditions.

The minimum requirement of training needs for various categories of employees are given in **Schedule 02: Content of HSE Training & Awareness**

10.1 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 any work as per format no. **TBG/HSEP14:F09**.

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

- Briefing of the Project details.
- Safety objectives and targets.



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- BHEL HSE Policy and site HSE rules.
- Site HSE hazards and aspects.
- First aid facility.
- Emergency Contact No.
- Emergency Procedures like reporting emergencies, incidents and unsafe conditions and Emergency evacuation plan, Safety Assembly Points, Emergency exits etc.
- Fire prevention and emergency response.
- Rules to be followed in the labour colony (if applicable)
- 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 these safety wear & gear requirements shall not qualify to work.
- On completing attending subcontractor's in-house HSE induction, each employee shall sign an induction training form to declare that he has understood the content and shall abide by the rules of safe work practices. They shall then only be qualified to get a personal I.D. card/gate pass, for access to the work site.

10.2 HSE TOOLBOX TALK

- HSE tool Box talk shall be conducted daily by frontline foreman/supervisor of subcontractor to specific work groups before start of work by using format no. **TBG/HSEP14:F10**.
- The agenda shall consist of the followings:
 - Details of the job being intended for immediate execution.
 - The relevant hazards and risks involved in executing the job and their control/mitigating measures.
 - Specific site condition to be considered while executing the job like high temperature, humidity, unfavorable weather etc.
 - Recent non-compliances observed.
 - Appreciation of good work done by any person.
 - Workers participation in the discussion and doubt clearing session at the end.
- Record of Tool box talk shall be maintained as per format
- An informal pep talk to be held before work is resumed after a break in all high risk or hazardous activities in order to be review and re-sensitize the people about site safety conditions.

10.3 TRAINING ON HEIGHT WORK

Training on height work (2m and above from ground) shall be imparted to all workers working at height by in house/ external faculty at least twice in a year. Fall protection training must involve as much hands-on activity with the equipment as possible. The training shall include following topics:

- Fall hazards associated with the elevated work.



- Elements of the fall protection systems utilized
- Requirement for 100% tie-off when working at or above 6' or 2m.
- Full Body Harnesses of at least a five-point configuration shall be used in all fall arrest systems. The harness 'D' ring shall have a minimum tensile strength of 5,000 pounds (22.2 kN).
- Fall protection equipment used. Use of PPEs – Harness proper fit, storage and compulsory tie-off of body harness to a firm support/life-line or anchorage point).
- Anchorage selection used for attachment of personal fall arrest systems shall be capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, determined by a competent person.
- Use of fall arrester (shock absorbing lanyard), retractable fall arrester, life line, safety nets etc.
- Safe climbing through monkey ladders.
- Maintenance and Inspection of PPEs. (Daily/periodical)-colour coding
- Medical fitness requirements (Format no. **TBG/HSEP14:F18**).
- Mock drill on rescue at height.
- Dos & Don'ts during height work. For the workers & staff passed through the vertigo test, an additional sticker for height pass (Format No. **TBG/HSEP14:F18**) to be issued. This is applicable for those who are supposed to work or inspect on towers, etc.

10.4 HSE TRAINING DURING PROJECT EXECUTION

- Other HSE training shall be arranged by BHEL/sub-contractor as per the need of the project execution and recommendation of HSE committee of site.
- The topics of the HSE training shall be as follows but not limited to:
 - Hazards identification and risk analysis (HIRA)
 - Work Permit System
 - Incident investigation and reporting
 - Fire fighting
 - First aid
 - T&Ps fitness and operation
 - Electrical safety
 - Welding, NDE & Radiological safety
 - Storage, preservation & material handling.
- A matrix shall be maintained to keep an up-to-date record of attendance of training sessions carried out.
- Skill labour (like fitter, electrician, rigger, scaffolder, carpenter etc.) will pass through the trade test (written and practical) conducted at site by the respective engineer & HSE officer. A pass sticker of qualified person to be marked on their ID Card/Gate Pass.
- HSE Induction for Visitors: No visitors are allowed to visit the construction site without safety induction, mandatory PPEs, and designated escort.



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- Safety Induction for all (Staff/engineers/sub-Contractors officials/supervisors): It is compulsory to provide safety induction and briefing about the site HSE management systems, requirements and individual's roles & responsibility to carry out the activities in safe manner, before deploying them.

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

10.5.1 Display of HSE Posters and Banners

Site shall arrange appropriate posters, banners as per **Annexure-4** and slogans in local/Hindi/English languages at work place.

10.5.2 Display of HSE Signage

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

All safety signs shall comply with the internationally recognized Safety Colours as indicated below:

Blue : Mandatory.

Yellow : Danger.

Red : Prohibition.

Green : Safe Condition.

The contractor should follow **Schedule 04** - Displaying Safety Signage and Posters

10.5.3 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. Monthly Safety Day shall be celebrated every month preferably on a fixed date or day at the site jointly by all the contractors as a promotional measure on cost sharing basis

10.5.4 HSE awareness programme

Subcontractor shall arrange HSE awareness programme periodically on different topics including medical awareness for all personnel working at site. Trained workers shall be issued Training & Competency Card (Format No. TBG/HSEP14:F05). Refer: TBG/HSEP04 - TRAINING AND AWARENESS

11.0 HSE COMMUNICATION

11.1 HSE BULLETIN BOARDS

- Effective communication is critical to HSE management. Posters and infographics are tools used to reinforce awareness of the HSE messages. The Subcontractor is responsible for installing and maintaining a HSE bulletin board at the location where the majority of employees report to work. Workers shall be advised of the location of the nearest bulletin board. HSE bulletin boards shall be of sufficient size to display and post HSE bulletins, news-letters, posters, accident statistics, and other HSE educational material. Workers shall be responsible for reviewing the bulletin board to keep informed of HSE-related information. These bulletins and



alerts should be reviewed so Subcontractor is aware of safe work practices and informed of incidents so discussions can take place to prevent similar incidents from recurring.

- It is important to ensure that HSE communications are created to help reduce hazards. They should be relevant to the risks faced by the workforce and reinforce awareness of key messages. Ensuring appropriate safety signage at a work Site help demonstrate our concerns and commitment to HSE. HSE communications can lose their impact if they are not changed on a regular basis. It is recommended that posters be rotated monthly to keep the messages top of mind.

11.2 DOCUMENTED INFORMATION CONTROL

The Subcontractor must maintain HSE related records, for the duration of the project, as they relate to and support the health and safety management system. These records shall be made available to BHEL request. The Subcontractor shall maintain the Site HSE programs in compliance with BHEL HSE document control protocols to ensure:

- Relevant personnel have access to the most recent and approved versions.
- No unauthorized modifications or deletions to relevant documents and records occur.
- Relevant records are retained in accordance with established retention periods.
- Information relating to applicable laws and regulations, licenses, permits, codes, standards and practices are documented, kept current and accessible.
- Information relating to competency assessment, authorization, nominations and appointments of responsible persons.
- Only those having authorization can create, modify, or delete relevant documents.

The approved review process is followed for all relevant documents. The process shall include the consideration of any possible effects the change(s) may have on:

- Other parts of the document being reviewed.
- The effectiveness and suitability of other safety programs.
- Service and product quality and compliance with defined requirements.
- Other stakeholders.
- Compliance with internal / external company requirements.
- Documents are removed from use when obsolete or superseded.
- Documents are reviewed and approved for suitability and adequacy. A revision history index shall be present on documents. Document revision is controlled in the same manner and follows a similar process as document creation.
- Quality and consistency in documentation, style, appearance and language is maintained for all HSE documents.

**11.3 INCIDENT INVESTIGATION, REPORTING AND RECORDS:**

- Every incident including near-misses, hazardous occurrences or injury of any kind and at any level of severity shall be immediately reported by sub-contractor's persons in their work area format no. **TBG/HSEP08:F01** to the safety officer, site engineer or Site In-charge. The site HSE co-ordinator shall be the nodal person for this purpose.
- For any reportable injury to any employee or to the contractor's workmen, the safety officer/ HSE-coordinator shall report the incident in incident/ incident report, to BHEL/CUSTOMER.
- In case of serious injury requiring hospitalization or fatality, communication shall be made to BHEL/Customer through telecom immediately with submission of incident report within 24 hrs and detail investigation report may be forwarded in INCIDENT INVESTIGATION REPORT FORMAT (**TBG/HSEP08:F02**) within seven days.
- In addition to the above verbal and written reporting to BHEL/customer and Police, notice in respect of any accident of a person at the construction site to be given as per Rule 210 of BOCWR that:
 - Causes loss of life; or
 - Disables a worker from working for a period of 48 hours or more immediately following the accident;
 - shall forthwith be sent by telegram, telephone, fax, or similar other means including special messenger within 4 hours in case of fatal accidents and 72 hours in case of other accidents, to:
 - Regional Labour Commissioner, where contractor has registered the firm.
 - The board with which the worker involved was registered as a beneficiary;
 - Director General and;
 - The next of kin or other relative of the worker involved in the accident;
 - Further, notice of accident shall be sent in respect of an accident which
 - causes loss of life; or
 - disables the injured worker from work for more than 10 days to
 - The officer-in-charge of the nearest police station;
 - The District Magistrate or if the District Magistrate by order so desires to the Sub-Divisional Magistrate.
- Where any accident causing disablement that subsequently results in death, notice in writing of such death, shall be sent to the authorities mentioned in clause above within 72 hours of such death.
- Investigations into all reportable incidents shall be conducted using accepted Root Cause Analysis (RCA) methodology cause and effect, 5 why's, etc., to determine the Physical, Human and Latent Root Causes for these type accident/incidents. However, it is recommended to conduct preliminary investigations into all other incidents as a proactive measure.
- Every contractor shall maintain record of incidents / incidents at site, and shall be available for inspection by representatives of statutory agencies / officials visiting site from BHEL/customer The Safety Officer/ HSE coordinator shall maintain these records.

**11.4 INITIAL INCIDENT RESPONSE:**

In the event of an accident/incident, the supervisor and employees at the work site must:

- Stop work and make the work area safe (mitigate or remove the exposure to the hazard)
- Provide first aid and activate "Emergency Medical Services" and other emergency services, e.g. fire or police, as required,
- Ensure the injured worker is transported to "Emergency Medical Services" for medical attention if necessary,
- Secure the site to ensure the protection of employees and the public and to aid with the investigation,
- Report the incident immediately to the local Site In-Charge in format no. **TBG/HSEP08:F01**.

11.5 INCIDENT INVESTIGATION REPORT:

The investigation committee on completion of the all investigations shall prepare and submit the report to BHEL Site In-charge. The report shall also include corrective measures with assigned responsibility to be taken at site to prevent similar incidents in future. The Investigation Committee shall forward the copy of the investigation report to BHEL in format No. **TBG/HSEP08:F03 & TBG/HSEP08:F04**

Ref HSEP: TBG/HSEP08 :- INCIDENT INVESTIGATION, REPORTING & CORRECTIVE ACTION

12.0 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, the subcontractor shall follow that as well, within quoted rates. These OCPs (applicable ones) will be made available to subcontractor during work execution at site. However, for reference purpose, these shall be available with Safety Officer of BHEL at site and at the Sector and HQ, or available in downloadable format in the website, which may be referred by subcontractor, if they so desire. (**Ref. HSEP: TBG/HSEP-15**)

LIST OF OCPs

1. Material Handling	13. Concreting Work	25. Working in Confined Spaces
2. Handling & Storage of Flammable Gas Cylinders	14. Batching Plant Operation	26. Handling & Disposal of Packaging materials
3. Handling & Storage of Flammable liquids	15. Hot work (Welding/Cutting/ Grinding)	27. Handling & Storage of Chemicals
4. Night Workings	16. Aluminium tube bending work	28. Piling/Rigging operation
5. Storage and retrieval of material from open stores	17. Working at Height	29. GIS Equipment Erection.
6. Land levelling and development	18. Erection of Heavy Materials	30. Operation and Maintenance of DG sets
7. Excavation & Trenching	19. Erection of Lattice/pipe structures	31. Waste Management



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8. Excavation by controlled blasting	20. Stringing and related works	32. Electrical work
9. Re-bar work (bar-bending/ binding)	21. Cable laying/Tray work	33. Working in charged area/induction zone.
10. Shot/Sand Blasting Operation	22. Transformer/Reactor Handling	34. Working at standalone equipment
11. Shuttering/Form work	23. Battery handling and charging	
12. Dismantling of lattice towers	24. Charging/commissioning of panels and equipment	

12.1 HSE ACTIVITIES

HSE activities shall be conducted at site based on the HSEMS developed by TBG and issued to sites by Sectors/HQ.

A. Identifying Hazards / Risks & Aspects / Impacts and implementing control measures

- All applicable OHS Hazards and Risks applicable to all activities of the project to be identified as per TBG/HSEP01: HSE Procedure for OHS Hazards and Risks, and control measures to be planned and implemented.
- All applicable Environmental Aspects and Impacts applicable to all activities of the project to be identified as per TBG/HSEP02: HSE Procedure for Environmental Aspects and Impacts, and control measures to be planned and implemented.

These assessments are to be carried in each area of operation

B. Register of Regulations:

A register of applicable rules and regulations to be prepared as per TBG/HSEP03: HSE Procedure for Register of Regulations and compliance ensured.

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 (TBG/HSEP-01)
- 2) HSE Procedure for Register of Environmental Aspects and Impacts (TBG/HSEP-02)
- 3) HSE Procedure for Register of Regulations (TBG/HSEP-03)
- 4) Operational Control Procedures (OCPs)
- 5) HSE Procedure for Emergency Preparedness and Response Plan (TBG/HSEP-06)
- 6) Contract documents

12.2 METHOD STATEMENT

As a result of the Hazard Identification and Risk Assessment detailed method statements shall need to be produced for medium and high-risk activities including amongst others the following:

- Cranage of items in excess of 1 ton



- Erection of steel structures.
- Excavations deeper than 2m.
- Erection and loading of formwork
- Demolition.
- Inflammable materials – the use and storage
- Use and storage of explosives

A component part of the detailed method statement shall be the inclusion of the completed Hazard and Risk Worksheet.

Method Statements should be cross-referenced to the Site Safety Plan.

A method statement should contain sufficient information to enable the task to be undertaken safely and should contain as a minimum the following information

- Introduction – A brief outline of the Task
- Details of the Risks involved
- A step by step description of how the task is to be undertaken detailing
 - What needs to be done;
 - The order in which the task will be carried out;
 - What plant or equipment is required;
 - Who the task will be done by;
 - Who will supervise the task;
 - Where will the task take place;
 - When will the task take place;
 - The precautions which must be taken before the task is undertaken;
 - What to do if things go wrong;

12.3 WORK PERMIT SYSTEM

- The following activities shall come under Work Permit System
 - a. Height working
 - b. Hot working at height
 - c. Confined space
 - d. Radiography
 - e. Excavation more than 3-meter depth
 - f. Heavy/complex lifting (> 10 MT)
 - g. Night work Permit
 - h. Loading / Unloading Permit
 - i. Safety Net / Safety Facility Removal Permit
 - j. Lockout / Tag out Request Permit

Refer **Annexure 07** for Work permit formats.

- Where customer is having separate Work Permit System the same shall be followed.
- Except in the cases of routine jobs, where an integrated work permit is provided, no work permit shall be issued unless the subcontractor has a job specific Job Safety Analysis (JSA) approved by BHEL/Customer, preferably in the local language prevalent at the Site



- Permit applicant shall apply for work permit of particular work activity at particular location before starting of the work with Job Hazard Analysis (JHA/JSA).
- Permit signatory shall check that all the control measures necessary for the activity are in place and issue the permit to the permit holder.
- 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. **Refer : TBG/HSEP12 :- PERMIT TO WORK and attached PTW formats (1-11)**

13.0 SAFETY DURING WORK EXECUTION

Respective OCPs are to be followed and adherence to the same would be contractually binding. Activities having considerable risk or on the recommendation of customer/BHEL engineer/Safety officer, subcontractor shall prepare JOB SAFETY ANALYSIS (Format no. **TBG/HSEP14:F20**) and get it approved.

13.1 WELDING AND GAS CUTTING SAFETY

All safety precautions shall be taken for welding and cutting operations as per IS-818 and inspection of gas cutting sets shall be carried out as per format no. **TBG/HSEP14:F04**.

13.2 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.

13.3 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.

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

13.4 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



13.5 TOOLS & PLANTS

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.

13.6 LIFTING APPLIANCES:

All the cranes and lifting tools & tackles shall be inspected on daily basis before use, on monthly basis by expert and annually by third party. These shall be tested and certificates of fitness shall be obtained from state Govt. approved 3rd parties (competent persons/agency) before deploying at site. The last date of Third-Party Inspection and the next Due date shall be conspicuously displayed on all cranes. A copy of certificate shall be pasted on operator's cabin of all the lifting equipment.

The manufacturer's instruction for maintenance shall also be followed. All safety measures shall be followed. All tools tackles, lifting appliances; material-handling equipment etc. used by the contractor shall be of safe design and construction. The operators, slingers and signalers shall be qualified as per IS 13367 (part-1):2003 "Safe use of cranes- code of practices". There shall be a person responsible for co-ordination among cranes where multiple cranes are used, and lifting over 75% of the crane capacity to be avoided.

Operators of the cranes/Man-lift/Hydra etc. shall check their machine on daily basis and shall fill the daily checklist (**Format no. TBG/HSEP14:F06**) which shall be verified/witnessed by the supervisor/engineer of the respective sub-contractor.

13.6.1 Man Lifts/Man Cages (Man-Basket): (To be treated as a T&P item)

A Man-lift/Man-cage permit shall be obtained prior to lifting any people, along with a rigging plan. Man-cages shall be used where access through ladders or scaffolding is not feasible. Job made man-cages shall be allowed only if designed and tested by a certified engineer and built robust (using MS Angles, flats, plates or channels suitably). Guard rails top and mid, must be in place and screened-in to avoid material from falling out of basket. The factor of safety shall be 200%. It shall have a door with double latches and shall open inside. Anchor points shall be identified within the man-basket. The man-basket shall be thoroughly inspected and tested and a trial run performed without personnel before being put to job. It shall be treated as a lifting tool and shall undergo same certification cycle and inspection as other lifting equipments. An additional sling of required lifting capacity shall be fixed the man-basket main lifting point and attached to the crane above the ball or block. This shall be tested once in a year by a competent person.



13.6.2 Cranes and Hoisting Equipment:

This procedure provides the guidelines to ensure proper rigging and lifting activities are accomplished safely and in accordance with applicable specifications, codes, and regulations.

- On every crane or piece of hoisting equipment notices of all rated load capacities, recommended operating speeds, and any hazard warnings or special instructions shall be conspicuously posted. All instructions and warning shall be visible from the equipment operator 's station.
- Cranes shall have an Anti-Two-block safety device installed
- All mobile cranes shall have overload and backup alarms
- Load angle indicators and limit switch

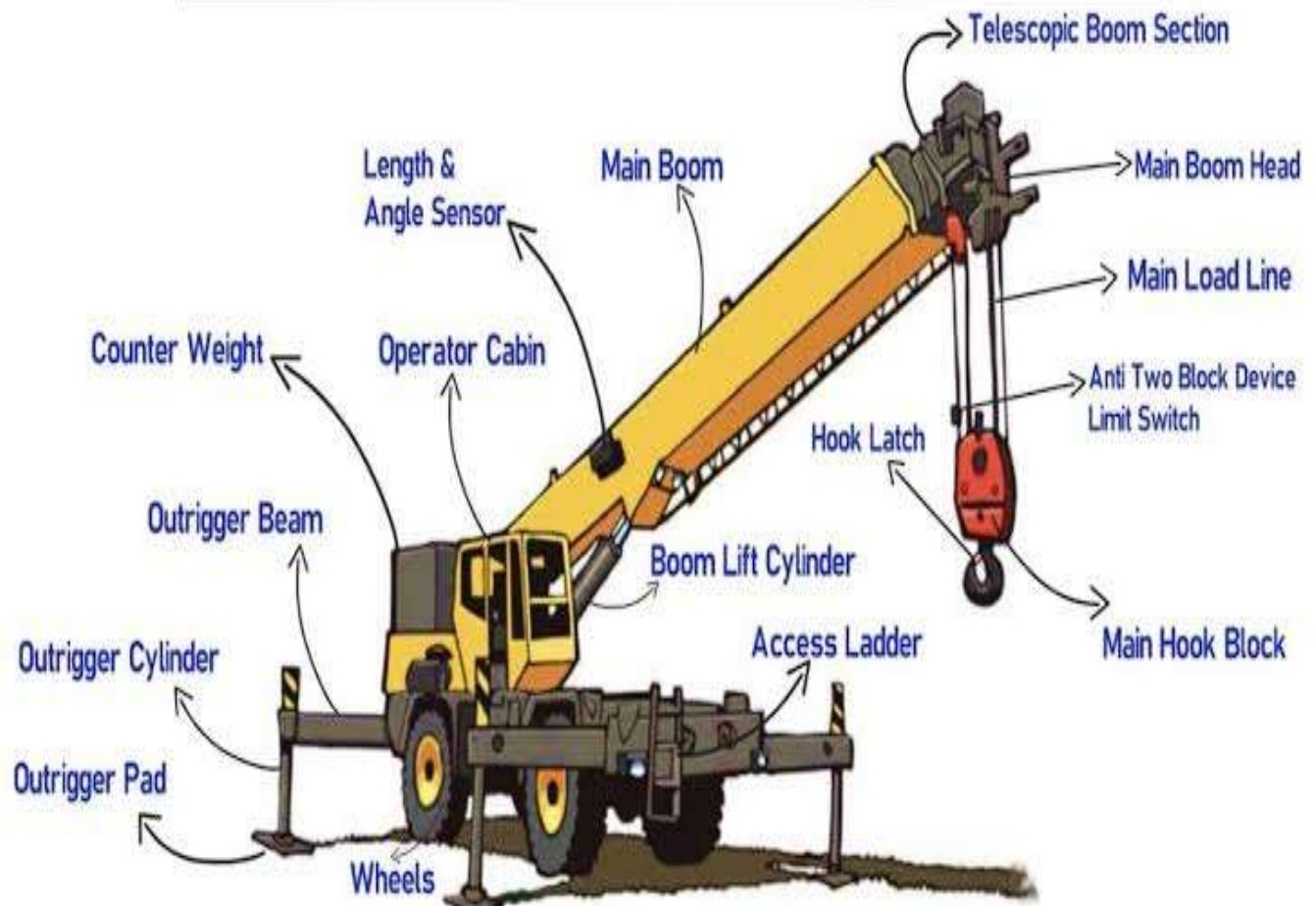
All areas within swing radius of cranes that are potentially accessible by pedestrian, vehicular, or equipment movement shall be barricaded to prevent the unauthorized access.

- Colour coding needs to be followed for all lifting tools and tackles.
- Lifting plan need to be prepared and submit for all lifting above 5 T capacity.
- Material trolley needs to be used for TMT and other material shifting.
- Trailer / trucks need to be used to shift the materials and marching with load in the crane is strictly prohibited.
- No part of the lifting equipment or its load shall be within the limits of an energized power line as specified in

the Indian Electricity Act.

- Cranes shall have annual certification by third party and be inspected before use by the operator on daily basis. Any defects shall be corrected before use. Records/logs of such crane inspection shall be kept with the crane.
- Make certain that the rigging personnel, material, and equipment have the necessary capabilities for the job and are in safe condition.
- Communicate with person(s) directly responsible for accomplishing the work and / or work area to establish requirements/responsibilities and make certain that all preparatory work is complete.
- Base plates/Pads must be used with outriggers on all lifting equipment.
- Pick and carry must have the load secured to the rig in front.
- Proper crane setup:

Mobile Crane Parts



**13.6.3 Safe Rigging Practices:**

- Review the planned operation and requirements with the operator and rigging crew.
- Ensure a pre-lift meeting is conducted with crane operator, tagline operator, signal personnel and Safety Manager.
- Designate a qualified person from the rigging crew to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.
- Clear the lift area of all unnecessary personnel.
- Mobile cranes (Farana) shall only be allowed for loading & unloading works & shall not be allowed to move with load

13.6.4 Synthetic Slings

The following are rules for safe use of synthetic slings:

- Synthetic slings must be marked to show the rated capacity for each type of hitch and type of web material.
- Nylon web slings must not be used where fumes, vapors, sprays or mists or liquids of acids or phenolic are present. Web slings with aluminum fittings must apply in this category.

13.6.4.1 Synthetic web slings must be removed from service and destroyed if any of the following conditions are present:

- Acid or caustic burns
- Melting or charring of any part of the sling surface
- Snags, punctures tears or cuts
- Broken stitches
- Distortion of fittings
- Synthetic web slings of polyester or nylon must not be used at or come in contact with temperatures in excess of 82°C
- Polypropylene web slings must not be used at or come in contact with temperatures in excess of 93°C
- Insulated hooks must be tested yearly to insure insulation integrity to at least manufacturer's specifications.

13.6.4.2 Wire Rope Slings must be removed from service and destroyed if any of the following conditions are present:

- In (10) randomly distributed wires broken in one (1) rope lay, or five (5) broken wires in one (1) strand in one (1) rope lay.
- Wear or scraping of one-third the original diameter of outside wires.
- Kinking, crushing, bird caging or any other damage resulting in distortion of the wire rope structure such as:



1. Evidence of heat damage.
2. End attachments that are cracked, deformed worn.
3. Corrosion of the rope or end attachments.



13.6.4.3 Metal mesh slings must be immediately removed from service if any of the following conditions are present:

- A broken weld or broken brazed joint along the sling edge.
- Reduction in wire diameter of 25 percent due to abrasion or 15 percent due to corrosion.
- Lack of flexibility due to distortion or corrosion.
- Synthetic web slings must be removed from service and destroyed if any of the following conditions are present:
 - Acid or caustic burns
 - Melting or charring of any part of the sling service
 - Snags, punctures, tears or cuts
 - Broken stitches
 - Distortion of fittings

13.6.4.4 Requirements of Plate Clamps:

- The rated load of the plate clamp must be marked on the main structure.
- Care must be taken to make certain the load is correctly distributed for the plate clamp being used.
- Do not allow load or plate clamp to come into contact with any obstruction.
- The plate clamp must not be used for side pulls or sliding the load.
- When lifting stainless steel or special alloys, ensure plate clamp is designed for use on the specific metal.

13.7 CRANE OPERATORS MUST FOLLOW THE FOLLOWINGS:

- Pass an annual Operator's Physical examination
- Carry a valid training certification card issued by the Govt. or other recognized institute at all times while operating.



13.8 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.

13.9 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.
- No welders will be deployed without passing appropriate tests. 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.
- Rubber mats shall be provided at all electrical junction boards with electrical hazard sign boards stickers pasted on any temporary power distribution system including the source shall be designed and approved by BHEL/customer's electrical engineer.
- Subcontractor shall display suitable electrical warning signages at conspicuous places at construction site in Hindi, English and in local language which is understood by majority of building workers.
- Construction work where exact location of underground electrical power line is not known then properly insulated equipment shall be used with prior utility identification.
- All electrical installations, distribution box and welding machines should be prominently marked for identifications with hazard signs and following information shall be provided: identification number, name of the Contractor/Subcontractor, source of incoming /outgoing power and danger sign in case of 440V DB. There shall be three core rated cable provision in all portable electrical equipment, i.e. Grinding Machine, paint mixer etc.
- While working near the live electrical conductors, arc flash suit of sufficient rating, as per JSA and PTW, shall be used.
- All electrical enclosures shall comply with IP66.



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- The subcontractor shall use only properly insulated and armoured cables which conform to the requirement of Indian Electricity Act and Rules for all wiring, electrical applications at site.
- The subcontractor shall nominate a representative whose name and qualifications shall be submitted in writing to BHEL for review not later than 4 weeks before the appointment and who shall be solely responsible for ensuring the safety of all temporary electrical equipment on Site
- The subcontractor shall submit schematic diagrams and the details of the equipment for all temporary electrical installations, and these diagrams together with the temporary electrical equipment shall be submitted to BHEL for review.
- 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 "Inspection of electrical installation and construction power cables (Format No. TBG/HSEP14:F03)" 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.
- Portable power tools rated for above 50 V supply and hand lamps rated for above 24V supply shall not be used.
- No power should be supplied unless ELCBs are installed in a booth and a distribution board is made available. Regular test with proper testing equipment is required and maintained.
- Only plugs and fittings of the weatherproof type shall be used and they should be colour coded in accordance with the internationally recognized standards for example as detailed as follows:
 - 110 volts Yellow.
 - 240 volts Blue.
 - 415 volts Red.

13.9.1 Electrical cables

- All power cables providing construction power to various construction machinery and the connectors shall be in safe and sound condition. Only three core double insulated cables are used for any temporary wiring or portable/ handheld tools or lightings.
- Cables shall be routed through cable trays supported on appropriately designed structures, duly clamped, secured and identified.



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- Use authorized cable jointers / connectors to join the cables.
- Road crossing cables shall be laid in conduits buried at least 600 mm below the surface to prevent damage due to vehicular traffic.
- All cables overhead should be more than two point five (2.5) metres on insulated or wooden support and no temporary cable shall be laid over the ground.
- All cables shall be off the floor to avoid damage or tripping hazard. Cables shall be terminated at the switchgear and sockets in a workman like manner to prevent loose contacts and flashover. Only safety receptacles shall be used for providing power connection to hand-tools. All switches and distribution boards shall be clearly marked.
- All electrical distribution and panel wiring diagrams shall be available with the electrical maintenance personnel.
- The subcontractor shall maintain a safe electrical isolation/lockout procedure.
- Cables shall be selected after full consideration of the conditions to which they will be exposed and the duties for which they are required.
- For supply cables up to 3.3kV the cable armoring shall be used as the earth return in conditions where the cable is continuously extended and not subject to continuous movement after installation.
- For supplies to mobile or transportable equipment where operation of the equipment subjects the cable to flexing, the cable shall conform to one of the following specifications appropriate to the duties imposed on it:
 - BS 6708 flexible cables for use at mines and quarries;
 - BS 6007 rubber insulated cables for electric power and lighting; and
 - BS 6500 insulated flexible cords and cables.

13.10 HOT WORK SAFETY

- The subcontractor shall obtain and adhere to written work permit while carrying out any hot work involving welding, cutting, pipe cutting torch brazing, polishing, or heating a metal drum, barrel, or tank. Sealed container, cylinder etc. must not be welded or gas cut in any case.
- All operators involved in hot work shall be trained on the hazard and risk control measures as per JSA and should be qualified. Flammable source must be removed or protected from heat using fire retardant mat(s). There shall be flash back arrester both at cylinder and torch, precaution related to gas cylinder safety shall be adhered to and welding machine must be fitted with Voltage Reducing Device (VRD) and shall be certified by BHEL's electrical engineer for suitability and integrity.
- The subcontractor shall not use AC transformer type welding machine and only generator / rectifier type machine shall be used.
- Electrical DB supply must be fitted with ELCB/RCCB set for thirty milli-ampere (30mA). Spatters generated from hot work must be arrested and the area shall be barricaded if hot work is performed at height. Use fire blankets/ceramic cloth for hot job to avoid splatter falling.



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- A trained fire watcher must be placed for all critical hot work. Job and machine grounding must be ensured. In case of hot job in Confined Space, atmospheric test must be carried out by an authorized person. Industrial type LPG gas cylinders to be used for metal cutting application. Usage of Domestic gas Cylinders and commercial gas cylinders to be prohibited strictly.
- The subcontractor shall provide fire extinguisher during hot work which shall be periodically inspected and checked for the purposes of being fit to use. The subcontractor shall provide Fire
- retardants, proper PPE, and face shields/ eye shields. There should be regular testing for combustible conditions with help of portable LEL Gas Detectors as per restricted/contained conditions.
- For working under/over/near (within 10 m) any hazardous installations, prior approval from BHEL/customer shall be obtained.

13.11 TOOLS AND EQUIPMENT

All tools and equipment getting used at site should necessarily be fit for the purpose as standard, and not whatever is available. This scope should be outlined in the job plan.

- The subcontractor shall ensure that tools and equipment requiring a formal periodic inspection must be tagged, marked, labelled, tested, certified, and calibrated (as applicable) to indicate that the formal inspection has been performed. All formal inspections must have inspection records. The subcontractor shall be required to ensure use of all certified, adequately insulated, tested, checked and quality manufactured tools and tackles including cutting, brazing, welding, cutting torch, rock breaker, driller, lifting gear etc. All Power tools must have **Dead Man Switch**.
- Any tools and equipment found defective or in need of inspection must be tagged with a **"defective"** tag and returned to the appropriate person for repair or inspection. The tool or equipment must be removed from the Site until repaired or inspected. All portable grinding / grinding equipment must have adequate and valid wheel, insulation, guard cover and good quality wire. The subcontractor shall ensure that cables for all power tools shall be without any cable joints and 2 Pin/3 Pin shall be used for power connection.
- Tool bags must be used for carrying and transporting all hand tools to the workplace. Standard tool tying arrangement (lanyard) must be made for all tools so that they can be tied with the nearest anchor point while working at heights to prevent fall of tool. Also, to avoid injury due to deflection of the tool while it is applied on a job, adequate attachments like D-Ring, short lanyard or any other inbuilt tethering arrangement must be applied. While working at site, tool trays shall be provided for keeping loose materials.

13.12 HOISTING/ MOBILE LIFTING EQUIPMENT

- The subcontractor's personnel are forbidden to ride on any hook, load, or headache ball. Equipment operator certifications shall be submitted to BHEL. Unauthorized lifts (including tandem lifts) are not permitted. BHEL's site engineer must be notified prior to any critical lift (a critical lift is any lift that exceeds eighty percent (80%) of the design capacity of the lifting device/or exceeds 02 tons) being carried out. For any critical lift, of over 2 tons in operating plant and over 5 tons at project sites, BHEL must be notified.



- All lifting equipment, tools and tackles and devices shall be tested, certified, and maintained to manufacturer specifications. For man lift and other industrial lifts, the subcontractor shall ensure that the subcontractor, prior to deployment of the lifting equipment, tools and tackles and devices at the Site, procures a certificate from third party inspection agencies as per the statutory requirements, certifying the successful testing of such lifts at Site.
- Guide ropes shall be provided at both ends during the lifting activity and only trained and competent riggers shall be engaged in such activities.

13.13 LIFTING EQUIPMENT

The subcontractor shall ensure that different man and material lifting equipment (different cranes, winch machine, hydraulic lift, etc.), tools and tackles proposed to be used at the Sites are suitable for the job and approved for use by the site team. The subcontractor shall use BHEL's site checklist of different cranes / heavy vehicle etc. before hiring or bringing any such equipment to Site for use. After that the subcontractor shall use periodic and daily checklist to ensure continued suitability. These equipment and tools should have all valid legal documents and maintenance record available.

- All lifting tools and tackles must be tested and certified only by the competent person approved by State Government Authority. The operator shall have necessary statutory certification, training record on manufacturer's training and refresher training of every three (3) years with minimum experience of five (5) years in the job before coming to the Site. All cranes used at the Site must have safe load indicator, over run cut-off switch (anti-two block switch) and audio-visual alarms for heavy vehicle movement and material transport, heavy earth movers, crane operations etc,
- Banksman/Flagman must be deployed. Competent and certified riggers to be engaged for Heavy Material Handling, loading, and unloading, critical lifts etc. Safe load indicator (SLI) calibration – SLI Calibration is required at the time of installation,
- The safe working load, date of last testing and due date for next testing should be clearly marked on the body.
- Use of first-generation pick & carry cranes (hydra) at the sites shall not be allowed.
- Use of chain pulley block in horizontal position for pulling of spool is banned, instead 360-degree pulley blocks, lever hoist and hook chuck should be used.
- All material lift job should have a documented plan as approved by the Site team and for any critical lifts (with weight of more than two (2) tons, as minimum normal practice but can be different as agreed by Site team) should have detail material lift plan validating soil compactness, crane placement, man and material locations, detail sling specification, angle of lift, approval and presence of competent mechanical engineer during lift. Critical lifts are normally not permitted at night at the Sites. Man-Basket shall not be allowed for use by Farana, though can be used for heavy cranes with special approvals.
- Crane up to 200-ton capacity shall not be older than 15 years and above 200-ton capacity shall not be older than 17 years. Despite age criteria, Crane shall be certified for its health, safe worthiness by a competent and approved person. Concern department shall certify before mobilization and link with activity crane shall



be selected based on drawing, lifting plan approved by structure and design team. Lifting plan shall be part of drawing.

- Impact vehicle / truck mounted Attenuator shall be mandatory where working in live traffic (green field project)

13.14 QUALIFIED PERSON: (ELECTRICIAN)

One who is trained and has wiremen license from state Govt., is familiar with the construction, operation and safety hazards of the equipment upon which they are permitted to work.

13.15 FIRE SAFETY (FIRE PREVENTION, PROTECTION & PREPAREDNESS)

- Providing appropriate firefighting 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 labour 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.

The purpose is to prevent-

- Inception of fire
- Loss of life or personal injury
- Loss of Property
- Interruption of operations

Site-in-charge / Safety Officer will make periodical review of the site Fire Protection system. Sub-contractors along with BHEL, shall also establish if required, good contact with Local fire station for availability of Fire tender in case of emergencies, in addition to their own fire equipment.

Fire Protection, Prevention and Preparedness Inspections - The Sub-Contractor will be required to make frequent fire prevention inspections of his work site and operating facilities. Deficiencies will be corrected at once.



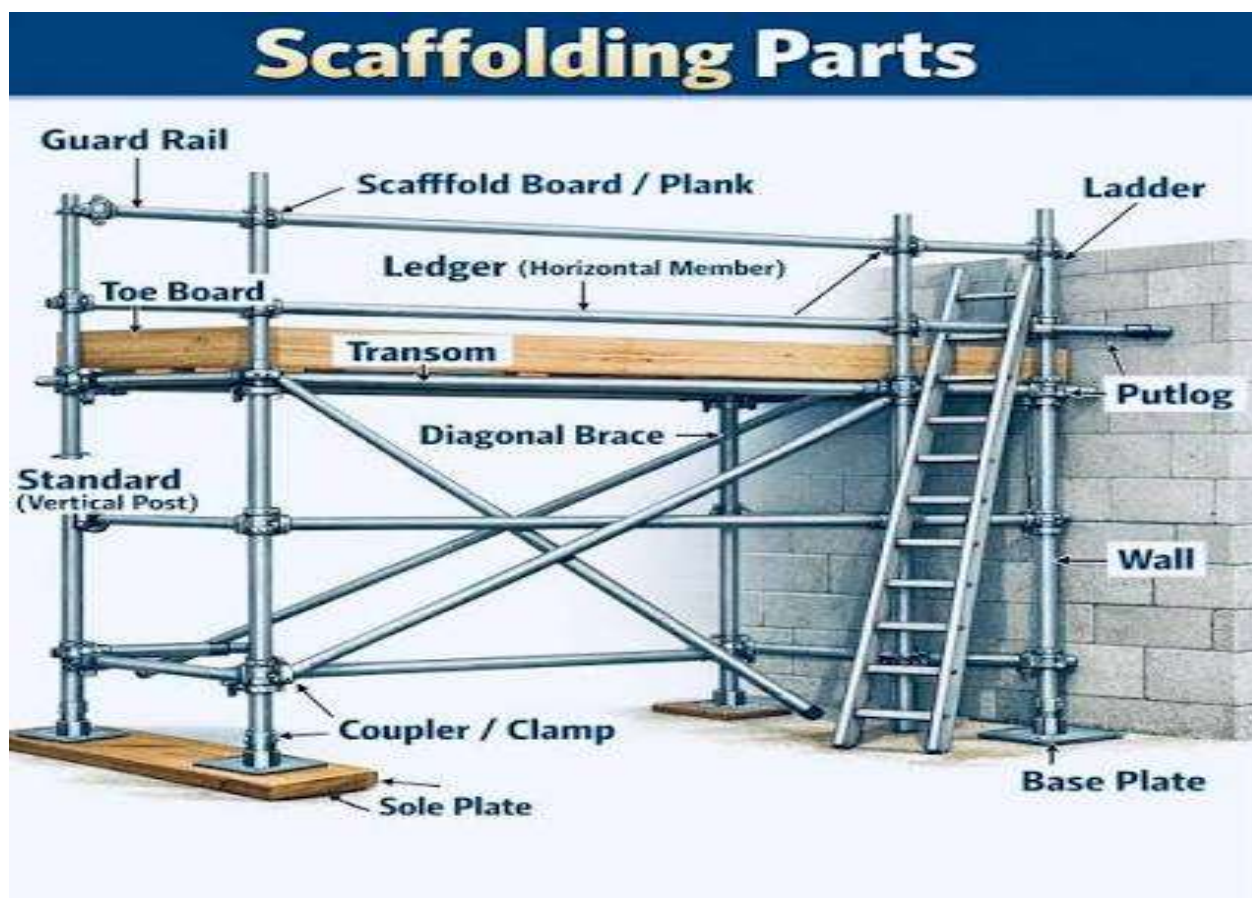
- Area where Hot work activities are carried out (Gas cutting / Welding/ any other spark producing work) above a working spot, a GI / fire-resistant non-asbestos sheet or suitable material shall be placed to prevent the fall of hot sparks. A bucket of water shall be kept nearby while doing hot work
- Hot work shall be preferably carried out in a designated area with a standing Hot Work Permit, to be renewed monthly. The designated area shall have fire extinguishers.
- Any hot work outside designated area shall require a Hot Work permit and fire watch.
- No flammable material shall be stored within **35 feet** from any fire load.
- Necessary fire extinguishers shall be kept at accessible area as per the chart below:
- Emergency telephone number to be displayed at all conspicuous places.
- General flammable material storage requirements:
 - All flammable material shall be stored in deigned areas and/or in flammable storage cabinets, as necessary.
 - Fire extinguishers shall be located nearby and have unobstructed access.
 - Refer Annexure-05

Fire Extinguisher Chart						
Extinguisher		Type of Fire				
Colour	Type	Solids (wood, paper, cloth, etc)	Flammable Liquids	Flammable Gasses	Electrical Equipment	Cooking Oils & Fats
	Water	 Yes	 No	 No	 No	 No
	Foam	 Yes	 Yes	 No	 No	 Yes
	Dry Powder	 Yes	 Yes	 Yes	 Yes	 No
	Carbon Dioxide (CO2)	 No	 Yes	 No	 Yes	 Yes



13.16 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.
- All scaffolds should be inspected by a competent person at least every three days after erection and the results of inspections recorded and the records shall be kept available for checking by the BHEL's Representative. (Format no. **TBG/HSEP14:F27**)
- Tags shall be fitted to all scaffolds to show whether they are safe for use or not. All Safe for Use tags shall be signed by a senior site engineer from the BHEL.
- All scaffolds shall be constructed of sound materials free from patent defect.
- The following measures shall be taken;
 - The scaffold shall be constructed for the correct use (Light or Heavy Duty)
 - Securely fixed to existing structures or adequately buttressed;
 - The use of barrels, boxes, loose tiles or other unsuitable material shall not be used as Supports for working platforms;
 - All working platforms shall be fully boarded;
 - All working platforms shall have guard rails at one-meter height and shall also have an intermediate rail at half height;
 - All working platforms shall be provided with toe boards;
 - All working platforms shall be kept free of unnecessary obstruction or rubbish
 - Secure ladder access shall be provided;



13.17 CIVIL WORKS

13.17.1 Piling

- It is the first and foremost activity of construction where load bearing capacity of soil is inadequate for foundation. The working condition of piling rig and other associated tackles is a significant contributing factor for prevention of equipment failure during operation.
- Ensure the following precautionary measures before starting piling works
 - Inspection of piling equipment by responsible person for its condition before initiating piling operation.
 - Testing and its certification wire ropes, slings, D-shackles, chain pulley blocks using in the process of piling work by competent person
 - Adequate support and secured foundation of the piling equipment to avoid toppling
 - Hoses should be lashed and adequately secured
 - Proper work platform is to be provided on piling frame
 - Safe work procedures and close supervision to prevent unsafe acts of operators/any unsafe conditions that may arise
 - Only experienced and trained operators are engaged for the piling operation
 - Provision of Personal Protective Equipment (PPE) like safety shoes/gumshoes/safety helmet/safety belt etc and its use by their workmen.
- Special care and precautions If work is near electrical live cables/ electrical equipment.



- Cordoning of work area to prevent un authorized entry
- Guarding of revolving parts
- Specific measures to prevent over turning of pile driver/missing of hammer/ hammer movement out of range

13.17.2 Excavation

- Wherever there is open excavation on ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations. Format No. **TBG/HSEP14:F25**
- Make sure the edges of the excavation are protected against falling materials. Provide toe boards where necessary.
- Do not store spoil or other materials within 1.5 meter of the sides of excavations. The spoil may fall into the excavation and the extra loading will make the sides more prone to collapse.
- Prevent the sides and the ends from collapsing by battering them to a safe angle or supporting them with timber, sheeting or proprietary support systems.
- Do not go into unsupported excavations.
- Never work ahead of the support.
- Remember that even work in shallow trenches can be dangerous. May need to provide support if the work involves bending or kneeling in the trench.
- Take steps to prevent people falling into excavations. If the excavation is 2 m or deeper, provide substantial barriers, e.g. guard rails and toe boards.
- Keep vehicles away from excavations wherever possible. Use brightly painted baulks or barriers where necessary.
- Where vehicles have to tip materials into excavations, use stop blocks to prevent them from over-running. Remember that the sides of the excavation may need extra support.

13.17.3 Mobile Plant

Mobile plant including tractors, trailers, dumpers, excavators, bulldozers, road rollers etc. for earthmoving purpose, concrete mixers, concrete transit mixtures, concrete pumps etc for concreting purpose are extensively used in construction Industry. Due to the very nature of their function and movement in difficult terrains, congested areas, working in tandem with manual work and other operations the danger is inherent. Many potentially hazardous situations and accidents could be avoided by the application of known safety principles and procedures

Safety measures:

1. Where movement around site is involved, routes should be planned, obstruction free and well maintained
2. Observe specified speed limits
3. Operating personnel should be aware of associated risks and its preventive measures.
4. Only experienced, trained and authorized persons with valid license (wherever applicable) should operate the mobile equipment/vehicles



5. Provide and use Warning lights and reverse horn for cautioning the people around
6. Operation should be on level and stable ground with adequate working clearance.
7. Loading of out riggers/stabilizers should be well within safe ground bearing capacity
8. No person should be on equipment or vehicle during loading and unloading of material
9. Operators should be protected by warning barriers or switching off power when working in close proximity of overhead power lines
10. The equipment /vehicles should be well maintained and provided with effective brake system and other safety devices (wherever require)
11. Rotating parts of equipment should be adequately guarded
12. Provide necessary personal protective appliances and ensure its use by the operating personnel Ensure effective measures at source to control harmful emissions, dust, fumes contaminating atmosphere and cause health hazards to the operators and people in the vicinity.
13. No overloading/over stressing of vehicles/plant is allowed
14. Hoses, pipes, and receiver's gauges and valves involved in carrying out hydraulic fluid/ compressed air should be checked for leaks and tested prior to operation.
15. Adequate safe clearance for swing and movement is to be judged during operation of Concrete mixer
17. Setting of machine on firm and level ground with wheel locked to prevent movement of machine
18. Proper instructions and Special precautions are to be ensured to prevent entry in to the danger zone of projectile of bucket while dropping bucket
19. Operator leaving work spot should ensure that the equipment/vehicle is kept in neutral position and place on firm and level ground.
20. The hand brake should be kept in position and block road wheels as additional safety measure
21. Blades/buckets should be kept low while moving
22. The dozer blades should not be used as brakes except in emergency
23. The ground should be examined for its bearing capacity and general safety especially when operating road roller at the edges of slopes, embankments.
24. The roller should not be moved downhill with the engine out of gear
25. If operating near excavations the following precautionary measures are to be ensured
26. Barricading, edge protection to prevent fall of persons/vehicles over running while reversing etc.
27. Suitable support system and adequate allowance to avoid the danger of side collapsing
28. Experienced signaller /attendant should be always accompanied with operator/driver for proper direction /signal and also to caution others in the working Zone during operation of mobile plant

13.17.4 Concrete Vibrators

- Revolving parts/belt drives should be adequately guarded and Vibrating unit shall be completely enclosed
- Electrically operated concrete Vibrators are strictly prohibited for use. Only petrol/diesel operated units shall be allowed.
- Ensure locking of needle load while inserting needle in to the vibrator,



- Ensure periodical lubrication and maintenance

13.17.5 Concrete Mixture

- Setting of machines on firm and level ground with wheel locked to prevent movement of machine
- Proper instructions and Special precautions are to be ensured to prevent entry in to the danger zone of projectile of bucket while dropping bucket

13.17.6 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.

13.18 WORK AT HEIGHT:

- Guardrails and toe-board/barricades and sound platform conforming to IS:4912-1978 should be provided.
- Wherever necessary, life-line and fall arrestor along with Polyamide rope or Retractable lifeline should be provided.
- Lifeline - Minimum 12mm wire rope shall be used and shall be used.
- 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.
- Format No. **TBG/HSEP14:F22**

**13.19 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 approx. 29.2 cm for ladder up to and including 3 m in length. For longer ladders this width shall be increased at least $\frac{1}{4}$ " for each additional foot of length.

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

13.20 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.
- All lifting operations shall be under the control of a competent "**Lifting Supervisor**" appointed by the contractor.
- 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.

13.21 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.

13.22 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).



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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 Noise level, air and water quality check and illumination level checking in his area of work place and take suitable control measure.

13.23 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 have to be done by 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.

13.23.1 Storage of Hazardous Materials

- Hazardous materials shall be stored on solid bases. Solid bases shall include compacted earth, pallets, concrete or asphalt platforms or paving. Hazardous materials shall be stored, stacked and secured to prevent toppling, spillage or other unintended dislodgement. Hazardous materials shall be stacked in such a manner that an observer standing in the aisle can read their labels and legend.
- Each hazardous material contained hall be identified by a legible or legend as per governing statute, code or regulation. The label shall identify the item, quantity and appropriate warnings.
- Hazardous materials which if brought in contact with each other could react or pose equal or greater hazard than either material stored alone shall be stored at a distance not lesser than twenty feet apart.
- Warnings shall be posted and maintained in a legible condition at all access points clearly defining the specific hazardous nature of the stored materials such as 'Corrosive', 'Flammable', 'Explosive', 'Oxidizing', 'Compressed Gas' or other hazardous nature.
- Where hazardous materials are unloaded in the storage maintained at site in a semi-permanent installation, such installations shall be approved by relevant statutory bodies. Copies of licenses for storage shall be lodged with BHEL/customer. The containers and storage shall display quantities stored with name of the hazardous material and the UN hazard classification label in prescribed color code prominently painted in a conspicuous manner.
- The subcontractor shall inspect the hazardous storages and installations on a daily basis and hall undertake any requisite preventive action necessary to avoid safety risks.

13.23.2 Storage of Flammable Liquids & Explosive Materials

- The subcontractor shall secure flammable and or explosive materials against accidental ignition.
- Storage facilities for flammable liquids such as petrol, diesel kerosene and lubricants as well as the quantities stored shall meet the legal and statutory requirements. These shall be stored in approved fire-resistant rooms with a sump of sufficient volume to contain any spillage.
- The electrical fittings shall be flame-proof and on a strict maintenance schedule. Containers shall be appropriately bonded in receptacles into which low flash point fuel is decanted.
- All flammable liquids shall be kept in a secure fire-resistant store protected from electrical sparks welding sparks open flames and smoking. E.g. Shed made of metal sheets with lock and key arrangements.
- Only such amounts of flammable liquids should be issued as are required for immediate use. Can for carrying flammable liquid should be leak proof and properly stoppered and clearly marked "FLAMMABLE LIQUID".
- Rags soaked in paints, kerosene and other flammable liquids should be disposed of daily under supervision. Large quantities of such rags should not be allowed to accumulate.
- All Diesel fuel storage tanks shall be with bund wall around in order to control any spillage or leakage that may occur.



- “NO SMOKING” signs shall be prominently displayed at all areas where flammable materials are stored.

13.24 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.

13.24.1 Hazardous Waste Management

- If encountered or generated as a result of Subcontractor's activity, then waste classified as hazardous under the “Hazardous Wastes (Management & Handling) Rules, 1989, amendments 2000, 2003” shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.
- Chemicals classified as hazardous chemicals under “Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 of Environment (Protection) Act, 1986 shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.
- The subcontractor shall identify the nature and quantity of hazardous waste generated as a result of his activities and shall follow regulations established by the State Pollution Control Board along with a map showing the location of storage area.
- Outside the storage area, the subcontractor shall place a ‘display board’, which will display quantity and nature of hazardous waste, on date. Hazardous Waste needs to be stored in a secure place.
- It shall be the responsibility of the subcontractor to ensure that hazardous wastes are stored, based on the composition, in a manner suitable for handling, storage and transport. The labelling and packaging is required to be easily visible and be able to withstand physical conditions and climatic factors.
- The subcontractor shall approach only Authorized Recyclers of Hazardous Waste for disposal of Hazardous Waste, under intimation to BHEL.
- Submittal of all environment related documents and records pertaining to monitoring and trend analysis on key parameters such as but not limited to consumption / efficient use of resources such as energy, water, material such as cement, fly ash, iron and steel, recycle/reuse of waste etc. that shall have demonstrated continual improvement in the implementation of Environmental Management System. Failure to do so, BHEL shall impose appropriate penalty as indicated under **penalty clause (Appendix-2)**.

13.24.2 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.



13.24.3 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.

13.24.4 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.

13.24.5 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.

13.24.6 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.

13.25 TRAFFIC MANAGEMENT SYSTEM

13.25.1 Safe Workplace Transport System

- Subcontractor shall deploy Traffic Controllers for directing vehicles that are exiting the sites directly onto the live carriageways. Any vehicles entering the sites must have reverse horn and also that are required to execute reversing maneuvers shall do so under the strict control of a trained and designated banksman.
- Traffic Controllers shall be available for directing vehicles that are exiting the sites directly onto the live carriageways. Any vehicles entering the sites must have reverse horn and also that are required to execute reversing maneuvers shall do so under the strict control of a trained and designated banksman.
- 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.



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- 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.
- Only well maintained and registered vehicles shall be allowed to be used for the removal of excavated spoil from the sites.
- Any vehicles leaving the sites carrying loads which are liable to produce airborne contaminants shall prior to leaving the site securely sheet the load over.
- All drivers shall be medically fit and in possession of a valid driving license.
- No vehicles, which are overloaded, shall be allowed to leave the site
- Maintenance card to be available for each equipment.
- Maintenance plan of vehicle to be provided well in advance.
- 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
- 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.
- Two wheelers/Cycle are not allowed inside the premises.



- Music system is not allowed in any type of Sub-Contractor's construction equipment.

13.25.2 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.

13.25.3 Work Vehicle

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

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

13.25.4 Daily Check by Driver

- There should also be daily safety checks containing below mentioned points by the driver before the vehicle is used.
 - Brakes.
 - Tires.
 - Fuel, coolant and Lube oil level
 - Leakages
 - Steering.
 - Mirrors.
 - Windscreen waters.
 - Wipers.



- Warning signals.
- Specific safety system i.e. control interlocks
- Management should ensure that drivers carry out these checks.

13.25.5 Transportation of Personnel and Materials by Vehicles

- All drivers shall hold a valid driving License for the class of vehicle to be driven and all the valid papers pertaining to driver and vehicle to be submitted to BHEL office before he is allowed to work.
- 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 designated by the stringing foreman.

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

13.25.6 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.

13.26 HEALTH HAZARDS & ENVIRONMENT CONTROL

The subcontractor shall strive to exceed established minimum performance norms in waste and pollution control. All drains shall be identified as clean water and foul water to aid non-armful disposal.

13.26.1 Air Quality

- The Contractor shall take all necessary precautions to minimize fugitive dust emissions from operations involving excavation, grading, and clearing of land and disposal of waste. He shall not allow emissions of fugitive dust from any transport, handling, construction or storage activity
- The Contractor shall use construction equipment designed and equipped to minimize or control air pollution. He shall maintain evidence of such design and equipment and make these available for inspection by BHEL/Customer.
- If after commencement of construction activity, BHEL believes that the subcontractor's equipment or methods of working are causing unacceptable air pollution impacts then these shall be inspected and remedial proposals shall be drawn up by the subcontractor, submitted for review to BHEL and implemented.



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- In developing these remedial measures, the subcontractor shall inspect and review all dust sources that may be contributing to air pollution. Remedial measures include use of additional / alternative equipment by the subcontractor or maintenance / modification of existing equipment of the subcontractor. In the event that approved remedial measures are not being implemented and serious impacts persist, BHEL may direct the subcontractor to suspend work until the measures are implemented, as required under the Contract.
- subcontractor's transport vehicles and other equipment shall conform to emission standards fixed by Statutory Agencies of Government of India or the State Government from time to time. The subcontractor shall carry out periodical checks and undertake remedial measures including replacement, if required, so as to operate within permissible norms.
- The subcontractor shall establish and maintain records of routine maintenance program for internal combustion engine powered vehicles and equipment used on this project. He shall keep records available for inspection by Owner.
- The subcontractor shall cover loads of dust generating materials like debris and soil being transported from construction sites. All trucks carrying loose material should be covered and loaded with sufficient free-board to avoid spills through the tailboard or sideboards.
- The subcontractor shall promptly transport all excavation disposal materials of whatever kind so as not to delay work on the project. Stockpiling of materials will only be allowed at sites designated by BHEL/customer. The subcontractor shall place excavation materials in the dumping/disposal areas.
- The temporary dumping areas shall be maintained by the subcontractor all the times until excavate is re-utilized for backfilling or as directed by BHEL. Dust control activities shall continue even during any work stoppage.
- The subcontractor shall place material in a manner that will minimize dust production. Material shall be minimized each day and wetted, to minimize dust production. During dry weather, dust control methods must be used daily especially on windy, dry days to prevent any dust from blowing across the site perimeter.
- The subcontractor shall water down construction sites as required suppressing dust, during handling of excavation soil or debris or during demolition. The subcontractor will make water sprinklers, water supply and water delivering equipment available at any time that it is required for dust control use. Dust screens will be used, as feasible when additional dust control measures are needed especially where the work is near sensitive receptors.
- The subcontractor shall provide a wash pit or a wheel washing and/or vehicle cleaning facility at the exits from work sites such as construction depots and batching plants. At such facility, high-pressure water jets will be directed at the wheels of vehicles to remove all spoil and dirt.
- The subcontractor shall design and implement his blasting techniques so as to minimize dust, noise, and vibration generation and prevention fly rock.
- Blasting technique should be consistent not only with nature and quantity of rock to be blasted but also the location of blasting.
- The subcontractor shall give preference to explosives with better environmental characteristics.



- The subcontractor shall protect structures, utilities, pavements roads and other facilities from disfiguration and damage as a result of his activities. Where this is not possible, the contractor shall restore the structures, utilities, pavements, roads and other facilities to their original or better, failing which the rectification/restoration work shall be carried out at the risk and cost of the contractor.
- The subcontractor shall submit to the Owner an Air Monitoring and Control Plan under contract specific Site Environmental Plan to guide construction activity insofar as it relates to monitoring, controlling and mitigating air pollution.

13.26.2 Water Quality

- The Subcontractor shall comply with the Indian legislation and other State regulations in existence insofar as they relate to water pollution control and monitoring. A drainage system should be constructed at the commencement of the Works, to drain off all surface water from the work site into suitable drain outlet.
- The Subcontractor shall provide adequate precautions to ensure that no spoil or debris of any kind is pushed, washed, falls or deposited on land adjacent to the site perimeter including public roads or existing stream courses and drains within or adjacent to the site. In the event of any spoil or debris from construction works being deposited or any silt washed down to any area, then all such spoil, debris or material and silt shall be immediately removed and the affected land and areas restored to their natural state by the Subcontractor to the satisfaction of BHEL/customer.
- The Subcontractor shall ensure that earth, bentonite, chemicals and concrete agitator washings etc. are not deposited in the watercourses but are suitably collected and residue disposed-off in a manner approved by local authorities.
- All water and waste products (surface runoff and wastewater) arising on the site shall be collected and removed from the site via a suitable and properly designed temporary drainage system and disposed-off at a location and in a manner that will cause neither pollution nor nuisance.
- The Subcontractor shall discharge wastewater arising out of site office, canteen or toilet facilities constructed by him into sewers after obtaining prior approval of agency controlling the system. A drainage system shall be provided to drain wastewater into the sewerage system.
- Any mud slurry from drilling, tunnelling, diaphragm wall construction or grouting etc. shall not be discharged into the drainage system unless treatment is carried out that will remove silt, mud particles, bentonite etc. The Subcontractor shall provide treatment facilities as necessary to prevent the discharge of contaminated water.
- The bentonite mixing, treatment and handling system shall be established by the subcontractor giving due regard to its environmental impacts. The disposal of redundant bentonite shall be carefully considered whether in bulk or liquid form. The disposal location will be advised and agreed with the relevant authorities.
- The Subcontractor shall take measures to prevent discharge of oil and grease during spillage from reaching drainage system or any water body. Oil removal / interceptors shall be provided to treat oil waste from workshop areas etc.
- The Subcontractor shall apply to the appropriate authority for installing bore wells for water supply at site.



- Due to lowering of potable water supplies and subsequent contamination of ground water, the Subcontractor is not allowed to discharge water from the site without the approval BHEL/customer. Any water obtained from dewatering systems installed in the works must be either re-used for construction purposes and this water may subsequently be discharged to the drainage system or, if not re-used, recharged to the ground water at suitable aquifer levels. The Subcontractor must submit his proposals for approval of BHEL, on his proposed locations of dewatering of excavation and collection of water for either construction re-use or recharge directly to aquifers. The Subcontractor's recharge proposals must be sufficient for recharging of the quantity of water remaining after deduction of water re-used for construction.

13.26.3 Noise

- Industrial deafness is caused by over exposure to high levels of noise from plant, machinery or construction processes. Once a part of a person's hearing has been lost it can never be recovered. Deafness can also lead to further accidents on site with workers being unable to hear warnings and other instructions.
- Workers should not be exposed to sound levels exceeding 90dB (A) unless they are wearing suitable hearing protectors, which effectively reduce the sound level at the user's ear to, or below, 90dB (A).
- The Subcontractor shall carry out noise assessments to establish what noise levels his workers are being exposed to. If excessive noise levels above 90dB (A) are found, then the subcontractor shall introduce a noise control program to protect his workers.
- Consideration should always be given first to reducing the noise level at source. Examples of noise reduction methods include;
 - More efficient silencers on compressors and maintenance of exhaust systems;
 - Fitting acoustic lining to machinery panels;
 - Use of Acoustic screens and sheds to protect other workers;
 - Using noise reduced tools;
 - Sighting of noisy plant away from the workplace
- Where it is not possible to reduce the noise level to which the worker is exposed the Subcontractor shall provide the workers with suitable and sufficient hearing protection to protect them. The Subcontractor shall ensure that all the workers affected are properly trained in the use of the Hearing Protection and that adequate supervision is provided to ensure its proper use.

13.26.4 Ventilation in Shafts, Tunnels & confined spaces

- The subcontractor shall ensure that workplaces are ventilated with at least prescribed amount of clean or cleaned fresh air of a suitable temperature, especially where toxic or irritating substances are present such as welding, vehicle exhaust fumes, irritating dusts, organic solvents or any other inimical atmosphere creating health hazards or safety.
- The subcontractor shall assign a Competent Person to perform all air monitoring required to determine proper ventilation and quantitative measurement of potentially hazardous gases. The atmosphere in all confined



spaces/ underground areas shall be tested quantitatively by the subcontractor for toxic gases, dust, vapor, mist, and fumes as often as necessary to ensure that prescribed limits given below are met. Quantitative tests for methane shall also be performed in order to determine whether an operation is potentially hazardous. For every test carried out the subcontractor shall maintain a record of the air quality the location, date, time, substances and amount monitored. These records shall be made available to BHEL's Representative on demand.

- The ventilation system shall be adequate to maintain circulation of air in all parts of confined space/ tunnels and shafts and following conditions shall be taken care of.
- Air shall be considered unfit for workmen to breathe if it contains any of the following:
 - Less than 19.5% oxygen by volume.
 - More than 0.005% carbon dioxide by volume.
 - More than 0.01% carbon monoxide by volume.
 - More than 0.001% hydrogen sulphide by volume.
 - More than 0.005% oxides of nitrogen.
 - More than 0.5% of methane at any place in the tunnel.
 - More than 0.0002% of aldehyde.
 - Any other poisonous gas in harmful amounts.
- The Subcontractor will ensure the supply of fresh air to all confined space/ underground work areas in sufficient amount to prevent any harmful accumulation of dust, vapor or gases. The subcontractor shall provide at least 4.25 m³ of fresh air per minute per employee underground.
- No inflammable materials or oil and grease shall be stored inside the confined space or near the tunnels or shafts and all combustible rubbish from the tunnel or shaft shall be promptly removed. A regular analysis of the gases inside the tunnel should be done with advance of the tunnel.
- Tools made of light alloys (such as Al and Mg) are not to be used inside the tunnel. They may cause sparks.
- Regular checking of gas at the faces shall be done before each shift. This should be carried out using a multi gas detector.
- Motive power other than electric, shall not be used without prior authorization from BHEL/customer's representative. No petrol engines shall be used underground. Diesel engines shall not be used underground unless equipped with a filter that will remove all carbon monoxide and oxides of nitrogen. Such filters shall be tested by the Subcontractor's mechanic and more frequently by the plant operator.

13.26.5 Vibration level

In locations where the alignment is close to historical / heritage structures, the subcontractor shall prepare a monitoring scheme prior to construction at such locations. This scheme for monitoring vibration level at such historical / heritage sites shall be submitted to BHEL for his approval. This scheme shall include:

- Monitoring requirements for vibrations at regular intervals throughout the construction period.
- Pre-construction structural integrity inspections of historic and sensitive structures in project activity.



- Information dissemination about the construction method, probable effects, quality control measures and precautions to be used.
- The vibration level limits at work sites adjacent to the alignment shall conform to the permitted values.

13.27 RADIOGRAPHY:

Wherever the process requires examination by radiography,

- BHEL /subcontractor shall use approved radiography subcontractor for the work on site.
- Site radiography shall be carried out after advance notification to the HSE officer and client personnel. All radiography on the site shall be subject to receipt of client/BHEL work permit and shall normally be performed outside of normal working hours. No ionising radiation sources shall be left unsupervised whilst on site.
- A minimum of 2 qualified persons from the radiography subcontractor are required for each activity involving ionising radiation. Adequate warning signs shall be posted on barriers and the work area shall be marked off at a safe distance with tape or hard barricades prior to starting radiography by concerned job sub-subcontractor.
- All personal executing radiography operations shall carry calibrated radiation monitoring devices at all times.
- The storage of radioactive sources on the site is prohibited, they shall be present only for the time required to complete the work. Whilst not in use, radiation sources and their container shall be secured in a safe location with adequate warning signs displayed as per AERB guidelines.

13.28 COMPRESSED GAS:

- All cylinder valves shall be closed when any work is finished and when any cylinders are empty or being moved.
- Valve protection caps shall be placed and secured properly before gas cylinders are transported, moved or stored.
- Compressed gas cylinders shall be secured in an upright position with chain or other appropriate means.
- There shall be flash-back arrestors conforming to IS-11006 at both cylinder and burner ends.
- All cylinders shall be kept at a safe distance from welding or cutting operations or shielded for safety.
- All cylinders shall be placed where they cannot become part of the electrical circuit.
- Oxygen and acetylene shall not be stored together.
- Oxygen and fuel gas regulators, hoses and associated equipment shall not be altered and shall be in proper working order while in use.
- Compressed air can be extremely dangerous if allowed to penetrate the skin. As such, the use of compressed air to clean off yourself or other workers shall be strictly prohibited.

**13.29 CONFINED SPACE ENTRY:**

A hazard assessment must be completed prior to any entry into a confined space. Personnel who enter confined spaces must be trained per role. Confined spaces must be posted at the entrance with similar type wording "DANGER - Do Not Enter – Confined Space - Permit Required".

Once a hazard assessment is completed the Subcontractor/Subcontractor requirements are:

- All confined space activities must be reviewed with the Subcontractor's Safety officer prior to commencement of the work. Confined space permits are required as part of the entry process.
- All shall be given a pep-talk by the concerned supervisor giving details of the jobs to be performed, hazards and risks associated and mitigation measures. The persons shall be provided with all necessary PPEs including respiratory masks, if necessary.
- A proper and accessible means of exit and exit shall be ensured before entry.
- The space shall be illuminated with 24V lamps only.
- All gas cylinders/welding machines shall be preferably kept outside the confined space. Even cutting torches/ electrode holders shall be kept outside, when not in use, if possible.
- All electrical equipments shall be connected to ELCB/RCCB.
- The confined space must have an attendant for monitoring the activities within the space. This individual must be in constant communication with work crew inside the space. The attendant must know who is inside the space, that must be documented. The attendant must not have any other responsibilities than monitoring the space. He/she may not enter the space to perform rescue unless relieved of the duties as an attendant.
- Adequate ventilation must be provided to establish and maintain a stable atmospheric environment. Air circulation shall be ensured. Fumes/dusts generated inside shall be extracted. Ventilation systems must be designed for use in confined spaces.
- The confined space shall be cleared off all cables, machines, cylinders, materials at the end of the day's work as far as possible.

Once the confined space work has been completed, the entry permit must be cancelled. A copy of the cancelled permit must be given to the HSE Manager

**13.30 SAFETY NETS:**

- All safety net systems shall meet the requirements of Indian Standard (IS: 5175)
- Safety net mesh openings shall have a maximum size of 6 inches' x 6 inches and be secured at each crossing to prevent elongation of the opening. All nets must meet IS: 5175 standards.
- Safety nets must be installed with sufficient clearance to prevent contact with the surface or structures under them



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- Safety nets shall be installed as close as possible to the working level but in no case more than 25 feet below the working level.
- The safety nets shall extend out at least 8 ft. from the side of the open edge.
- Material, equipment and other items that fall into the net are to be promptly removed.
- Safety nets are to be inspected before use and then daily for wear or damage caused by falling materials.
- Safety net installation shall be inspected by an authorized person.
- Safety nets must be installed below the working decks of the super structure for protection from falls of personnel and material.
- Safety nets and safety net installations must be drop-tested at the jobsite:
 - After initial installation and before being used.
 - Whenever relocated.
 - After major repair.
- At 6-month intervals if left in one place.
- The drop test consists of a 400-pound bag of sand 28-32 inches in diameter dropped into the net from the highest surface at which employees are exposed to fall hazards, but not from less than 42 inches above that level.

13.31 TESTING, CHARGING AND COMMISSIONING:

- There are various activities involved prior to commissioning- the major ones are –Equipment Test, System tests, Charging, no load tests and commissioning on full load.
- These activities shall be personally supervised by the site executive along with the commissioning engineer. The readiness of upstream and downstream system shall be ensured before taking up. These shall be handled strictly by the authorised persons only and the team shall be suitably briefed about the activity including hazards & risks involved and control plan by the concerned executive-in-charge before start. Entry of persons to the area of activity shall be suitably restricted and the emergency functions like Ambulance, first aid centre and Fire station shall be intimated about the plan well in advance. Tag-in/ Tag-out shall be in place while charging transformer and whenever necessary. Electricians with valid wiremen license only shall be permitted to work on power lines. The area and the passage shall be adequately illuminated.

14.0 GENERAL DISCIPLINE:

Workmen under influence of liquor or drug or any other intoxication shall not be permitted to enter and to work inside project. Workmen shall not be permitted to smoke in work area. None shall be permitted to carry any arms or ammunitions. The workmen shall report to work on time and follow supervisor's instruction. Use of cell phone particularly in hazardous jobs shall not be permitted such as height work, crane operation, construction vehicle or machine operation, etc. Horseplay, willful violation of rules, theft act, harassment or intimidation (including sexual harassment) shall be dealt with suitable disciplinary action including cancellation of gate pass and barring entry in the project. Such persons shall be subjected to physical frisking or alcohol/drug test at random by security and security shall be authorized to take



appropriate disciplinary action against any delinquent employee including forced ousting for the day or other measures, the security staff deems fit. If any such employee returns to work, he shall be put through induction training once again.

15.0 EMERGENCY PREPAREDNESS AND RESPONSE

- Emergency preparedness and response capability of site shall be developed in line with Rule 36 of BOCW Act, as per Emergency Preparedness and Response plan, **TBG/HSEP:06** issued by HQ.
- Availability of adequate number of first aiders and fire warden shall be ensured with BHEL and its subcontractor
- 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.
- 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 centre shall be developed at site with trained medical personnel and ambulance
- Emergency contact numbers (format no. **TBG/HSEP14:F14**) 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 (Format no. **TBG/HSEP14:F19**) 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. After each mock drill, checklist no. **TBG/HSEP14:F07** and **TBG/HSEP06:F04** is to be recorded.

16.0 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.



16.1 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.

16.2 INSPECTION OF PPE

- PPEs shall be inspected by HSE officer at random once in a week as per format no. **TBG/HSEP:14-F08** and **TBG/HSEP:14-F11** for its compliance to standard and compliance to use respectively and any adverse observation shall be recorded in the PPE register.
- The applicable PPEs for carrying out particular activities are listed below.

16.3 INSPECTION OF TOOLS & PLANTS (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 for its healthiness and maintenance. Format No. **TBG/HSEP14:F12**

16.4 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. **TBG/HSEP14:F06** 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 subcontractor 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.

16.5 INSPECTION ON HEIGHT WORKING

- Inspection on height working shall be conducted daily by supervisors before start of work to ensure safe working condition including provision of
 - Fall arrestor



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- Lifelines
- Safety nets
- Fencing and barricading
- Warning signage
- Covering of opening
- Proper scaffolding with access and egress.
- Illumination
- Inspection of height working shall be conducted once in a week by HSE officer (Format no. **TBG/HSE14:F22**)
- Medical fitness of height worker shall be ensured.
- Height working shall not be allowed during adverse weather.

16.6 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.
- Inspection during welding and gas cutting operations shall be carried out by HSE officer once a month as per format no. **TBG/HSEP:14-F04**.
- 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.

16.7 INSPECTION ON ELECTRICAL INSTALLATION / APPLIANCES

- Ensure proper earthing in electrical installation
- Use ELCB/RCCB 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. **TBG/HSEP:14-F03**.

17.0 HSE PERFORMANCE

HSE performance of the subcontractor shall be monitored as per format no. **TBG/HSEP07:F02**

- Suitable HSE reward system shall be developed at site level to promote HSE compliance amongst workmen.
- To decide HSE reward, performance towards HSE shall be evaluated for workmen and it shall be awarded regularly in public gathering.
- If HSE practices and HSE records of the subcontractor are up to the mark and to the satisfaction of safety department of BHEL, issuance of an appreciation certificate to recognize the safety performance of the subcontractor may be considered by BHEL after successful completion of the job.

Refer: TBG/HSEP07 :- PERFORMANCE MEASUREMENT



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18.0 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, favourably 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 defence 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.
- 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.
- Subcontractor shall submit a Weekly HSE Report to BHEL site in-charge in Format no. **TBG/HSEP14:F26**.

19.0 HSE NON-COMPLIANCE & PENALTIES

- If an individual (be it a worker, a supervisor or a manager) is given the required PPEs and/or required safety provisions are in place and due to his/her behavioural issue or unsafe act, he/she violates the safety norms or do not use PPE as they are supposed to, penalties shall be imposed on subcontractor for such non-



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compliance as per format no. **TBG/HSEP14:F15**. The subcontractor is supposed to transfer such nominal penalties to respective person/individual. 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.

- Penalties for non-adherence, non-abidance, or non-compliance with the HSE-related legal and contractual requirements, detailed in **Appendix-02** shall be imposed in accordance with the rates specified therein.
- If customer or statutory and regulatory bodies impose any penalty on account of HSE, due to the non-compliance of the subcontractor the same shall be passed on to them, subject to limits mentioned in special conditions.
- The penalty amount shall be recovered by Site Finance department from subcontractor from the RA/Final bill. 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:

Penalty Rate Sheet

S. N.	Non-Compliance	Penalty Amount (Rs.)	Remarks
1	Safety Shoes/Gum boot/Safety Helmet/face Shield	100	
2	Dust/Fume Mask/Aprons/leg guards	100	
3	Goggle for grinding/chipping etc works	100	
4	Hand gloves (Cotton/Leather/Rubber)	100	
5	Safety Belt at height (>3m)	300	
6	Life Line rope for vertical/horizontal movement	300	
7	Improper scaffolding/Platforms	500	
8	Benching/Slope Cutting of deep pits (>1.5m)	500	
9	Barricading	500	
10	Non-availability of Signage/Display Boards	200	
11	Un-authorized driving	500	
12	Earthing of electrical utilities	200	
13	Use of unsafe electrical utilities/cables/distribution board	200	
14	Absence of fire-extinguishers	200	
15	Safety net at heights	500	
16	Uncover/unguarded floor holes	200	
17	Absence of proper ladder	300	
18	Unguarded moving machineries	200	
19	Non-sprinkling of water on dust of roads/workplaces	200	
20	Inadequate Illumination at workplace and path	500	
21	Unavailability/improper first aid box	200	
22	Unavailability of stretcher	200	
23	Unavailability of emergency vehicle (4wheeler)	300	



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24	Potable Water	200	
25	Urinals/toilets (Male/Female separate)	500	
26	Creche for children (if female workers deployed)	500	
27	Rash driving	500	
28	Unsafe elevated work platform/passage	500	
29	Unsafe/improper use of gas cylinders	200	
30	Housekeeping	100	
31	Unavailability of signal man for cranes/hydra/TM etc.	200	
32	Unavailability of Supervisors	200	
33	Others	500	
34	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000	
35	Incident Resulting in Partial Loss in Earning Capacity	2,00,000*/-	per victim#
36	Fatal Incident Resulting in total loss in Earning Capacity	5,00,000*/-	Per victim for 1st time#

* or as per the contract conditions

Legend:-

#: 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 but not explicitly listed above shall be subject to a fine as deemed fit by BHEL, whose decision shall be final and binding. All such penalty amounts will be directly deducted from the running bills of the subcontractor. The funds collected from these penalties shall be utilized exclusively by BHEL to reward employees adhering to safety rules, to purchase safety appliances, and to support ongoing safety activities at site.

20.0 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 inspection and monthly report shall be submitted to BHEL site management.
- All non-conformities and observations on HSE, identified during routine inspections and internal or external HSE audit shall be disposed-off by subcontractor/site in a time bound manner and reported back the implementation status. (Format no. **TBG/HSEP14:F29**)
- Corrective action and Preventive action on HSE issues raised by certification body issued by HQs shall be implemented by site and reported to Site management.



- The auditor shall inspect the site after 14 days of conducting initial audit for checking the adequacy of implementation of items maintained under priority 1 by the contractor and shall submit a conformity / non-conformity report to the Owner with a copy to the contractor.
- The auditor shall again inspect after 28 days of conducting initial audit for checking the adequacy of implementation of items mentioned under priority 2 by the contractor and shall submit a conformity / non-conformity report to the Owner with a copy to the contractor.
- In case of non-conformity of items mentioned by auditor, the Owner shall take necessary steps including stoppage of work and or imposing any penalty for getting the item implemented.

21.0 MONTHLY HSE REVIEW MEETING

- Site shall hold HSE review meeting every month to discuss and resolve HSE issues of site and improve HSE performance. It will also discuss the incidents occurred since previous meeting, its root cause and Corrective action and Preventive action. The agenda is given below:
 - Implementation of earlier MOM
 - HSE performance
 - HSE inspection
 - HSE audit and Corrective Actions
 - HSE training
 - Health check-up camp
 - HSE planning for the erection and commissioning and installation activities in the coming month
 - HSE reward and promotional activities
- The meeting shall be chaired by Site In-charge/BHEL, convened by HSE coordinator and attended by all Engineer In-charges, Site In-charge of Subcontractor and HSE officer of Subcontractor.
- MOM on the discussion will be circulated to the concerned for implementation.
- Refer format no. **TBG/HSEP14:F23 & TBG/HSEP14:24**

22.0 VISITORS AT SITE

- All visitors to site shall report to the subcontractors site offices where they shall be issued with appropriate Personal Protective Equipment if they are to go out onto the site work areas. Any visitors going out to the site work areas shall be accompanied at all times by a member of the site personnel.



23.0 SPECIAL CONDITIONS

The following **special conditions** shall also apply to, and form an integral part of, the execution of this HSE Plan for site operations.

23.1 STANDARD CONDITIONS OF SUBCONTRACTOR MOBILIZATION

- Attend HSE familiarization program at TBG-HQ with his site management team. This will be a half day long awareness session on HSE requirements and compliances which the agency is supposed to fulfil during contract execution at site. The session shall be taken by TBG HSE department on intimation by TBSM. Minutes shall be prepared and shall be jointly signed
- Request for issuance of Form-V in their name from customer on behalf of BHEL
- Get the Labour license registration from concerned Labour office.
- Get the BOCW Registration done along with the labour license.
- Get the labourers registered under BOCW for benefits provided by the office.
- Maintain legal registers of labours as per BOCW requirement.
- Ensure payment of wages to labours not less than the current minimum wages applicable in the premises.
- Ensure PF deduction of labourers and submission of proof to BHEL office (Wage sheet, ECR & Challan copies) duly signed.
- Submit Labour Payment Certificate by 10th of Every month.
- File timely returns, get renewals done and submit a copy to BHEL office.
- Get Employees Compensation policy (also known as WC Policy) before the start of work, covering all the labourers and staff,
 - Policy should clearly mention the project name and location,
 - should be as per labour class and wage.
 - Should cover all the height workers with clear mention of Max. height.
 - Policy should be submitted to BHEL office and renewal before expiry.
- Issue employment card and identity card to every worker.
- Submit filled and signed RA bill checklist with each bill
- **Judiciously include the cost against safety related expenditures while bidding.**
- Subcontractor shall ensure submission of identity and address proof (preferably Aadhaar card/Voter card) and mobile number of the person to be mobilized at site well in advance.
- Subcontractor shall ensure that the person joining the site has no criminal record.
- Subcontractor shall also ensure the health check-up and induction training is done and the person is covered under employee's compensation insurance policy before he is actually engaged in the work.
- I-card in the prescribed format of BHEL/Customer is mandatory for all the persons of the subcontractor.



Note: If subcontractor fails to comply with any of the above provisions, BHEL shall not allow the person(s) to enter and work in the project premises.

23.2 LABOUR WELFARE AND MEDICAL FACILITIES

23.2.1 Labour Welfare

- Declaration of normal working hours and weekly off day, Payment day & intervals
- Paid rest days & holidays.
- Payment of overtime @ twice the normal wage rate.
- No labour shall be allowed overtime >12 hrs/week, limited to 48 hrs/month.
- Ensure to provide a dedicated rest and lunch area.
- Separate Male/Female Toilets and Lavatories, clearly marked in local Language and provided with signage.
- Cold and clean drinking water facility suitable to strength and near workplace
- Creche for children of female workers as per BOCW requirements
- Arranging labour accommodation in hygienic environment with the facilities of Water (Drinking, Sanitation), washing and bathing area, toilets in sufficient nos., clean and safe camps and surrounding, access road, well illuminated camp and roads, display of emergency contacts, transport facility, first aid center, 24x7 Security etc.
- Cooking and eating place to be maintained in hygienic condition
- General awareness of health and hygiene.

23.2.2 Medical facilities and Health centres

- Availability of first aid box at every work location and agency office, with contents as per BOCW requirement.
- Emergency vehicle (four-wheeler) at work place with display of driver name and number
- Availability of stretchers in emergency vehicle and in office.
- Availability of trained first aider
- Medical check-up for all the supervisors and workers including cooks, at the time of induction and annually thereafter.
- Tetanus Vaccination for all in every six months.
- Identification and tie-up with nearby reputed hospital(s) and display of their contact number in Emergency contact list.

**23.3 DEPLOYMENT OF SAFETY PERSONNEL BY SUBCONTRACTOR**

Deployment of safety personnel may be done as per the conditions prescribed below. This shall be payable at the approved basis of monthly rates as per **Annexure-1**. The qualification and experience criteria of each type of safety personnel is given in the table below:

Type	Safety personnel	Minimum Qualification & Experience
A	Safety officer	Qualification: A recognised Degree or Diploma in Engineering with a recognised Degree or Diploma in Industrial Safety. Experience: in building and other construction works. - Three years for degree in engineering - Five years for diploma in engineering
B	Safety supervisor	Qualification: A recognised degree with Diploma in Industrial Safety Experience: Minimum 3 to 4 years of experience on project site.
C	Safety steward	Qualification: Minimum 10+2 and a certificate course in Safety Experience: field experience in construction safety.

- Safety personnel deployment and extensions are subject to actual site requirements and shall require a prior formal approval from the Sector Head/concerned GM by the BHEL Site In-charge.
- Total worker strength mentioned in remarks column in above table refers to the overall manpower deployed at site under BHEL, not to the manpower of any individual subcontractor.
- Subcontractor shall ensure deployment of safety personnel as per the stipulated qualification and experience on the direction of BHEL site-in-charge.
- The subcontractor shall deploy safety personnel within 15 days of formal written intimation by BHEL.
- The subcontractor shall submit the credentials and present the candidate to the BHEL Site In-Charge for verification and assessment of suitability prior to deployment.
- BHEL shall have the right to accept or reject the candidate upon verification and assessment. Subcontractor shall submit credentials of another suitable candidate within the original stipulated time of 15 days.
- BHEL site in-charge may seek help of HSE-HQ in verification and suitability assessment of the candidate.
- The deployed safety personnel by subcontractor shall functionally report to BHEL Site In-Charge for daily duties and work assignments.
- Subcontractor shall demobilize the safety personnel and terminate the services on the written instruction of BHEL Site in-charge on an advance notice of not less than a month.
- The subcontractor shall be solely responsible for fulfilling all legal and contractual obligations without additional cost to BHEL. This includes, but is not limited to: applicable minimum wages, medical services, PPE, leave and overtime compensation, transportation, accommodation, and catering.



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- k) Additionally, the subcontractor shall provide all necessary administrative resources, including gate pass processing, seating arrangements, secure record storage, stationery, and continuous access to computing and printing facilities.
- l) The safety personnel may be assigned the responsibilities of one or more agencies other than the employing agency as per requirement.
- m) He shall perform his duties in line to meet the requirements of TBG HSE MANAGEMENT SYSTEMS, such as; but not limited to:
 - o Ensure compliance to all legal, regulatory, and contractual HSE obligations including customer's contractual requirements.
 - o Implement and monitor BHEL TBG's HSE Manual, Standard Procedures, Formats, Checklists, and Operational Control Procedures (OCPs) in their true spirit within the agency's work area.
 - o Ensures daily toolbox talks, job safety analyses and timely incident investigations.
 - o Maintain and submit safety records, compliance reports, and participate in HSE meetings and audits.
 - o Coordinate with the BHEL site HSE in-charge and lead in organizing HSE campaigns, health check-ups, periodic mock drills and participate in regular HSE performance reviews.
 - o conducting site safety inspections, induction trainings and other HSE training and awareness programs,
 - o Ensure other such compliances as per this document on regular basis.

The sub-contractor shall ensure that the Safety personnel have adequate authority of decision-making and access to resources including workforce to implement safety measures effectively.

23.4 SAFETY ORGANISATION, SAFETY COMMITTEES AND MEETINGS

Safety officer shall administratively report to the head of the projects of the sub-contracting agency. He shall functionally report to BHEL Site In-charge. Similarly, functional reporting of all the safety supervisors & safety stewards shall be to the safety officer directly.

A **safety committee** shall be formed including members from different agencies, BHEL and customer covering at-least 50% participation from workers. Safety committee shall meet on monthly basis or as may be decided by customer, outcomes shall be complied as committed.



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23.5 VEHICLE / MACHINERY DOCUMENTS AND OTHER SAFETY REQUIREMENTS

SN	Required Docs. / compliances	Crawler mounted boom cranes/Tyre mounted telescopic cranes	Loader backhoe (JCB), crawler excavators (Poclain), Farana lifters/ cranes	Tipper, Transit mixtures/Self-loading concrete mixture (Ajax Fiori), tractors	Cars, Taxis, scooters, motor cycles and other public carriers	Man-lifts (Cherry pickers), Scissors Lifts
1.	Valid third-party inspection certificate.	Yes	Yes	-	-	Yes
2.	Valid Insurance policy	Yes	Yes	Yes	Yes	Yes
3.	Registration Certificate	Yes (if tyre mounted)	Yes	Yes	Yes	Yes (for truck mounted)
4.	Valid Pollution under control (PUC)	Yes (if applicable)	Yes (if applicable)	Yes (if applicable)	Yes (if applicable)	Yes (for truck mounted)
5.	Fitness certificate from RTO	Yes (if tyre mounted)	Yes	Yes	-	Yes (for truck mounted)
6.	Driver/Operator's valid license	Heavy License (LDRXCV/HMV)	Heavy License (LDRXCV/HMV)	Heavy License (HMV)	Yes (As applicable)	Yes (for truck mounted)
7.	Operators experience and/ or competency certificate.	Yes	Yes	-	-	Yes
8.	Swing horn	Yes	-	-	-	Yes
9.	Reverse horn	Yes	Yes	Yes	-	Yes
10.	Boom aviation light	Yes	Yes (if applicable)	-	-	Yes
11.	Approved Load chart (inside cabin)	Yes	Yes (if applicable)	-	-	-



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SN	Required Docs. / compliances	Crawler mounted boom cranes/Tyre mounted telescopic cranes	Loader backhoe (JCB), crawler excavators (Poclain), Farana lifters/cranes	Tipper, Transit mixtures/Self-loading concrete mixture (Ajax Fiori), tractors	Cars, Taxis, scooters, motor cycles and other public carriers	Man-lifts (Cherry pickers), Scissors Lifts
12.	Fire extinguisher (inside cabin)	Yes	Yes	Yes	-	Yes
13.	First aid kit (inside cabin)	Yes	Yes	Yes	Yes	-
14.	Boom angle indicator	Yes	Yes (if applicable)	-	-	Yes (if applicable)
15.	Hook Latch	Yes	Yes (if applicable)	-	-	-
16.	Reflector strips on around cabin and on boom	Yes	Yes	Yes	-	Yes
17.	SLI+Load Limit Switch	Yes	-	-	-	-

Note:

1. Additional requirement, if any, as per customer contract conditions shall be complied with as well.
2. No one shall ride man-lift bucket without safety belt, safety shoes, helmet and reflective jacket.
3. Not more than 3 persons at a time will board in bucket of man-lift (without any heavy materials) including operator.
4. Operator will not leave the machine while persons are elevated and working.
5. No one other than the authorised operator will operate the man lifts/Scissors lifts.
6. Hydra cranes are not allowed. Contractors must instead use Farana cranes with that meet safety standards for stability and operator visibility.
7. Farana and other lifting cranes must have operational safe load indicator (SLI) and load limit switch as standard attachment.

**23.6 GENERAL GUIDELINES REGARDING SAFETY DURING WORKS AT SITE -**

- ❖ Any accident on the construction site which causes loss of life or disables the person from working for a period of more than 10 days, shall be reported in writing to:
 - Regional Labour Commissioner
 - State BOCW Inspector / Board to which the person is registered as beneficiary.
 - Director General of Factory Advice Service and Labour Institutes (DGFASLI), Mumbai
 - Employees' Compensation Commissioner or ESIC Branch Office as applicable
 - Nearest Police Station
 - District Magistrate (in case of fatality)
 - The next of kin or relative of the person.
- ❖ Fatal accidents within 4 hours and major accidents within 72 hours of occurrence must be reported to authorities as above and client. Hiding facts like incidents, accidents, submitting fake/forged reports/certificates shall also attract penalty/ notice or both.
- ❖ All PPEs shall conform to relevant BIS/IEC/EN standards in performance, not merely carry an ISI mark. For helmets, DGMS-approved models should be preferred, 100% compliance is mandatory.
- ❖ Over speeding of vehicles shall attract penalty/notice and recurrence will attract debarring from entry into project premises.
- ❖ Only approved third party agencies shall be allowed to inspect the machines, T&Ps. Reports shall directly be sent to BHEL/customers by the third parties.
- ❖ Insurance and TPIs to be renewed before expiry. Machines, T&Ps shall not be allowed to work if renewal delayed. Continuity of EC policy to be maintained religiously by the respective agencies.
- ❖ Agency shall submit the status report of his labour license, BOCW registration, EC Policy, insurance & TPI certificate's validity on monthly basis with list of machineries and T&Ps
- ❖ Sub-contractors shall also maintain a buffer stock of all the PPEs in at least 20% excess to the present strength of the work force.
- ❖ Agencies shall be responsible for the compliance of the above requirements. Failure in one or more clauses/area shall attract a notice or monetary penalty or a combination of both.

23.7 PENAL PROVISIONS

- a) Subcontractor shall be responsible for ensuring HSE compliances with respect to the applicable legal and contractual obligations. The performance of the subcontractor with respect to HSE compliances shall be evaluated by BHEL on monthly basis (format no. **TBG/HSEP07:F02**).
- b) Non-compliance with any stipulated HSE requirement shall attract a notice and/or a monetary penalty. Such penalties shall be in addition to any medical expenses incurred for treatment of victims or compensation payable to the affected persons or their families, including amounts covered under insurance policies (Employees' Compensation Policy / Group Insurance). Monetary penalties shall be recovered from the next bills or from the EMD/SD of the subcontractors, as applicable.



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- c) In addition to the above, BHEL has the right to suspend/debar the subcontractor from participating in future tenders for a period of one year from the date of second fatal accident.
- d) Upon the first incident, BHEL Site In-charge shall issue a notice to the agency, cautioning that suspension/debarment will be considered in the event of a second fatal incident.
- e) Post mobilization, the subcontractor shall consult with the BHEL site in-charge to understand and acknowledge the customer's penal provisions that may be levied upon or passed on to the subcontractor in the event of any non-compliance or incident.
- f) Penal provisions are detailed in Appendix-2 (as per the customer contract conditions). However, the upper limits on penalty amounts for any violations will be governed by the following sections and sub-sections.

The penalties shall be applicable as below:

23.7.1 Penal Provisions for Non-Compliances and Safety Violations.

- a) Up to ₹1,000/- per person/incident per day for HSE related non-compliances and safety violations (**Refer- Clause 19** , above).
- b) Three times consecutive penalty on the same person for the same reason shall debar him/her from working into the TBG project premises.
- c) In case a penalty is imposed by the customer on account of non-compliances and safety violations, the higher of the two amounts shall be recoverable from the subcontractor.

23.7.2 Penal Provisions for Non-deployment of safety personnel.

- a) Deployment of safety personnel will be done on formal written communication from BHEL. In case the contractor fails to deploy the required safety manpower within the stipulated time, a recovery of **₹50,000/-** per person per month or part thereof shall be made from the next bill, irrespective of the category of safety manpower (safety officer, safety supervisor or safety steward), notwithstanding availability of schedule of rate item for deployment of safety personnel in the contract which shall be operated as per contract provisions.
- b) Upon failure to deploy the required safety personnel by subcontractor, BHEL reserves the right to deploy a full-time qualified Safety Officer through its existing Safety Consultancy Rate Contract and assign duties of any category of safety personnel. The cost incurred on such deployment shall be recovered from the subcontractor at the higher of the actual expenditure incurred by BHEL or **₹50,000/-** per person per month.
- c) If a safety personnel is deployed by BHEL on behalf of the subcontractor, the person shall remain deployed for a minimum period of two months from the date of deployment and recovery shall be made accordingly. If the subcontractor mobilizes his safety personnel during this period (two months), no payment against that item shall be admissible by BHEL.
- d) Continuous absence of deployed safety personnel for more than **10 days** shall be treated as demobilization, penalty shall be imposed on a pro-rata basis for the entire period of absence.



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- e) Any penalty imposed by the customer on account of non-deployment of safety personnel, attributable to sub-contractor shall be recoverable from the subcontractor.
- f) The deployment of safety personnel by BHEL on behalf of subcontractor will not absolve him from legal and contractual obligations.
- g) Instructions of safety person engaged by BHEL directly or indirectly (through other agencies/subcontractors) to be followed by the subcontractor.
- h) BHEL Site In-charge shall issue a written intimation to the subcontractor with copy to TBSM, regarding deployment of safety personnel on behalf of the subcontractor. The subcontractor shall provide a written acknowledgement of the same.

23.7.3 Penalty Provisions on Major/disablement/Fatal accidents.

- a) Major injuries or accidents causing 25% or more permanent disablement: **₹2,00,000/-** per incident. The cumulative penalty amount shall be limited to 5% of the original contract value.
- b) Fatality or permanent disability with total loss of earning capacity: **₹5,00,000/-** per incident irrespective of contract value.

23.7.4 Customer Imposed Penalties

If the penalties **imposed by the customer** for major/disablement/fatal accidents, attributable to subcontractor are **higher** than the limits mentioned in **clause 23.7.3** above, then recoveries shall be made as per the following conditions:

- a) **Contracts up to ₹1 crore value:** Clause no. **23.7.3** shall apply.
- b) **Contracts above ₹1 crore to ₹5 crore value:** Customer penalty shall be transferred to subcontractor, subject to a liability of the higher of **Rs. 5 lakh** or **3%** of original contract value per person/per incident but not exceeding the actual penalty imposed.
- c) **Contracts with value of more than ₹5 crore:** Customer-imposed penalty shall be transferred to the subcontractor, subject to a liability of the higher of **₹15 lakh** or **2%** of the original contract value per person/per incident, but not exceeding the actual penalty imposed.

23.8 CREATION OF COMMON HSE FACILITIES ON CONTRIBUTION BASIS AT SITES

All health, safety and welfare provisions stipulated under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and allied rules shall be adequately and timely complied with by the subcontractor. These include, but are not limited to, arrangements for clean drinking water, toilets and urinals, safe electrical installations, periodic health check-ups of workers, operators and supervisors, medical examination of height workers, tetanus vaccination, induction training and provision of mandatory and job specific PPEs. In the event of non-compliance or delay in fulfilling these obligations,



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BHEL reserves the right to arrange the same on behalf of the subcontractor, along with applicable overhead charges.

Scope of arrangement of facilities at sites primarily lies with contractor engaging labour, governed by scope distribution provided as **Annexure-A “HSE SCOPE MATRIX FOR UNLOADING PACKAGE AT ± 800 KV BF HVDC”**. However, BHEL site in-charge shall decide to create certain HSE facilities involving fixed or recurring expenditure which shall be operated on a contributory basis among the running contracts at site. The contribution shall be determined proportionately based on either the manpower strength or the original contract value of each subcontractor, as decided by the site management.

The facilities to be covered under this arrangement may include **Annexure-A “HSE SCOPE MATRIX FOR UNLOADING PACKAGE AT ± 800 KV BF HVDC”**:

- Dust suppression arrangements,
- Ambulance van (Advanced Life Support type),
- Periodic visit of a qualified medical officer,
- Engagement of trained first-aid person or a qualified nurse for the medical/first-aid centre.
- Drinking water facility with periodic cleaning arrangement.
- Toilet/urinal facility with daily cleaning arrangement.
- Rest Shed arrangement for labours at site.
- Arrangement of Fire Fighting equipment for common areas.

The contribution per contractor per month shall not exceed ₹20,000 (Rupees Twenty Thousand only). Any balance cost beyond this limit shall be borne by BHEL.

24.0

FORMATS

SN.	Format Name	Format No.	Rev. No.	Periodicity	Ref. Clause
1	HSE Training Calendar for Officials	TBG/HSEP04:F01*	00	Annual	10.0
2	HSE Training Calendar for Workers	TBG/HSEP04:F02*	00	Annual	10.0
3	Master List of Supervisors	TBG/HSEP04:F03*	00	Annual	
4	Training Attendance Sheet	TBG/HSEP04:F04*	00	Training	10.0
5	Training & Competency Card	TBG/HSEP04:F05*	00	Training	10.0
6	Records of Mock Drills & Emergency Training Programme	TBG/HSEP06:F04*	00	Quarterly	15.0
7	Records of Maintenance of Emergency Equipment	TBG/HSEP06:F05*	00	Monthly	
8	Subcontractor HSE Performance Evaluation	TBG/HSEP07:F02*	00	Monthly	17.0, 23.5
9	Initial Incident Report (Hazardous Occurrence/Minor Incident/Minor fire)	TBG/HSEP08:F01*	00	Incident	



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SN.	Format Name	Format No.	Rev. No.	Periodicity	Ref. Clause
10	Detailed Incident Investigation Report Guiding	TBG/HSEP08:F03*	00	Incident	
11	Recording Existing Systems and Deviations	TBG/HSEP08:F04*	00	Incident	
12	Safety Check List Prior to Commencement of Work	TBG/HSEP14:F01	00	Mobilization	9.2
13	Inspection of First Aid Box	TBG/HSEP14:F02	00	Monthly	9.5.5.2
14	Inspection of Electrical Installation and Construction Power Cables	TBG/HSEP14:F03	00	Monthly	13.9, 16.7
15	Inspection of Gas Cutting Sets	TBG/HSEP14:F04	00	Monthly	13.1, 16.6
16	Checklist of Fire Extinguishers & Fire Buckets	TBG/HSEP14:F05	00	Monthly	10.5.4
17	मैन लिफ्ट/ क्रेन/ हाइड्रा की दैनिक/उपयोग पूर्व जाँच सूची	TBG/HSEP14:F06	00	Daily	13.6,16.4
18	Mock-Drill Check List	TBG/HSEP14:F07	01	Quarterly	15.0
19	Inspection of Personal Protective Equipment At Work Places	TBG/HSEP14:F08	00	Monthly	16.2
20	Induction Training Record	TBG/HSEP14:F09	00	Induction	9.2
21	Tool Box Talk	TBG/HSEP14:F10	00	Daily	10.2
22	Personal Protective Equipment Status	TBG/HSEP14:F11	00	Monthly	16.2
23	Status of Tools & Plants	TBG/HSEP14:F12	00	Monthly	16.3
24	Project Information	TBG/HSEP14:F13	00	Once	9.2
25	Emergency Contact Numbers	TBG/HSEP14:F14	00	Once	14.0
26	NC Penalty Challan cum Notice	TBG/HSEP14:F15	00	As per req.	19.0
27	Health Check Up	TBG/HSEP14:F16	00	Induction	9.2
28	Employment Card	TBG/HSEP14:F17	00	Induction	9.2
29	Height Pass	TBG/HSEP14:F18	00	Induction	10.3
30	Hospital Tie-Up	TBG/HSEP14:F19	00	Once	15.0
31	Job Safety Analysis (JSA)	TBG/HSEP14:F20	00	As per req.	13.0
32	Inspection of Labor Camp	TBG/HSEP14:F21	00	Monthly	9.5.7
33	Inspection of Height Working	TBG/HSEP14:F22	00	Weekly	13.18,16.5
34	Monthly HSE Report	TBG/HSEP14:F23	00	Monthly	21.0
35	Monthly HSE Planning & Review	TBG/HSEP14:F24	00	Monthly	21.0
36	Inspection of Excavations	TBG/HSEP14:F25	00	Weekly	13.17.2
37	weekly HSE report	TBG/HSEP14:F26	00	Weekly	18.0
38	Scaffold Inspection Checklist	TBG/HSEP14:F27	00	As per req.	13.16
39	Near-Miss Report	TBG/HSEP14:F28	00	As per req.	8.7.2
40	Daily HSE Observation Record Register	TBG/HSEP14:F29	00	Daily	20



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SN.	Format Name	Format No.	Rev. No.	Periodicity	Ref. Clause
41	Identity-card format for Subcontractor persons	TBG/HSEP14:F30	00	Induction	9.2
42	Daily HSE Report	TBG/HSEP14:F31	00	Daily	8.7.2
Permit To Work (PTWs)					
1	Permit To Work (General Work Permit)	TBG/HSEP12:F01*	00	As per req.	
2	Height Work Permit (Job Specific Work Permit)	TBG/HSEP12:F02*	00	As per req.	
3	Hot Work Permit	TBG/HSEP12:F03*	00	As per req.	
4	Confined Space Work Permit	TBG/HSEP12:F04*	00	As per req.	
5	Excavation Work Permit	TBG/HSEP12:F05*	00	As per req.	
6	Radiation Work Permit	TBG/HSEP12:F06*	00	As per req.	
7	Heavy / Complex / Critical Lifting Activity Permit	TBG/HSEP12:F07*	00	As per req.	
8	Night Work / Holiday Work Permit	TBG/HSEP12:F08*	00	As per req.	
9	Loading / Unloading Permit	TBG/HSEP12:F09*	00	As per req.	
10	Safety Net / Safety Facility Removal Permit	TBG/HSEP12:F10*	00	As per req.	
11	Lockout / Tag Out Request Permit	TBG/HSEP12:F11*	00	As per req.	
12.	Electrical Work Permit	TBG/HSEP12:F12*	00	As per req.	

(*) Formats are taken from respective HSEPs

25.0

LIST OF ANNEXURES

Srl. No.	Annexure Number	Name of Annexure
1.	ANNEXURE-1	CONTENTS OF FIRST-AID BOX
2.	ANNEXURE-2	HSE INSPECTION CHECKLIST CUM COMPLIANCE REPORT
3.	ANNEXURE-3	LIST OF STATUTORY PROVISIONS AND INDIAN STANDARD (IS) CODES RELATED TO HSE
4.	ANNEXURE-4	POSTERS AND BANNERS FOR TBG SITES
5.	ANNEXURE-5	FIRE EXTINGUISHERS PLACEMENT PLAN
6.	ANNEXURE-6	FORMATS & CHECKLISTS
7.	ANNEXURE-7	PTW FORMATS

APPENDIX NO: 01

SAFETY, WELFARE AND OCCUPATIONAL HEALTH REQUIREMENTS AS PER BOCW ACT 1996 AND BOCW CENTRAL RULES 1998

- (This list has been prepared in chronological order with primary importance to Section of Act and secondary to Rules where **S** - Refers Relevant Sections in BOCWA, **R** - Refers Relevant Rules in BOCWR, **C** - Refers Relevant Chapter No. in BOCWR)



APPENDIX-01

SR. No.	Items	BOCW Act Section	Central BOCWR Rules	Form No and Schedule
1	Registration of Establishment	S - 7	R - 23 to 27	
2	Display of Registration Certification at Workplace	S - 7	R - 26 (5)	
3	Hours of work	S - 28	R - 234 to 237	
4	Weekly rest and payment at rest		R - 235	
5	Night shift		R - 236	
6	Maintenance of workers registers and records	S - 30	R - 238	
7	Notice of commencement and completion	S - 46	R - 239	
8	Register of persons employed as building workers		R - 240	
9	Muster roll and Wages Register		R - 241 (1) (a)	XVI & XVII
10	Register of overtime	S - 28 & 29	R - 241 (1)	XXII
11	Register of Damage or Loss		R - 241 (1) (a)	XIX, XX, & XXI
12	Issue of wages book		R - 241 (2) (a)	XXIII
13	Service certificate for each workers		R - 241(2) (b)	XXIV
14	Display an abstract of BOCWA and BOCWR		R - 241(5)	
15	Annual return		R - 242;	XXV
16	Drinking water	S - 32		
17	Latrines and Urinals	S - 33	R - 243	
18	Accommodation	S - 34		
19	Crèches	S - 35		
20	First-aid boxes	S - 36	R - 231	Schedule III
21	Canteens	S - 37	R - 244	
22	Food stuff and other items served in the canteens		R - 245	
23	Supply of tea and snacks in work place		R - 246	
24	Food charges on no loss no profit basis		R - 247	
25	Payment of wages		R - 248	
26	Display of notice of wages regarding		R - 249	
27	Safety committee	S - 38	R - 208	
28	Safety officer	S - 38	R - 209	Schedule VIII
29	Reporting of accidents and dangerous occurrences	S - 39	R - 210	
30	Procedure for inquiry in to the causes of accidents		R - 211	
31	Responsibility of Owner	S - 44	R - 5	
32	Responsibility of Architect, Project engineer & Designer		R - 6	
33	Responsibility of workmen		R - 8	
34	Responsibility for payment of wages & compensation	S - 45		
35	Penalties and Procedures	S - 47 & 55		
36	Excessive noise, vibration etc.		R - 34	
37	Fire Protection		R - 35	



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SR. No.	Items	BOCW / Act Section	Central BOCWR Rules	Form No and Schedule
38	Emergency action plan		R - 36	
39	Fencing of motors		R - 37	
40	Lifting of carrying of excessive weight		R - 38	
41	Health, Safety and Environmental Policy		R - 39	
42	Dangerous and Harmful Environment		R - 40	
43	Overhead protection		R - 41	
44	Slipping, Tripping, Cutting, Drowning & Falling Hazards		R - 42	
45	Dust, Gases, Fumes, etc.		R - 43	
46	Corrosive substance		R - 49	
47	Eye Protection		R - 45	
48	Head Protection and other protection apparel		R - 46 & 54	
49	Electrical Hazards		R - 47	
50	Vehicular traffic		R - 48	
51	Stability of structure		R - 49	
52	Illumination		R - 50 & 124	
53	Stacking of materials		R - 51	
54	Disposal of debris		R - 52	
55	Numbering and marking of floors		R - 53	
56	Lifting appliances and gears	C - VII	R - 55 to 81	
57	Runways and Ramps	C - VIII	R - 82 to 85	
58	Working on or adjacent to water	C - IX	R - 86 & 87	
59	Transport and earthmoving equipments	C - X	R - 88 to 95	
60	Concrete work	C - XI	R - 96 to 107	
61	Demolition	C - XII	R - 108 to 118	
62	Excavation and Tunneling works	C - XIII	R - 119 to 168	
63	Ventilation		R - 153	
64	Construction, repair and maintenance of steep roof	C - XIV	R - 169 to 171	
65	Ladders and Step ladders	C - XV	R - 172 to 174	
66	Catch platform & hoardings, chutes, safety belts & nuts	C - XVI	R - 175 to 180	
67	Structural frame and formworks	C - XVII	R - 181 to 185	
68	Stacking and unstacking	C - XVIII	R - 186 & 187	
69	Scaffold	C - XIX	R - 188 & 205	
70	Cofferdams and Caissons	C - XX	R - 206 & 211	
71	Explosives	C - XXI	R - 212 & 213	
72	Piling	C - XXII	R - 214 & 222	
73	Medical Examination for construction worker, Crane operation and Transport vehicle drivers		R - 81; R - 223(a)(iii)	Schedule XII
74	Medical examination for occupational health hazards		R - 223(a)(iv)	
75	Charging of workers for medical Examination		R - 223(b)	
76	Occupational health centers and medical officers		R - 225	Schedule X & XI
77	Ambulance van & room		R - 226 & 227	Schedule IV & V
78	Stretchers		R - 228	
79	Occupational health service for building workers		R - 229	
80	Medical examination for occupational health hazards		R - 223(a)(iv)	
81	Emergency care services and emergency treatment		R - 232	
82	Panel of experts and agencies		Central Rule 250	
83	Power of inspectors		Central Rule 251	



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APPENDIX NO: 02 (PENALTY RATE SHEET)

Safety Violation Penalties

SN	Topic	Safety Violation	Financial Penalties (Non -refundable)
1	HSE Organization	Not complying with the minimum manpower requirements as mentioned in BOCW rules.	Rs. 50,000 or 5% of the contract value, whichever is less, per month for first month and Rs. 100000 or 5% of the contract value, whichever is less, for subsequent months.
		Not filling up the vacancies created due to HSE personnel leaving the contractor within 14 days.	Rs. 50,000 or 5% of the contract value, whichever is less, per month for first month and Rs. 1,00,000 or 5% of the contract value whichever is less for subsequent months.
		Disobedience / Improper conduct of any HSE personnel.	Rs. 10,000 for first violation and Rs.20,000 for subsequent violations
2	HSE committee	Failed to formulate HSE committee as per BOCW rules or conduct HSE Committee meeting for any month.	Rs. 20,000 for the first violation and Rs. 50,000 or 5% of the contract value whichever is less for the subsequent violations
		Contractor and Sub-contractor representatives not attending HSE Committee meetings.	Rs. 5000 to the contractor of the member who had not attended the meeting for first violation & Rs.10000 for subsequent violations.
		Failed to conduct Site inspection before conducting HSE Committee meeting.	Rs. 5,000 for first violation and Rs. 10,000 for subsequent violations
		Failed to send HSE Committee Meeting minutes or Agenda to Owner in time as mutually agreed.	
3	HSE Training	Induction training, Refresher training not given or Tool-box talk not conducted as per schedule	Rs. 5,000 for first violation on and Rs. 10,000 for subsequent violations
4	HSE Inspection	Not complying with the requirements as mentioned in HSE plan	Rs. 10,000 for first violation and Rs. 20,000 for subsequent violations
5	HSE audit	Internal Audit - Not conducted as per Site HSE Plan - Report not sent to Owner.	For item Rs. 5,000 for first violation and Rs. 10,000 for subsequent violations.
6	Injury and Incidence reporting	Fatal accidents	- Rs. 15,00,000 or 5% of the contract value, whichever is less, for first fatality. - Rs. 20,00,000 or 5% of the contract value, whichever is less, for second and their after Owner may at its discretion impose appropriate penalty or may terminate / reject the contract at the risk and cost of the contractor.
		Grievous Injury, such as loss of limb or a loss of more than twenty one (21) man-days	Indian Rupees Five Lakhs (INR 5,00,000) or five percent (5%) of the SO Price, whichever is less, for the first grievously



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			injured person; and Indian Rupees Seven Lakhs (INR 7,00,000) or five percent (5%) of the SO Price, whichever is less, for every subsequent grievously injured person. For the purpose of levying these damages, "grievous injury" shall have the meaning ascribed to the term in the Employee's Compensation Act, 1923.
		Dangerous Occurrence	Rs.1,00,000 or 5% of the contract value, whichever is less, for first violation and Rs.2,00,000 or 5% of the contract value, whichever is less, for subsequent violations
		Any Incident Involving injury to a Member of the Public	Rs.50,000 or 5% of the contract value whichever is less for first violation and Rs.1,00,000 or 5 % of the contract value whichever is less for subsequent violations
7	Emergency preparedness Plan	Non-compliance ERP clause	Rs.25000 for each non-compliance of the clauses
8	Housekeeping	Housekeeping maintenance register not properly maintained up to date.	Rs. 5,000 per single violation Compounded to a maximum of Rs. 20,000 at any single instance
		Surrounding areas of drinking water tanks / taps not hygienically cleaned / maintained.	
		Office, stores, toilet / urinals not properly cleaned and maintained	
		Required dustbins at appropriate places not provided / not cleaned	
		Stairways, gangways, passageways blocked	
		Lumber with protruding nails left as such	
		Openings unprotected	
		Excavated earth not removed within a reasonable time	
		Truck tires are not cleaned	
		Vehicles / equipments parked / placed on roads obstructing free flow of traffic.	
		Unused surplus cables / steel scraps lying scattered.	
		Wooden scraps, empty wooden cable drums lying scattered	
		Water stagnation lead to mosquito breeding	
		Non-compliance of any observation given by representative of Owner	
9	Working at Height / Ladders and	Non-compliance of scaffolding	Indian Rupees Five Thousand Only (INR 5000/-) per violation with a ceiling of Indian Rupees One Lakh Only (INR



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SN	Topic	Safety Violation	Financial Penalties (Non -refundable)
	Scaffolds		1,00,000/-) per contract exceeding which the Employer can terminate the Contract.
10	Excavation, Tunneling and confined space	Non-adherence of any of the provisions mentioned in the BOCW rules and Project HSE Plan.	Indian Rupees Five Thousand Only (INR 5000/-) per violation with a ceiling of Indian Rupees One Lakh Only (INR 1,00,000/-) per contract exceeding which the Employer can terminate the Contract.
		Excavated material not stored as mentioned in the technical specification	
		Metal ladders and staircases or ramps not provided for safe access to and egress	
		Trench and excavation not protected against falling of person by suitable measures	
		Not shoring the excavation	
11	Lifting appliances and gear	Non-adherence of any of the provisions mentioned in the BOCW rules and Project HSE Plan.	Rs. 10,000 per single violation Compounded to a maximum of Rs.1,00,000 or 5% of contract value, whichever is less, at any single instance
12	Lifting operation	Non-adherence of any of the provisions mentioned in the BOCW rules and Project HSE Plan.	Rs. 10,000 for first violation and Rs.1,00,000 5% of the contract value, whichever is less, for subsequent violations
13	Site Electrical safety	Non-compliance of electrical norms in HSE plan or electrical rules obligation	Indian Rupees Five Thousand Only (INR 5000/-) per violation with a ceiling of Indian Rupees One Lakh Only (INR 1,00,000/-) per contract exceeding which the Employer can terminate the Contract.
		Exposed electric lines fermentative damage and circuits in the workplace	
		Inserting of wires directly into the socket	
		Improper grounding for the electrical appliances	
		Electrical cables running on the ground	
14	Gas Cutting	Using Gas cylinder of Wrong colour code	Rs.5,000 per single violation Compounded to a maximum of Rs.20,000 at any single instance
		Cylinders not stored in upright position	
		Flash back arrester, non-return valve and regulator not present or not in working condition	
		Fail to put cylinders in a cylinder trolley	
		Damaged hose and fail to use hose clamps	
		Using domestic LPG cylinders	
		Fail to store cylinder 6.6m away from fire prone materials	
		Fire extinguisher not placed in the vicinity during cutting operation	
15	Welding	Voltmeter and Ammeter not working.	Rs.5,000 per single violation Compounded to a maximum of Rs.20,000 at any single instance
		Non-availability of separate switch in the transformer	
		Improper grounding and return path	
		Damaged and bare openings in the welding cable	



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SN	Topic	Safety Violation	Financial Penalties (Non -refundable)
		Damaged holder	
		Fire extinguisher not placed in the Vicinity during welding operation	
16	Fire precaution	Smoking and open flames in fire prone area	Rs.5,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance.
		Using more than 24V portable electrical appliances in the confined space area	
		Not proper ventilation in cylinder storage area	
		Absence of fire extinguishers	
		Fire extinguishers not refilled once in a year or after use	
		Fire extinguisher placed in a not easily accessible location	
17	PPE	Not wearing / using necessary Personnel Protective equipment required for the Job or kept it elsewhere	Indian Rupees One Thousand Only (INR 1000/-) per violation.
		PPE - Using wrong type Wrong colour helmet or without logo Using for other operation	
		Not using Full Body Harness or Fall arrestor and/or Full Body Harness not anchored	Indian Rupees Five Thousand Only (INR 5000/-) per violation with a ceiling of Indian Rupees One Lakh Only (INR 1,00,000/-) per contract exceeding which the Employer can terminate the Contract.
		PPE - Not conforming to BIS standard or damaged	
18	Traffic Management	Over loading of vehicles or Unfit drivers or operators or Unlicensed vehicles or Absence of reversing alarm or Power / hand brakes not in working condition	Rs.5,000 per first violation and Rs.10,000 for subsequent violations
		Mishandling / Splashing of material on roads / non-cleaning of tires of dumpers and transit mixers etc.	Rs.1,000 per first violation and Rs.2,000 for subsequent violations
		Non-cleaning of tires of dumpers and transit mixers before leaving the site and thereby creating a traffic safety hazard to road users	
19	Occupational Health	Violation of any clause as described in BOCW act & rules	Rs.5,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance.
		Dust control measures at sites not practiced	
20	Labour Welfare measures	Violation of any clause as described in BOCW act & rules	Rs. 10,000 per single violation Compounded to a maximum of Rs. 50,000 at any single instance
21	Work Place Monitoring	Spillage from vehicles not arrests	Rs.1,000 per single violation Compounded to a maximum of Rs.10,000 at any single instance
		Noise monitoring not practiced	
		Improper disposal of debris / residues	

Note-1. Any deduction arising out of above shall have consent from the HSE officer and prior approval from Construction Manager/site in-charge/BHEL.

Note-2. Special conditions of this document to be referred for actual deductions / limitations on the penalties mentioned above.



Schedule 01: First Day HSE Orientation - Induction Training Topics

- Safety Policy - Senior management commitment to health and safety; The outline of the project;
- The individual's immediate line manager and any other key personnel;
- Any site-specific health and safety risks, (for example in relation to access, transport, site contamination, hazardous substances and manual handling);
- Control measures on the site, including: Site Safety rules, Permit-to-work systems, Traffic routes,
- Induction training should include at least the following
- General safety awareness - Scope of work, Names of personnel responsible for site safety and health. First aid facilities
- Emergency procedures
 - Reporting emergencies, incidents and unsafe conditions
 - Emergency evacuation plan, Safety Assembly Points, Emergency exits etc.
- Use of personal protective equipment
 - Proper use of personal protective equipment (PPE)
 - Work practices by which a worker can minimize risk from hazards
- Specific site hazards
 - Safety, health and other hazards at the site
 - Review of all activities on site and related HIRA
 - Safe use of engineering controls and equipment on site etc.
- Managing health and safety in construction
- Health and Safety Information
 - Information about the individual's responsibilities for health and safety. Representatives of employee safety,
 - Safety committees; Security arrangements, Hearing protection zones,
 - Arrangements for personal protective equipment, including what is needed, where to find it and how to use it,
 - Arrangements for housekeeping and materials storage, Facilities available, including welfare facilities,
 - Emergency procedures, - including fire precautions, the action to take in the event of a fire, escape routes, assembly points, responsible people and the safe use of any fire-fighting equipment; arrangements for first aid; arrangements for reporting accidents and other incidents; details of any planned training, such as 'toolbox' talks; arrangements for consulting and involving workers in health and safety, including the identity and role of any: appointed worker representatives,
- Duties of the Contractors Brief outline of the responsibilities of the Contractor,
- Employee's Duties Brief outline of responsibilities of employee under law Explanation of how new employees fit into the Contractor's plan for accident prevention.

**Schedule 02: Content of HSE Training & Awareness**

1. The Law and Safety Statutory Requirement Appropriate regulations, Duties of Owner and employee	2. Policy and Administration - Effect of incentive on accident prevention - Human relations Consultation - Safety Officer: duties, aims, objectives
3. Safety and the Supervisor Safety and efficient production go together Accidents affect morale and public relations	4. Principles of Accident Prevention Attitudes of management, supervision and operations Methods of achieving safe operations
5. Site Inspection - The role of management Hazard Identification Procedure Records results, Follow-up procedures & Feedback	6. Human Behavior - Motivating Individual Behavior - Environmental effects - Techniques of persuasion
7. Site Housekeeping, - Relationship of site housekeeping to accident - Site access, - Equipment storage - Materials handling & Material stacking	8. Health Medical examination occurrence, Sanitation and welfare Protective clothing, First Aid / CPR
9. Personal Protective Equipment – Eye, face, hands, feet and legs Respiratory protective equipment Protection against ionizing radiation	10. Equipment – Accidents related to moving parts of machinery Appreciation of principles of guarding Importance of regular maintenance
11. Transportation - Transport to and from site - Hazard connected with site transport Competent drivers - Dumpers Tipping trucks - Movement near excavations	12. Electricity - Appreciation of electrical hazards Power tools - Arc welding - Low voltage system - Lighting and power system on sites ELCB, RRCB, - Grounding/Ground fault circuit interrupters (GFCIs)
13. Oxygen and Acetylene Equipment Cylinder storage and maintenance Condition and maintenance of valves, regulators, and gauges Condition and maintenance of valves, pressures	14. Excavations - Method of shoring Precautions while shoring - Precautions at edge of excavations Removal of shoring - Sheet steel piling
15. Working platforms, Ladders, and Scaffolding Hazards connected with the use of ladders Licensing, certification and training required Type of scaffold Overloading Work on roofs Fragile material Openings in walls and floors Use of safety belts and nets	16. Cranes and other Lifting Machines - Maintenance and inspection for operation of cranes Slings methods & Signaling Access to crane(s) Maintenance and examination Ground conditions - Hazards and accident prevention methods connected with the use of cranes / heavy equipments. - Crane Lift Plan for all lifts
17. Lifting Tackle, Slings - single and multi-legged Safe working loads (SWLs) Safety hooks and eyebolts Cause of failure Maintenance and examination	18. Communications - Effective methods of communication (particular interest to non-English speaking workers) Method and preparation of reports - Safety committees Safety meeting
19. Fire Prevention and Control Principle causes determining fire Understanding fire chemistry Firefighting equipment Firefighting training.	20. Manual Handling - Body posture and procedure for lifting, pushing, pulling, dragging, sitting and walking Ergonomics - Stretching exercises

**Schedule 03: Days to Be Observed for Creating HSE Awareness**

1st Monday to Sunday of January	Road Safety Week (Subjected to confirmation from Ministry of Road Transport, Govt. of India every year)
16th February	Kyoto Protocol Day
March	Red Cross Month
4th March – 03rd April	BHEL Safety Month
7th April	World Health Day
14th April	Fire Safety Day
April 18 to 22	Earth Week
20th April	Earth Day
20th April	Noise Awareness Day
28th April	ILO World Day for Safety and Health at Work
May 1 to 7	Emergency Preparedness Week
5th June	World Environmental Day
12th June	World Day against Child Labours
9th July	Occupational Health Day
16 th -31 st August	BHEL Swachhata Pakhwada
17th October	World Trauma Day
1st December	World AIDS Day

**Schedule 04: HSE Communication (Posters/Signage's)**

The minimum requirements for HSE Communication (Posters / Signage's) are categorized in the following groups:

Contract Value (Initial awarded value of contract)	Group
Up to 10 Cr	A
Up to 25 Cr	B
Up to 50 Cr	C
More than 50 Cr	D

- Every subcontractor falling into the above groups shall prepare a HSE Communication Plan as a part of site specific HSE Plan and shall include the following minimum requirement of Posters / Signage's / Video as applicable.
 - In case readymade posters are available in any of the category from National Safety Council, Loss Prevention Association of India or any other safety related organizations they may procure the same and display it.
 - In case the same is not available then the subcontractors shall make necessary arrangements to get the posters designed and printed on their own.
 - All the above are to be detailed in the HSE Plan and get an approval from BHEL/Customer before displaying the posters.

(A) SAFETY POSTERS

Safety Posters that are to be displayed in and around the sites at prominent locations of workforce and shall be in Hindi, English and also in local language,

1. Size of Posters

SN	Item	Size
1	Posters – Standard	17"x22" –135 GSM 4 Colour Printing
2	Posters– Special (Wherever required)	17"x22" card laminated FA Poster
3	Posters - Mega size (Wherever required)	32"x40" Flex FA Poster



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2. Minimum Posters to be display

SN	HSE Poster Title	Minimum No. of concepts in each title	HSE Visual required			
			Group A Contract	Group B Contract	Group C Contract	Group D Contract
1	Safety Culture	5	Each 10	Each 20	Each 50	Each 75
2	Daily Safety Oath & Policy		Each 25	Each 50	Each 75	Each 100
3	Emergency Management Plan	5	Each 25	Each 50	Each 75	Each 100
4	Working at Heights Ladder, Stairway, Scaffold etc.	5	Each 25	Each 50	Each 75	Each 100
5	Site Electricity	5	Each 25	Each 50	Each 75	Each 100
6	Fire and Explosion	5	Each 25	Each 50	Each 75	Each 100
7	Crane Safety	5	Each 25	Each 50	Each 75	Each 100
8	Slings & Rigging	10	Each 25	Each 50	Each 75	Each 100
9	Excavation	5	Each 25	Each 50	Each 75	Each 100
10	Occupational Health (Mosquito Control, HIV awareness, Dust, Noise Control, etc.)	10	Each 25	Each 50	Each 75	Each 100
11	First – Aid	3	Each 25	Each 50	Each 75	Each 100
12	Labor Welfare (Min Wages, Child labor, Sign in Muster, In case of accidents-what to do?	5	Each 25	Each 50	Each 75	Each 100

(B) SAFETY SIGNAGES

All safety signage that is displayed in and around the sites shall be in both Hindi and English and also in local language, examples of signs that shall be required shall include amongst others the following:

1. Size of Signage's

SN	Item	Size
1	Safety Signage's	Small: 12"x6" Big : 24" x 12"
2	Road Traffic Sign Boards	Strictly as per Indian Road Congress (IRC) specifications

All safety signs shall comply with the Indian Standard as indicated below:

SN	Type of Signage	Colour
1	Mandatory	Blue
2	Danger	Yellow
3	Prohibition	Red
4	Safe Conditions	Green

Indian Standards – IS 9457 Standard for Colours of Safety Signs IS 12349: 1988 Fire Protections - Safety Signs



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2. Minimum Signage's to be display

S N	HSE Poster Title	Minimum No. of concepts in each title	HSE Visual required			
			Group A Contract	Group B Contract	Group C Contract	Group D Contract
1.	Mandatory PPE Usage					
a)	Display the messages like PPE ZONE, NO PPE ZONE, etc.	5	Each 25	Each 50	Each 75	Each 100
b)	Helmet, Wear Safety Helmet	5	Each 25	Each 50	Each 75	Each 100
c)	Footwear Wear Safety Shoes	5	Each 25	Each 50	Each 75	Each 100
d)	Face & Ear Protection Wear Eye Protection Wear Hearing Protection	5	Each 25	Each 50	Each 75	Each 100
e)	Fall Protection Wear Full Body Harness	5	Each 25	Each 50	Each 75	Each 100
f)	Night Protection Wear reflective Jacket	5	(Where required)			
g)	Fire Protection No Smoking Emergency Exit	5	(Where required)			
h)	Other Protection Permit to Work areas Danger Electricity. Danger Crane Overhead Stop Look and Listen First Aid. No Entry signs work in progress	5	(Where required)			
2	WORKING AT HEIGHT Scaffold Signage's like SAFE, UNSAFE, FIT FOR USE, AVOID USE etc.	5 types made of metal sheet to be mounted at different location	Each 25	Each 50	Each 75	Each 100
3	Traffic Safety Signage's (Speed limit, safe crossing etc.)	5	Each 25	Each 50	Each 75	Each 100

**Schedule 05: Minimum Illumination Level**

SN	Facility or Function	Luminance lx (lm/ft ²)
1	Administrative areas (Offices, Meeting rooms, etc.)	540 (50)
2	Construction areas	55 (5)
	General indoor	33 (3)
	General outdoor	55 (5)
	Tunnel and General underground work areas	
3	Access ways - exit ways, walkways, ladders, stairs etc.	110 (10)
4	Maintenance / Operating areas / shops	325 (30)
	vehicle maintenance shop	110 (10)
	carpentry shop	55 (5)
	outdoors field maintenance area	55 (5)
	refueling area, outdoors	540 (50)
	shops, fine details work	325 (30)
	shops, medium detail work	325 (30)
	welding shop	
5	Mechanical / Electrical equipment rooms	110 (10)
6	Hoists, Elevators, (freight and passenger)	215 (20)
7	Warehouses and storage rooms/area	110 (10)
	indoor stockroom, active/bulk storage	270 (25)
	indoor rack storage	33 (3)
	outdoor storage	
8	Health Centers and First aid stations and infirmaries	325 (30)
9	Toilets, wash and dressing rooms	110 (10)
10	Work areas – General (not listed above)	325 (30)
11	Parking areas	33 (3)
12	Visitor areas	215 (20)
13	Laboratories	325 (30)



ANNEXURE-1

CONTENTS OF A FIRST-AID BOX

(As per Schedule – III of BOCW)

Srl.	Name of first aid content	Pictorial depiction/remark
1.	A 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.	
2	4 per cent xylocaine eye drops, and boric acid eye drops and soda bicarbonate eye drops,	
3	24 small sterilized dressings.	
4	12 medium sized sterilized dressings.	
5	12 large sized sterilized dressings.	
6	12 large sized sterilized burn dressings.	
7	12 (15 cm) packets of sterilized cotton wool.	



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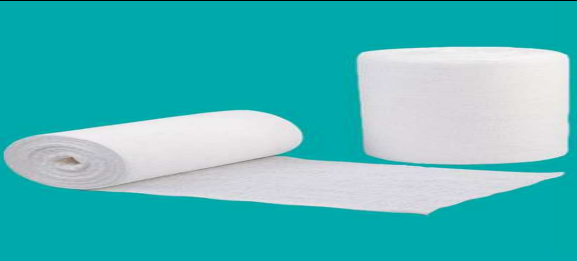
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8	(200 ml) bottle of certimide solution (1%) or suitable antiseptic solution.	
9	One (200 ml) bottle of mercurochrome (2%) solution in water.	
10	One (120 ml) bottle of salvolatile having the doses and mode of administration indicated on the label.	
11	One pair of scissors.	
12	One roll of adhesive plaster (6 cm x one meter).	
13	Two rolls of adhesive plaster (2 cms x one metre).	
14	12 pieces of sterilized eye pads in separate sealed packets.	



15	A bottle containing hundred tablets (each of three hundred twenty-five mg) of aspirin or any other analgesic.	
16	12 roller bandages 10cms wide.	
17	12 roller bandages 5cms wide.	
18	One tourniquet.	
19	A supply of suitable splints.	First Aid Initial treatment for fractures of the arms, legs, hands and feet in the field include splinting the extremity in the position it is found, elevation and ice. Immobilization will be very helpful with initial pain control. 
20	Three packets of safety pins.	



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Date: 14.09.2026

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21	Kidney tray.	
22	A snake bite lancet.	
23	One (thirty ml) bottle containing potassium permanganate crystals.	
24	One copy of first-aid leaflet issued by the Directorate General, Factories Advice Service and Labour Institute.	
25	6 triangular bandages.	
26	Two pairs of suitable, sterilized, latex hand gloves.	



ANNEXURE-2

MONTHLY HSE INSPECTION CHECKLIST CUM COMPLIANCE REPORT

PROJECT: _____

SUBCONTRACTOR: _____

DATE : _____

OWNER : _____

INSPECTION BY: _____

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

Item	Yes	No	Remarks	Action
HOUSEKEEPING				
Waste containers provided and used				
Passageways and walkways clear				
General neatness of working area				
Other				
PERSONNEL PROTECTIVE EQUIPMENTS				
Safety Shoes				
Safety Helmet				
Goggles; shields				
Face protection				
Hearing protection				
Respiratory masks etc.				
Safety belts				
Reflective jacket and Others				
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				



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Extension side rails 1 m above				
Top of landing				
Properly secured				
Angle 75° 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				
Other				



Transmission Business Group

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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.				

Name of Site In-charge	
Signature of Site In-charge	
Date:	



ANNEXURE-3

STATUTORY PROVISIONS AND IS CODES

REFERENCES

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

- a. **Statutory Provisions:** All the sub-subcontractor are to comply with client specific rules and procedures, the National legislations and codes, in particular the following or their revised versions:

Srl. No	Acts/Rules Name	Srl. No	Acts/Rules Name
1	The Factories Act 1948, Amendment Act 1947	11	Subcontractor labour Act, 1970 (Regulation and abolition)
2	The Environment Act 1986	12	Provident fund Act, 1952
3	Workmen's Compensation Act, 1923	13	Payment of gratuity Act, 1972
4	Building and Other Construction Workers (Regulation of employment and condition of service) Act, 1996	14	Indian Explosives Act and the explosives Rules 2008
5	Buildings and Other Construction Workers Welfare Act, 1996	15	The Gas Cylinder Rules, 2016, Static and Mobile Pressure Vessels (Unfired) Rules 2016
6	Payment of wages Act, 2017 Equal remuneration Act,	16	The Indian Electricity Act 2003 and Indian Electricity Rules 2005
7	Minimum wages Act.1948	17	The Atomic Energy Act, 2015
8	Employers liability Act, 1938	18	The atomic energy (Radiation Protection) Rules. 2004
9	Industrial dispute Act, 1947	19	National Fire Protection Association (NFPA),
10	maternity benefit amendment act 2017	20	National Building Code of India 2016 etc.



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Annexure-3

b. Indian Standard (IS) Codes related to HSE

All the sub-subcontractor are to comply with client specific rules and procedures, the National legislations and codes in particular the following or their revised versions:

Srl	IS Code	Applies on
1	IS: 4081 -1986	Safety code for Blasting and Related Drilling operations
2	IS: 3764 -1992	Safety code for excavation work
3	IS: 5121 -1969	Safety code for pilling and other deep foundations
4	IS: 2750 -1964	Specification for steel scaffoldings
5	IS: 3696 (Part-I)-1987	Safety code for scaffolds and Ladders: Part- I Scaffolds
6	IS: 3696 (Part-II) - 1991	Safety code for scaffolds and Ladders: Part –II Ladders
7	IS: 4082 -1977	Recommendations on stacking and storage of construction materials at site (First revision)
8	IS: 4130-1976	Safety code for demolition of building (First revision)
9	IS: 4912-1978	Safety requirements for floor and wall openings, railings and toe boards (First revision)
10	IS: 5916- 1970	Safety code for constructions involving use of hot bituminous materials
11	IS: 7205 -1974	Safety code for erection of structural steel work
12	IS: 7969 -1975	Safety code for handling and storage of building materials
13	IS: 8989 -1978	Safety code for erection of concrete framed structures
14	IS: 7293 -1974	Safety code for working with construction machinery
15	IS: 2212 -1991	Pipe lines – Identification – Colour code
16	IS: 5216 -1982	Recommendations on safety procedures & practices in Electrical works (Part -I & II)
17	IS: 875 -1964	Code of practice for structural safety of buildings and loading standards
18	IS: 10386 -1983	General aspects Part-1 -1983, Part-2 -1982, Part-6 -1983, Part-10 -1983- Amenities, Protective clothing and equipment, construction, storage, handling, detection and Safety measures for gases, chemicals and flammable liquids
19	IS: 10500-2012	Drinking water (Specification)
20	IS: 10291 -1982	Code of dress in civil engineering works
19	IS: 10500-2012	Drinking water (Specification)
20	IS: 10291 -1982	Code of dress in civil engineering works
21	IS: 2925-1984	Safety helmets
22	IS: 1179-1967	Welding helmets
23	IS: 7524 -1979 (Part-I)	Safety goggles.



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Srl	IS Code	Applies on
24	IS: 9167 -1979	Ear muff /Ear plugs
25	IS: 6994 -1973 (Part-I)	Canvas hand gloves, Cotton hand gloves, Chrome leather gloves
26	IS: 4770 -1991	Rubber hand gloves tested for 15,000 volts
27	IS: 3521 -1999	Full body safety harness
28	IS: 11057 -1984	Specification for Industrial safety nets
29	IS: 13415 -1992	Protective Barriers in & around buildings (Code of safety)
30	IS: 13416 -1992	Preventive measures against Hazards at work places-Recommendations part-I Falling materials hazards Prevention part-I
31	IS: 13416 -1992	Preventive measures against Hazards at work places-Recommendations part-II Fall Prevention
32	IS: 15298 -2011 (Part 1&2)	Personal Protective Equipment -Safety shoes
33	IS: 12254 -1993	Poly vinyl chloride (PVC) industrial boots
34	IS: 5557:2004	Industrial and Protective Rubber knee and Ankle boots
35	IS: 2878 -2004	Co2 Type fire extinguisher
36	IS: 2171 -1999	Dry chemical powder fire extinguisher
37	IS: 13849 – 1993	Fire extinguisher for ABC fires
38	IS: 10204-2001	Mechanical Foam type extinguisher (Foam used shall conform to IS: 4989 - 1974 and Co2 cartridge shall conform to IS: 4947 -1985)
39	IS: 3786 -1983	Methods for computation of Frequency rate and Severity rates for Industrial injuries and classification of Industrial accidents (First revision)
40	IS: 19011:2002	Guidelines for Quality and/or Environmental Management Systems Auditing



ANNEXURE-4

POSTERS AND BANNERS FOR TBG SITES

In order to spread awareness for safe practices during working at sites, some posters/banners are tabled below in four categories namely **STATUTORY**, **MANDATORY**, **USEFUL** and **OPTIONAL**. These are recommended to be displayed at sites, offices and stores preferably at the given locations. However, efforts have been put to cover all the required fields, still, the list is not yet final and open for further updation.

Sr. N.	Name of board	Preferred Location/ Remarks
A.	Statutory notice boards	
1	Emergency contact nos.	At office, stores, and long duration work areas
2	Project information including working hours, weekly off, minimum wages, lunch time etc.	At entrance gate and/or office
3	First aid box & stretcher location	At office/store or where the first aid box is located
4	HSE Policy	In office
5	Emergency assembly area	At identified area
B	Mandatory Caution Boards	
1	Deep excavation	At all excavations near road side or near passages
2	Hard Hat area	Especially building and structural roof areas
3	Height limit	In charged areas or areas having height limit like bus bar, construction power, stringing etc.
4	Speed Limit	At the entrance and other prominent road locations
5	Falling objects (Height work/hilly terrain)	Near roofs or at roads near hilly sloppy areas
6	Explosion area (Excavation by explosives)	In those areas where excavation by explosives is done
7	No Smoking (Fire prone area)	In all areas where there is fire hazard like stores, scrap, office or open stores having flammable materials like t/f oils, paints etc.



Transmission Business Group

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Date: 14.09.2026

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Sr. N.	Name of board	Preferred Location/ Remarks
C	Work specific safety Posters (Recommended to use)	
Sr. No.	Name of board	Preferred Location/ Remarks
1	Height Work	Near height work areas like lattice structure erection, building work, stringing etc.
2	Electrical Safety	Near distribution boards, LT transformers, DG sets etc.
3	Fire safety	Near DG sets, stores, office
4	Material storage, Handling and crane safety	In sores, at passages
5	Scaffolds and ladders safety	Near building works
6	Pressure vessel handling safety	In stores and other prominent locations
7	Hot work safety (Welding, gas cutting, grinding etc.)	At prominent locations or gas cutting areas
D	Safety promotional/General safety poster/banners (Optional)	
1	PPE usage and benefits	Office and at prominent locations
2	Personal hygiene	At rest areas, dining areas Office and at other prominent locations
3	CPR and recovery position	Office, Induction room
4	Snake/Scorpio bite treatment	Office, Induction room
5	Family waiting at home	At prominent locations
6	Alertness at work is the best safety policy	At prominent locations
7	Safety first, work next	At prominent locations
8	Safety pays, accident costs	At prominent locations
9	Call for help before you help	At prominent locations
10	I am safe, my team is safe.	At prominent locations
11	Check healthiness of appliances before use.	At prominent locations



ANNEXURE-5

FIRE EXTINGUISHERS PLACEMENT PLAN



Recommendations



Following recommendations are minimum requirements for stores and office. Additional quantity of suitable type of extinguishers may be added based on the type and amount of flammable material stored.

Area to protect	Water type	Mechanical foam	DCP	CO2 type
10x20meter store	1x9L	1x9L	1x6kg	1x6.5kg
10x10meter store	1x9L	1x9L	1x5kg	1x4.5kg
Office with occupancy up to 5 persons	1x9L	-	2x2kg	1x4.5kg
Office with occupancy up to 10 persons	1x9L	-	2x2kg	2x4.5kg

**ANNEXURE-6****FORMATS & CHECKLISTS**

This Annexure contains following formats:

Srl.	Name of Format	Format No.	Rev	No. of pages
1	Measurement of Environmental Parameters	TBG/HSEP03:F04	02	1
2	HSE training calendar for officials	TBG/HSEP04:F01	00	01
3	HSE training calendar for workers	TBG/HSEP04:F02	00	01
4	Master list of supervisors	TBG/HSEP04:F03	00	01
5	Training attendance sheet	TBG/HSEP04:F04	00	01
6	Training & competency card	TBG/HSEP04:F05	00	01
7	Records of mock drills & emergency training programme	TBG/HSEP06:F04	00	01
8	Records of maintenance of emergency equipment	TBG/HSEP06:F05	00	01
9	Subcontractor HSE Performance Evaluation	TBG/HSEP07:F02	00	01
10	Initial incident report (Hazardous Occurrence/ Minor Incident/ Minor fire)	TBG/HSEP08:F01	00	01
11	Detailed Incident Investigation Report Guiding	TBG/HSEP08:F03	00	01
12	Recording existing systems and deviations	TBG/HSEP08:F04	00	01
13	Safety check list prior to commencement of work	TBG/HSEP14:F01	00	01
14	Inspection of first aid box	TBG/HSEP14:F02	00	02
15	Inspection of electrical installation and construction power cables	TBG/HSEP14:F03	00	01
16	Inspection of gas cutting sets	TBG/HSEP14:F04	00	01
17	Checklist of fire extinguishers & fire buckets	TBG/HSEP14:F05	00	01
18	मैन लिफ्ट/ क्रेन/ फराना की दैनिक/उपयोग पूर्व जाँच सूची	TBG/HSEP14:F06	00	01
19	Mock-drill check list	TBG/HSEP14:F07	02	01
20	Inspection of personal protective equipment at work places	TBG/HSEP14:F08	00	01
21	Induction training record	TBG/HSEP14:F09	00	01
22	Tool Box Talk	TBG/HSEP14:F10	00	01
23	Personal protective equipment status	TBG/HSEP14:F11	00	01
24	Status of tools & plants	TBG/HSEP14:F12	00	01
25	Project information	TBG/HSEP14:F13	00	01
26	Emergency contact numbers	TBG/HSEP14:F14	00	01
27	NC penalty challan cum notice	TBG/HSEP14:F15	00	01
28	Health check - up	TBG/HSEP14:F16	00	01
29	Employment card	TBG/HSEP14:F17	00	01



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Srl.	Name of Format	Format No.	Rev	No. of pages
30	Height pass	TBG/HSEP14:F18	00	03
31	Hospital tie-up	TBG/HSEP14:F19	00	02
32	Job safety analysis	TBG/HSEP14:F20	00	01
33	Inspection of Labour Camp	TBG/HSEP14:F21	00	01
34	Inspection of Height Working	TBG/HSEP14:F22	00	01
35	Monthly HSE Report	TBG/HSEP14:F23	00	01
36	Monthly HSE Planning & Review	TBG/HSEP14:F24	00	03
37	Inspection of Excavations	TBG/HSEP14:F25	00	01
38	Weekly HSE Report	TBG/HSEP14:F26	00	01
39	Scaffold Inspection Checklist	TBG/ HSEP14:F27	00	01
40	Near Miss Report	TBG/HSEP14:F28	00	01
41	Daily HSE Observation Register for USA/C	TBG/HSEP14:F29	00	01
42	I-Card Format for subcontractor persons	TBG/HSEP14:F30	00	01
43	Daily HSE Report	TBG/HSEP14:F31	00	01



Transmission Business Group

Format no.: TBG/HSEP03:F04
REV: 03MEASUREMENT OF
ENVIRONMENTAL PARAMETER

Date: 04.01.2025

Page: 01 of 01

Name of site:					
Date:		Time:		Frequency: Annual	
Srl. No.	Name of Parameter	Measured Value		Desirable range (values)	
1.	Ambient Air Quality ¹ - PM 2.5 - PM 10 - SOx - NOx	- PM 2.5 - - PM 10- - SOx - - NOx-		PM 2.5 - 60 µg/m ³ (TWA 24 hrs.) PM 10- 100 µg/m ³ (TWA 24 hrs.) SOx - 80 µg/m ³ (TWA 24 hrs.) NOx- 80 µg/m ³ (TWA 24 hrs.) (TWA= Time weighted Average)	
2.	Drinking water ² (IS:10500)	TDS pH Value Total Alkaline Chloride Sulphate....		TDS <=500 mg/L pH Value 6.5 to 8.5 Total Alkaline <200mg/L Chloride <250mg/L Sulphate<200mg/L, etc as per IS:10500	
3.	Lux level for illumination	Office		Office	300-400
		CR Building		CR Building	150-200
		FFPH		FFPH	150-200
		Covered store		Covered store	100-200
		Open Store		Open Store	50-100
		Aux Buildings		Aux Buildings	50-100
		Switchyard		Switchyard	30-100
		Others..		Others..	30-100
4.	Noise level			<= 90dB	

Note:

1. Since TBG site operations does not involve such activities which can have significant impact on ambient air quality, so air quality test may not require to be carried out.
2. This test is applicable where groundwater is directly used for drinking and cooking purposes.

Measured by	Witnessed by
(Signature with Name & Designation)	(Signature with Name & Designation)



Transmission Business Group

Format No.: TBG/HSEP04:F01
REV: 00

HSE TRAINING CALENDAR
FOR OFFICIALS

Date: 31.12.2019

Page: 01 of 01

Site:

Date:

Training calendar for the Financial Year:

Date	Location	Training Title	Responsibility	Trainers
------	----------	----------------	----------------	----------

			Site In-charge	

Prepared by: BHEL Site HSE

Approved by : BHEL Site In-charge



Transmission Business Group

Format no.: TBG/HSEP04:F02
REV: 00

HSE TRAINING CALENDAR
FOR WORKERS

Date: 31.12.2019

Page: 01 of 01

Name of Site					Ref. & Date	
Training calendar for the Financial Year:				Quarter:		
Month	Day	Training Title	Faculty	Responsibility		
April						
May						
Jun						
Toolbox Talks are to be conducted daily by each Engineer/supervisor/gang leader in his area						
Prepared by: HSE Officer						
Approved by: Site I/C						

	Transmission Business Group	Format no.: TBG/HSEP04:F03 REV: 00
	MASTER LIST OF SUPERVISORS	Date: 31.12.2019
		Page: 01 of 01

Site :		Last Updated On (Date):			
Name of Sub-Subcontractor:					
S. No	Name	Designation	Identity Number	Age	Joining Date
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
Prepared by (Subcontractor)					
Approved by (BHEL)					



Transmission Business Group

Format no.: TBG/HSEP04:F04

REV: 00

TRAINING ATTENDANCE SHEET

Date: 31.12.2019

Page: 01 of 01

Site:

Date:

Faculty:

Topic of Training:

Name	Agency	Identity Number	Signature
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
12.			
Remarks:			

(Faculty)

(BHEL Safety Officer)

(BHEL Site In-charge)

	Transmission Business Group	Format no.: TBG/HSEP04:F05 REV: 00
	TRAINING CUM COMPETENCY CARD	Date: 31.12.2019
		Page: 01 of 01

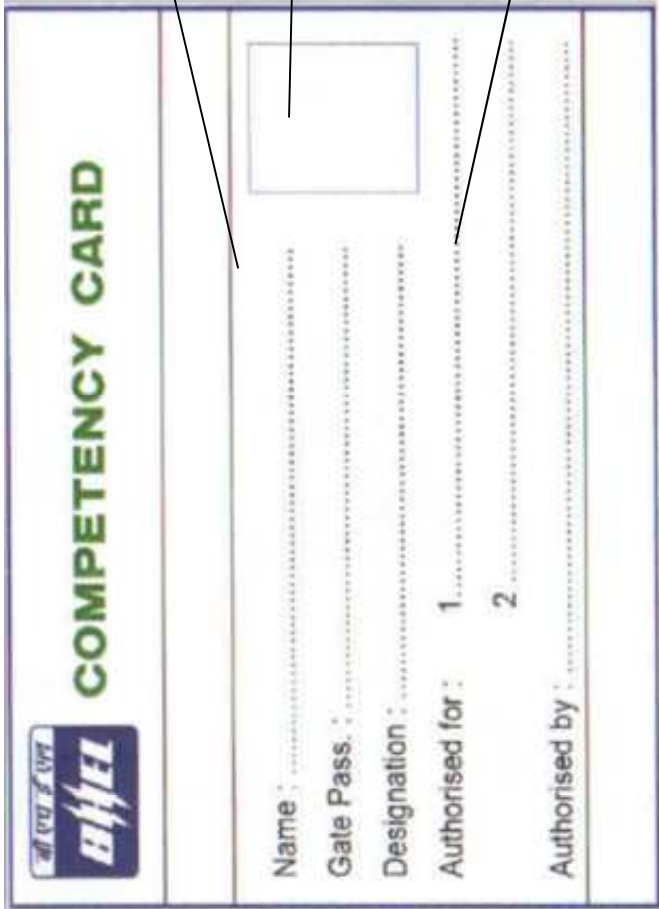
TBG/HSEP04:F05 – Worker's Competency Card to be provided by each subcontractor to workers

Subcontractor Name

Trainee Photo

Project Name

Competency Details - Sample



COMPETENCY CARD

BHEL

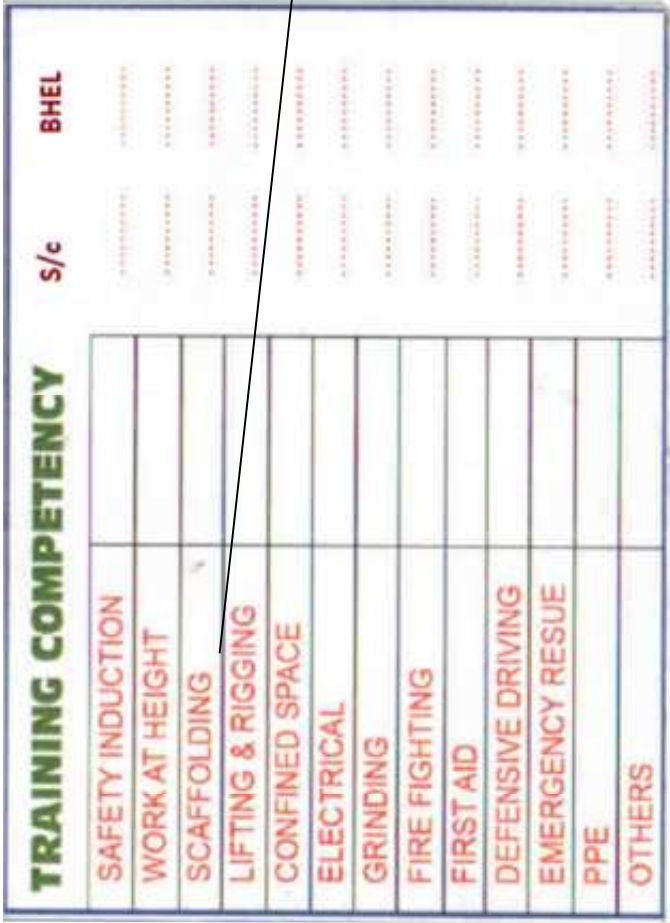
Name :

Gate Pass :

Designation :

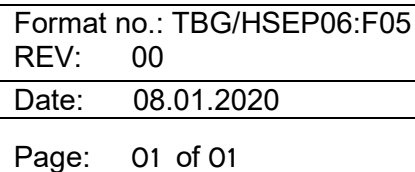
Authorised for : 1 2

Authorised by :



TRAINING COMPETENCY

	S/c	BHEL
SAFETY INDUCTION		
WORK AT HEIGHT		
SCAFFOLDING		
LIFTING & RIGGING		
CONFINED SPACE		
ELECTRICAL		
GRINDING		
FIRE FIGHTING		
FIRST AID		
DEFENSIVE DRIVING		
EMERGENCY RESUE		
PPE		
OTHERS		





Transmission Business Group

Doc no.: TBG/HSEP07:F02
REV: 00

**SUBCONTRACTOR HSE
PERFORMANCE EVALUATION**

Date: 31.12.2019

Page: 01 of 01

Name of site & Sector:	
Sub-subcontractor:	Package:
For the Month of :	Of the FY :

Sr. No.	HSE performance parameter	Score (1-10)	Comment (if any)
1	Compliance of legal and contractual HSE requirements like safety officer, labour license, BOCW registration, WC policy, pf, paid rest days, overtime, minimum wages, labour camp etc.		
2	Quality, adequacy and up keeping of welfare and health facilities like first aid, medical check-up, urinals, toilets, drinking water etc.		
3	Attendance, facility and effectiveness of various training programs including induction, mock drill and tool box talks.		
4	Quality, seamless availability and usage of PPEs as per work requirement.		
5	Usage & Compliance with OCPs, Formats and checklists.		
6	Incident reporting, investigation and implementation of measures of RCA of an accident/incident.		
7	Attendance in safety committee meetings and %age compliance of the commitments made in the previous meetings.		
8	Housekeeping & illumination of working area, passages, stores, availability of scrapyard and disposal of hazardous wastes.		
9	Safety in material handling, storage/retrieval and availability, adequacy and maintenance of firefighting facilities.		
10	Availability and effectiveness of emergency response Facilities-such as emergency vehicle, stretcher, rescue kit etc.		
11	Quality, relevance and adequacy of Safety signage and caution boards.		
12	Scaffolds & ladder quality, safe platforms, use of fall protection devices like twin lanyard safety belts, fall arresters, life lines etc.		
13	Barricading/fencing and providing caution boards for excavations, prohibited areas, rotary parts, floor edges & floor openings.		
14	Control on vehicular traffic, suppression of dust & smoke. Traceability, TPI, insurance and maintenance of T&P and plant & machineries.		
15	Record keeping & timely submission of various legal/contractual requirements, trainings, audits, reports and other related functions.		
Total Score for this quarter (out of 150 marks)			
%age score (Minimum passing %age is 60%)			

Name & Signature of Engineer in-charge:	Name & Signature of Site In-charge

	Transmission Business Group, Noida Health Safety and Environment Department, HQ, Noida	Doc No.: TBG/HSEP:08-F01 Rev No.: 01 Date: 09.10.2020 Page No. 01 OF 01
	Initial Incident Report - Hazardous Occurrence/Minor Incident/Minor fire	

1. Incident Details:

Sl.	Item	Information	Sl.	Item	Information
1	Name of site		8	AP's Name	
2	Name of customer		9	AP DOB	
3	Incident location		10	Injury Details	
4	Date & Time of incident		11	Body Part Injured	
5	S/C name & scope		12	AP's GP No.	
6	Job Sup. Name	Sh.	13	Name of	
7	DOJ Duty of AP		14	Witnesses	

AP: Affected Person	S/C: Sub-contractor	DOJ: Date of Joining	GP: Gate Pass	DOB: Date of Birth
----------------------------	----------------------------	-----------------------------	----------------------	---------------------------

2. Classification of Incident: (Tick appropriate one)

Hazardous Occurrence	Minor Incident	Minor Injury	Minor fire
-----------------------------	-----------------------	---------------------	-------------------

3. Activity Type:

Height Work		Hot work		Machine Guarding	
Excavation		Confined Space		Vehicle Movement	
Scaffolding		Electrical		Construction Equipment	
Hoist & Rigging		Bar-bending		Housekeeping	
Material Handling		Environmental Spill		Stringing	
Concreting		Tower Erection		Commissioning	

Incident Description:

<u>Immediate causes</u>
<u>Correction Taken:</u>
<u>Root Cause (worker's to be participated and consulted):</u>
<u>Corrective Action Taken:</u>

Attachment: Proof of worker consultation/participation.

Name & Sign of site HSE Coordinator:

Date:



Transmission Business Group

Format no.: TBG/HSEP08:F03
REV: 00

DETAILED INCIDENT
INVESTIGATION REPORT

Date: 31.12.2019

Page: 01 of 01

A. Site & incident details

Name of the Site	
Name of Customer	
Accident Date & Time	
Area of Accident	
Accident Details	
Name of Subcontractor	
Scope of Subcontractor	
Details of the injured / deceased (Name, Age, Father's/Mother's Name, Village etc.) and details of injury	

B. Details of investigation team:

C. Details of observations during site visit:

- i. Re-constructed sequence of events in detail:
- ii. Other observations:
- iii. Deviations from Systems (attach Format No. TBG/HSEP08:F04):

D. Details of persons met during the course of investigation

S. No.	Name	Designation	Agency

E. Why-Why Analysis (or any other RCA tool to arrive at root cause(s))

F. Proposed Root Causes along with supporting evidence:

G. RECOMMENDATIONS

- i. Urgent Recommendations (action within 7 days)
- ii. Recommendations for Short Term (within 1 month) Action:
- iii. Recommendations for Long Term Action / System Improvement:

H. SIGNATURE BY THE TEAM MEMBERS



Transmission Business Group

Format no.: TBG/HSEP08:F04
REV: 00

RECORDING EXISTING SYSTEMS
AND DEVIATIONS

Date: 31.12.2020

Page: 01 of 01

Site:	Sector:	Ref. & Date:
Accident Details & Date:		
Document & Clause	Specified Requirements	Actual Conditions

SIGNATURE BY THE TEAM MEMBERS



Transmission Business Group

Format no.: TBG/HSEP14:F01
REV: 00

SAFETY CHECK LIST PRIOR TO
COMMENCEMENT OF WORK

Date: 12.03.2020

Page: 01 of 01

Name of Site & Location/Work:	
Sub-Subcontractor Name :	
LOA/WO Reference No.	
Name of Project Manager:	

Srl No.	Checklist Item	Status (Available/Not Available)	Validity/Remarks
1	Submission of safety Plan		
2	Safety Policy of the company/Agency		
3	Contract Labour License (Copy)		
4	Registration Under BOCW Act 1996 (Copy)		
5	Workmen compensation Insurance Policy		
6	Name of deployment of full time project safety officer (Name/Qualification/Exp.)		
7	Manpower deployment plan activity wise, with organisation structure		
8	Emergency contact nos. list		
9	Training Plan for workers (Induction/Onsite Training)		
10	Emergency Preparedness Plan		
11	T&P Deployment plan (List/Test certificates)		
12	Discharge Rod, cables (suitable for different voltage class)		
13	Suitable and sufficient number of PPEs		
Name of			Signature with date
Safety Officer			
Site In-charge			



Transmission Business Group

Format no.: TBG/HSEP14:F02
REV: 00

INSPECTION OF FIRST AID BOX

Date: 12.03.2020

Page: 01 of 02

Srl.	Name of first aid content	Available? (Yes/No)	Remarks
1.	A 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.)		
2	4 per cent xylocaine eye drops, and boric acid eye drops and soda bicarbonate eye drops,		
3	24 small sterilized dressings.		
4	12 medium sized sterilized dressings.		
5	12 large sized sterilized dressings.		
6	12 large sized sterilized burn dressings.		
7	12 (15 cm) packets of sterilized cotton wool.		
8	(200 ml) bottle of certimide solution (1%) or suitable antiseptic solution.		
9	One (200 ml) bottle of mercurochrome (2%) solution in water.		
10	One (120 ml) bottle of salvolatile having the doses and mode of administration indicated on the label.		
11	One pair of scissors.		
12	One roll of adhesive plaster (6 cm x one meter).		
13	Two rolls of adhesive plaster (2 cms x one meter).		
14	12 pieces of sterilized eye pads in separate sealed packets.		
15	A bottle containing hundred tablets (each of three hundred twenty-five mg) of aspirin or any other analgesic.		
16	12 roller bandages 10cms wide.		
17	12 roller bandages 5cms wide.		
18	One tourniquet.		
19	A supply of suitable splints.		
20	Three packets of safety pins.		



Transmission Business Group

Format no.: TBG/HSEP14:F02
REV: 00

INSPECTION OF FIRST AID BOX

Date: 12.03.2020

Page: 02 of 02

21	Kidney tray.		
22	A snake bite lancet.		
23	One (thirty ml) bottle containing potassium permanganate crystals.		
24	One copy of first-aid leaflet issued by the Directorate General, Factories Advice Service and Labour Institute.		
25	6 triangular bandages.		
26	Two pairs of suitable, sterilized, latex hand gloves.		

Note:

1. The above table is compatible with Schedule-III of the BOCW Act-1996
2. Periodicity of inspections of First-Aid-Box contents should be at least once a month.
3. Container must be legibly marked "First Aid Box"

Name of		Signature with date
Safety Officer		
Site In-charge		

**Transmission Business Group**Format no.: TBG/HSEP14:F03
REV: 00**INSPECTION OF ELECTRICAL
INSTALLATION AND CONSTRUCTION
POWER CABLES**

Date: 12.03.2020

Page: 01 of 01

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

Sr. No.	Contents	Yes/No	Remarks
1.	Whether the condition of cable is checked and found OK?		
2.	Are all the construction power cables routed properly? (either underground / overhead?)		
3.	Are welding cables routed properly above the ground?		
4.	Check for proper earthing of the panels, portable tools & other electrical installations?		
5.	Whether DBs and welding machines are protected from rain/water?		
6.	Check for overloading of DBs and cables.		
7	Are suitable /proper fuses & CBs provided at main boards and distributions boards?		
8.	Whether the connections are routed through ELCB?		
9.	Is ELCB sensitivity maintained at 30 mA?		
10.	Are the ELCB numbered and tested periodically & test results recorded in a logbook countersigned by a competent person?		
11.	Whether the plug top is provided with all the portable machines		
12.	Are halogen lamps fixed at proper places?		
13	Is there any shed or cover for welding machines?		
14.	Any other information:		

Name of	Signature with date	
Safety Officer		
Site In-charge		



Transmission Business Group

Format no.: TBG/HSEP14:F04
REV: 00INSPECTION OF
GAS CUTTING SETS

Date: 12.03.2020

Page: 01 of 01

Name of Site	
Name of Sub-Subcontractor	
Date of Inspection	

Gas Cutting				
Sl.no.	Description	Yes	No	Remarks
1	Are Cylinders kept on trolleys? And are vertically standing?			
2	Physical condition of Gas cylinders Good? Protection from run-over.			
3	Is there Oil/Grease on valve of the cylinder?			
4	Are pressure regulators in good condition and pressure gauges working?			
5	Condition of hose pipe OK? Look for cracked and kinked hose conditions.			
6	Are hose pipes clamped with hose clip? Check for leakage with soap solution.			
7	Is flash back arrestor & NRV fitted on torches of both Oxygen and Fuel cylinders?			
8	Is nozzle of the torch cleaned and hoses free from oil/greases?			
9	Fire extinguisher and fire blankets are available?			
	% Compliance			

Name of	Signature with date
Safety Officer	
Site In-charge	



Transmission Business Group

Format no.: TBG/HSEP14:F05
REV: 00

**CHECKLIST OF FIRE
EXTINGUISHERS & FIRE BUCKETS**

Date: 12.03.2020

Page: 01 of 01

Name of site:

Name of sub-
subcontractor:

Date of inspection:

Srl.	Location	Type and size of extinguisher/Bucket	Last refill date	Last inspection date	Next Inspection due	Remarks

Note: Fire extinguishers and fire buckets to be inspected on monthly basis.

Name of		Signature with date
Safety Officer		
Site In-charge		



Transmission Business Group

Format no.: TBG/HSEP14:F06
REV: 00मैन लिफ्ट/क्रेन/फराना की
दैनिक/उपयोग पूर्व जाँच सूची

Date: 12.03.2020

Page: 01 of 01

एजेंसी का नाम:				
1. मशीन सं.	2. मशीन का नाम	3. क्षमता	4. कुल घंटे	
5.ऑपरेटर का नाम:		6.गेट पास सं.		
मशीन का ऑपरेटर निम्नलिखित कमियों को ध्यान में रख कर नित्य मशीन का (विजुअल) दृश्य जाँच करे और किसी भी प्रकार की कमी होने कि स्थिति में तुरंत सम्बंधित फोरमैन या सुपरवाइजर को सूचित करें ।				
क्र.सं.	जाँच बिंदु	हाँ	ना	लागू नहीं
7.	इंजन ऑइल का लेवल			
8.	ईंधन (फयूल) का लेवल			
9.	बेल्ट और पानी के होज़			
10.	टायर या ट्रैक की स्थिति			
11.	रिवर्स हॉर्न			
12.	अग्निशमन यंत्र ((पहुंच में, भरा हुआ, हुआ,सील किया हुआ, क्षतिहीन)			
13.	इंजन का कूलेंट लेवल			
14.	एअर टैंक ड्रेन			
15.	ब्रेक ऑपरेशन			
16.	सभी लाइट और खिड़कियां			
17.	सभी नियंत्रण अछे से कार्य कर रहे है ।			
18.	हाइड्रोलिक सिस्टम ऑइल लेवल			
19.	हुक और लैच की टूट फूट और घिसाव			
20.	होइस्ट ड्रम मे रोप के ट्विस्ट, खुले स्ट्रैंड, कट-कट कि आवाज़, जंग आदि कि जाँच.			
21.	बूम का कोण (एंगल) और त्रिज्या (रेडियस) इंडीकेटर			
22.	ऑपरेटर मैन्युअल और लोड चार्ट की उपलब्धता			
23.	मैं एक प्रशिक्षित और वैध लाइसेन्स धारक ऑपरेटर हूं ।			
24.ऑपरेटर के हस्ताक्षर:		दिनांक:		
25.फोरमैन/सुपरवाइजर का नाम व हस्ताक्षर:				
26. बीएचईएल अभियंता के हस्ताक्षर				



Transmission Business Group

Format no.: TBG/HSEP14:F07

REV: 03

MOCK-DRILL CHECK LIST

Date: 31.12.2022

Page: 01 of 01

Name of site:			
Location:		Date:	Start Time:
Mock-drill scenario:			
Record first reported time of the incident to site in-charge?			
Srl.	Description of activity undertaken in drill	Yes	No
1	Was this a silent mock drill?	Yes	No
2	Was there enough reaction noticed among the co-workers and supervisors?	Yes	No
3	Was the power switched off first before approaching the affected person?	Yes	No
4	Record the time taken to isolate the power supply. (Max 3 mins.)		Mins
5	Record time taken to arrange and operate fire extinguishers (Max 5 mins)		Mins.
6	Were the people in imminent danger evacuated?	Yes	No
7	Was the person affected checked whether he is alive?	Yes	No
8	Was the person checked for any external injuries?	Yes	No
9	Were the persons aware whom to call in emergency?	Yes	No
10	Was someone called for help?	Yes	No
11	Was there any attempt to give CPR?	Yes	No
12	Was the attempt adequate? Was the person trained?	Yes	No
13	Was the emergency vehicle available at site?	Yes	No
14	Time taken to reach the emergency vehicle? (Record time) (Max 10 mins)		Mins
15	Was stretcher available at site?	Yes	No
16	How much time it took to reach the nearest medical center? (Max 30 mins)		Mins
17	Was the mock drill briefed with Dos and Don'ts at assembly point?	Yes	No
18	Head count done at the emergency assembly area?	Yes	No
	Persons present at the location before drill-		Nos.
	Persons available at emergency assembly point -		Nos.
19	Was time recorded of each activity?	Yes	No
20	Was photographs/videos taken for record and training purposes?	Yes	No
21	Any significant environmental impact by Mock-drill?	Yes	No
22	If Yes, was control and mitigation action initiated as per HSEP-06 (EPRP)?	Yes	No
23	Any other significant point?		
24	Time to call off the drill giving all clear?		Hrs.

Name & HSE Officer		Sign with date	
Name & designation of the site in-charge		Sign with date	



Transmission Business Group

Format no.: TBG/HSEP14:F08
REV: 00

INSPECTION OF PPEs AT
WORK PLACES

Date: 12.03.2020

Page: 01 of 01

Name of Site :	
Name of Subcontractor:	
Inspected by :	
Date of Inspection:	

Item	Total Checked	Numbers Found in Order	Remarks
Safety Helmet			
Safety Shoes			
Reflective Jacket			
Full Body Harness			
Fall Arrestor			
Gum Boots			
Hand Gloves			
Face shield			
Welder shield			
Nose Mask			
Safety Goggles			
Safety Nets			
Other PPEs (Specify)			

Name of		Signature with date
Safety Officer		
Site In-charge		



Transmission Business Group

Format no.: TBG/HSEP14:F09
REV: 00

INDUCTION TRAINING RECORD

Date: 12.03.2020

Page: 01 of 01

Name of Agency: _____ Date: - _____

Location: - _____ Project Details: - _____

Nature of Work Person Does: - _____ Induction given by: - _____

Detail of Persons Inducted

Sr. No.	Name	Designation	Age	Signature
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Points Discussed (Tick out): -

- ☐ Importance of PPE's
- ☐ Emergency Assembly Point
- ☐ Precaution during Concreting
- ☐ Precaution while working at height
- ☐ Seven Steps of safety / Temporary Electricity
- ☐ Material Handling
- ☐ Important Numbers
- ☐ Overview of Project
- ☐ Health & Safety Policy
- ☐ General site safety Rules

- ☐ Housekeeping
- ☐ Driving
- ☐ Precaution in Excavation
- ☐ Precaution in Electrical
- ☐ Location of First-Aid
- ☐ Precaution in Erection Work
- ☐ Operation of Fire Extinguisher
- ☐ Hazards at Project sites
- ☐ Drugs & Alcohols
- ☐ Customer Requirement

Any Special Point Discussed: - _____

Signature of Safety Officer

Signature of Site Manager

Note: -

- It should be kept at site for record
- It is mandatory for all new inductees & to be repeated once in six months.
- Induction training must be given by site safety officer or by site manager in local language.



Transmission Business Group

Format no.: TBG/HSEP14:F10
REV: 01टूल बॉक्स टॉक
TOOL BOX TALK

Date: 01.08.2026

Page: 01 of 01

साइटका नाम/Name of Site :		दिनांक/Date:
ठेकेदार/Subcontractor Name :		
कार्यस्थल/Location/Work:		

विषय/Topics discussed:

क्र. SN.	टीबीटी में उपस्थित सदस्य का नाम/Name of the participants attended TBT meeting	कोई सुझाव या प्रश्न Queries raised by (v)	हस्ताक्षर या अंगूठे का चिन्ह Signature/Thumb impression
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

नाम/Name of	हस्ताक्षर/Signature
Engineer/Supervisor:	
Site In-charge:	

नोट: भरा हुआ तथा हस्ताक्षरित टीबीटी रिकॉर्ड प्रतिदिन बीएचईएल (BHEL) सुरक्षा अधिकारी को जमा किया जाना चाहिए। प्रतिदिन काम आरंभ होने से पूर्व कार्यस्थल पर टीबीटी आयोजित किया जाना चाहिए और इसमें निम्नलिखित बातों को सम्मिलित करना चाहिए: **1.** टीम द्वारा आज किए जाने वाले कार्य का संक्षिप्त विवरण। **2.** कार्य में और कार्यस्थल पर खतरों की पहचान। **3.** पहचाने गए खतरों को कम करने के लिए आवश्यक सुरक्षा उपाय। **4.** जांचें कि क्या कार्य के लिए पीटीडब्ल्यू (PTW/कार्य परमिट) की आवश्यकता है?, और यदि आवश्यक हो तो इसे लिया गया है या नहीं। **5.** पीपीई (PPE), उपकरणों/मशीनरी और कार्य क्षेत्र का गहन निरीक्षण। **6.** इस प्रारूप पर प्रविष्टियाँ पूरी कर हस्ताक्षर करवाना।

Note: TBT records, duly signed, to be submitted to BHEL safety officer on daily basis. TBTs to be conducted daily at work location before start of work and shall cover following: **1.** Brief description of work to be done today by the team, **2.** Identification of hazards in work and at work location, **3.** Safety measure required to be taken to mitigate the hazards identified, **4.** Check if the PTW is required for the job and taken if required **5.** Thorough inspection of PPEs and Tools/machineries and area. **6.** Getting entries done and signed on this format.



Transmission Business Group

Format no.: TBG/HSEP14:F11
REV: 00

PERSONAL PROTECTIVE EQUIPMENTS STATUS

Date: 12.03.2020

Page: 01 of 01

Name of Site :

Name of Sub-Subcontractor :

Date of Stock :

Item (in nos.)	Issued this Month	Issued up to the Month	Damaged This Month	Cumulative Damage up to this Month	Disposed	Repaired (This month)	Balance in stores	% age Compliance
Safety Helmet								
Safety Shoes								
Safety Jacket								
Full Body Harness								
Fall Arrestor								
Face shields								
Apron								
Hand Gloves								
Nose Masks								
Gum Boots								
Goggles								
Other PPEs.								

Note: Sub-Subcontractor should ensure 25% excess availability of PPEs in additions to issued qty.

Name of	Signature with date
Safety Officer	
Site In-charge	



Transmission Business Group

Format no.: TBG/HSEP14:F12

REV: 00

STATUS OF TOOLS & PLANTS

Date: 12.03.2020

Page: 01 of 01

Name of Site	
Name of Sub-Subcontractor	
Date of Inspection	

Name of T&P	Units Deployed	Identification Marks/No.	TPI done for no of units	Validity of TPI Certificate
Winches				
Chain pulley Blocks				
Wire Rope Slings				
Nylon rope/belts				
Man Cages				
D-Shackles with pins				
I-Bolt				
Air Compressors				
Crawler Cranes				
Mobile Cranes				
Hydra Cranes				
Excavators/JCBs				
Others				

Name of	Signature with date
Safety Officer	
Site In-charge	



Transmission Business Group

Format no.: TBG/HSEP14:F13

REV: 00

परियोजना संबंधी सूचना
PROJECT INFORMATION

Date: 12.03.2020

Page: 01 of 01

परियोजना का नाम, Name of Project:	
मुख्य नियोक्ता: Principal Employer:	
ठेकेदार: Subcontractor:	भारत हेवी इलेक्ट्रिकल्स लिमिटेड Bharat Heavy Electricals Limited
उपठेकेदार: Sub: Subcontractor:	
कार्य का समय : Working Hours:	सुबह 8.30 से शाम 5 .30 बजे तक (सामान्यतः) From 8.30am to 5.30 pm (Generally)
भोजनवकाश : Lunch Hours	दोपहर 1.00 से 2.00 बजे तक (सामान्यतः) From 1.00pm to 2.00pm (Generally)
प्रदत्त साप्ताहिक अवकाश: Paid Weekly off:	रविवार (प्रधानतया) Sunday (Preferably)
दैनिक भुगतान की दर (साप्ताहिक अवकाश की दर को मिला के) (सरकारी दरx30/26) Rate of wages per day including paid weekly off (Min. wages ratex30/26)	
१. अकुशल कामगार / Unskilled labour	
२. अर्धकुशल कामगार / Semi skilled Labour	
३. कुशल कामगार / Skilled Labour	

	Transmission Business Group	Format no.: TBG/HSEP14:F14 REV: 00
	आपातकालीन संपर्क नंबर EMERGENCY CONTACT NUMBERS	Date: 12.03.2020
		Page: 01 of 01

Name of site:

Srl No.	Name of the contact person/agency	Contact No.
1	Safety officer of BHEL/Agency	
2	Sr. Most official of the customer at the project	
3	Site in-charge BHEL/Agency	
4	Trained fire fighter	
5	Trained First Aider	
6	Nearest Hospital	
7	Doctor with whom to contact	
8	Police Station	100
9	Nearest Fire Tender	101
10	Government Ambulance	102/108/9540161344
11	Child Help line	1098
12	Woman Help Line	1091
13	State Forest Department help line	

	Transmission Business Group	Format no.: TBG/HSEP14:F15 REV: 00
	NC PENALTY CHALLAN CUM NOTICE	Date: 12.03.2020
		Page: 01 of 01

For repeated **major and** fatal incidents under the same subcontractor for the same package, the subcontractor will pay 2 times the penalty compared to previously paid.

Reason/justification of penalty: He/She/M/s was repeatedly warned in past also, but no improvement is observed.

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

Penalty imposed:

1, Rate as per above chart in clause no 17 (TBG/HSEP 14) _____

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

3. Total Penalty (Rs.)# = 1. X 2. = _____

(# or as deducted by customer, whichever is higher)

Witnessed by: (Sub- subcontractor representative)

(BHEL Personnel)

Name _____

Name: _____

Signatures:

Attachments: Photographs & Documentary proof (if available) for violation

Distribution:

Copy: 1. Sub- subcontractor Site In-charge,
2. Engineer In-charge/BHEL

Note:

1. He/She/M/s is warned not to repeat such an act in future.
1. Three times consecutive penalty on the same person/agency for the same reason shall de-bar him/her from working into the TBG project premises.
2. **Amount to be deducted is mentioned in Clause no. 18 above (Non-Compliances).**



Transmission Business Group

Format no.: TBG/HSEP14:F16

REV: 00

HEALTH CHECK-UP

Date: 12.03.2020

Page: 01 of 01

Project:							
Principle employer:							
Sub-Subcontractor:							
Examining Doctor:		Date:				Time:	
GP No.	Name				Father's Name	No	
Age	Sex	Address			Occupation		
A.1	Medical History:						
A.2	Occupational History:						
B.1	General Physique						
B.2	Vision (Total visual performance)						
B.3	Hearing (Forced whisper from 24 feet distance)						
B.4	Breathing (Peak flow rate using peak flow meter)						
B.5	Upper Limbs (Adequate arm function and grip (both arms))						
B.6	Lower Limbs (Adequate leg and foot function)						
B.7	Spine (Adequately flexible for job concerned)						
B.8	General (Mental alertness and stability with good eye, hand and foot coordination.)						
C.	Any other tests which the examining doctor considers necessary.						

I hereby certify that I have personally examined Mr.Son/daughter/wife ofresiding at, who is desirous of being employed in building and construction work and that his/her age as nearly can be ascertained from my examination is..... years and that he/she is fit for employment inas an adult/adolescent.

Signature/Left hand Thumb
impression of building worker

Signature with Seal
Medical Inspector/C.M.O

Note:

1. Exact details of cause of physical disability should be stated.
2. Functional/productive abilities should also be stated if disability is stated.

	Transmission Business Group	Format no.: TBG/HSEP14:F17 REV: 00
	नियुक्ति पत्र EMPLOYMENT CARD	Date: 12.03.2020
		Page: 01 of 01

उपठेकेदार का नाम Name of sub-subcontractor		
ठेकेदार का नाम Name of Subcontractor		
मुख्य नियोक्ता का नाम Name of Principal employer		
साइट का नाम व पता Name and address of the site		
कार्य का नाम व स्थान Name of work and location		
01.	कर्मकार का नाम Name of the worker	
02.	गेट पास संख्या Gate pass number	
03.	कार्य/श्रेणी Work/Class	
04.	दैनिक भुगतान की दर (रु) Daily wage rate (Rs.)	
05.	मजदूरी की अवधि Working Hours	
06.	नियुक्ति का कार्यकाल Tenure of appointment	
07.	टिप्पणी Remarks	

नियोक्ता(उपठेकेदार) के हस्ताक्षर/
Signature of Employer(Sub-subcontractor)



Transmission Business Group

Format no.: TBG/HSEP14:F18

REV: 00

APPLICATION FOR HEIGHT PASS

Date: 12.03.2020

Page: 01 of 03

(Working at heights more than 3.0m above ground or floor)

Project _____

Group/Section: _____ Subcontractor: _____

1. Applicant's Name : _____

2. Departmental Address: _____

3. Residential Address : _____

4. Age : _____ 5. Sex: _____ 6. Height (CM) _____

7. Gate Pass No. : _____

8. Name of subcontractor/Agency with
whom engaged at present : _____

9. Height pass requirement for work at _____ mtr. height.

10. Description of present job : _____

11. Previous experience of working at height: _____

Srl No.	Name of the Employer/Project	Duration of employment	Work Experience
1			
2			

Declaration:

I hereby declare that the above information furnished by me is true and correct. I shall always wear the safety belt and tie the life-line whenever working at unguarded heights of 3 mtrs and above. I shall not misuse the height pass issued to me or transfer it to any other person. I shall never come to duty or work at height/depth under the influence of alcohol/drugs.

Name: _____ Sign: _____ Date: _____

(Applicants Name & Signature or Left Thumb Impression (LTI) in case he cannot sign. In case of LTI; an authorized person shall explain each point/item to the individual and certify on his behalf below the LTI).

I certify that I am satisfied with the above certification of the individual for the application of Height Pass and request for issue of height pass to him.

Name: _____ Sign: _____ Date: _____
(Agency concerned)



Transmission Business Group

Format no.: TBG/HSEP14:F18
REV: 00

MEDICAL FITNESS CERTIFICATE

Date: 12.03.2020

Page: 02 of 03

Certified that I, Dr. _____ have examined Shri.

_____ aged _____ on (date) _____ of M/s.

_____ who has signed below in my presence.

General & Physical examinations of Shri. _____ do not reveal any abnormality. He does not suffer from any acute/chronic skin disease or any contagious or infectious disease. His eyesight is normal with/without glasses. In my opinion, Shri _____ is physically and mentally fit for working at height.

Details of examinations:

1. Age: _____

2. General & Systemic Examination:

2.1	Pulse			2.7	Vision	Normal	Abnormal
2.1	B.P.			2.8	Colour Vision	Normal	Abnormal
2.3	Weight			2.9	Hearing	Normal	Abnormal
2.4	Height			2.10	Respiratory System	Normal	Abnormal
2.5	Pallor	Yes	No	2.11	Cardio Vascular System	Normal	Abnormal
2.6	Flat Foot	Present	Absent	2.12	Gait	Normal	Abnormal

3. Previous History of:

3.1	Seizure disorders (Epilepsy)	Yes	No
3.2	Frequent headache or reeling sensation	Yes	No
3.3	Mental depression	Yes	No
3.4	Acrophobia	Yes	No

(Signature of workman)

(Signature & Rubber stamp of Medical Practitioner with Reg. No.)



Transmission Business Group

Format no.: TBG/HSEP14:F18
REV: 00

HEIGHT PASS

Date: 12.03.2020

Page: 03 of 03

(Working at heights more than 3.0m above ground or floor)

Ref. No.

Date of issue:

Valid upto:

(Considering the above medical certificate; the applicant has appeared on the following practical tests conducted by BHEL & _____ and the results are given below :

(strike off whichever is not applicable)

a) Walking freely over a horizontal structure bar : Pass / Fail
at 1 ft. height

b) Wearing a safety belt and tying the rope knot : Pass / Fail

c) Walking over a horizontal structure at 10 ft. : Pass / Fail
height wearing a belt.

d) General physique: Pass / Fail

Affix
photograph
(3.5cm x2.5cm)
for sub-subcontractor's
workers only

The above applicant's performance in the above tests has been satisfactory/ unsatisfactory.

I certify issue of this height pass to Shri _____ of M/s.

_____ with Registration No. _____ in the height pass

register. This is valid for one year from the date of issue i.e. up to _____.

Date :

Name : _____
(Safety officer – Sub subcontractor)

Signature : _____

Name : _____
(Safety Officer-BHEL)

Signature : _____

“BHEL Letter Head”

Hospital Tie-up request letter

To:
Name of Hospital
Address

Date:

K/A: Concerned person/ Authority

Subject: Request for tie-up to provide emergency medical help at BHEL-TBG site on call.

Dear Madam/Sir;

Bharat Heavy Electricals Limited (BHEL) is a Central public sector company and Transmission Business Group is one of its units which is engaged in execution of power transmission projects. We have recently mobilised our execution team for the project which is situated at the following address.

Address of the project site:

The nearest medical facility from our site is your establishment, thus we feel that this hospital will be most suitable to respond in the emergency conditions if arises any.

In view of the above, we request you to please extend the emergency medical helps such as providing ambulance service and medical practitioner etc. on call in the shortest possible time of maximum 30 minutes. Also to facilitate for other medical requirements such as medical camp for health check-up and tetanus vaccination, providing training on first aid etc.

Contact details of following may also please be mentioned on the same tie-up letter:

1. Dr.
2. Ambulance Van
3. General query

Thanking you

For and on behalf of

(Signature of Site In-charge with name and seal)

“Hospital Letter Head”

Hospital Tie-up letter

To:
Site In-charge,
BHEL-Transmission Business Group
765/400kV Substation, Jeerat, WB

Date:

Subject: Tie-up with Hospital for emergency and other medicals services

Dear Sir;

With reference to your proposal letter dated, we are pleased to inform you that our hospital

.....
has agreed to provide emergency medical services at your request at the 765/400kV Power Grid substation, Jeerat including its labour camp.

Emergency services may include

1. Providing Ambulance Van within 20 minutes of call.
2. Doctor and medical staff as per requirement
3. Medicines and other first aid facilities as per requirement.

We may also arrange for medical camp with medical practitioner for health check-ups and mass vaccination drives such as tetanus, training on first aid etc. if required so by the site management.

This tie-up shall come in to effect from 02.02.2019 and shall remain in force till next 4 years from that.

Emergency Contact number and persons are:

1. Dr.
2. Ambulance Van
3. General query

Any change the above contact numbers shall be duly updated to the BHEL officials.

Thanking you

For and on behalf ofhospital

Authorised Signatory (with name & stamp)



Transmission Business Group

Format no.: TBG/HSEP14:F20

REV: 00

JOB SAFETY ANALYSIS

Date: 12.03.2020

Page: 01 of 01

Name of site:	Name of activity:	JSA No.:
Location: :	Analysis by: (Sub-Cont.)	
Agency:	Reviewed by: (BHEL)	Rev. No.:
Supervisor:	Approved by: (Customer)	Date:

Required/Recommended PPEs:

Required Manpower:

Required T&P:

Srl.	Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			



Transmission Business Group

Format No.:TBG/HSEP:14-F21

REV: 00

INSPECTION OF LABOUR CAMP

Date: 12.03.2020

Page: 01 of 01

Sr.	Check points	Yes/No	Remarks
1.	General housekeeping is satisfactory		
2.	Potable water in adequate amount is available in at hygienic location.		
3.	Adequate number of toilets/urinals (separate for male and female) are available (1 for every 20 person)		
4.	Adequate illumination inside camps, on roads, in the toilets/urinals and in other common areas		
5.	Toilets and urinals are properly maintained with availability of water and regular cleanliness		
6.	Clean washing and bathing area is provided		
7.	Covered bathing areas for female members provided		
8.	Emergency contact number is provided/displayed appropriately.		
9.	Labour camp is fenced to control access and theft etc.		
10.	Firefighting facility is adequately available and persons are made aware of the same.		
11.	First aid facility with some trained members are available inside the camp area		
12.	Electrification wiring is safe and as per the capacity.		
13.	Distribution boards are provided with safety devices and earthing.		
14.	Workers are not transported in open vehicles, dumpers, tractor trolleys, JCB buckets, etc.		
15.	Drainage system inside the camp is maintained and working. Cleaned periodically.		
16.	Good Ventilation in the rooms of camps are ensured.		
17.	Periodic training conducted for safe use of LPG, cleanliness, health and hygiene.		
18.	Periodic de-vegetation and fogging for mosquito protection		

Note : To be done at-least once a month.

Name of	Signature with date
Safety Officer	
Site In-charge	



Transmission Business Group

Format No.:TBG/HSEP:14-F22

REV: 00

INSPECTION OF HEIGHT WORKING

Date: 12.03.2020

Page: 01 of 01

Name of site & Sector:		
Name of Sub-subcontractor:		Package:
Location of Inspection :	Date :	

Sr. No.	Points to be checked (Ensure)	Yes/No	Comment (if any)
1	Height workers have undergone medical fitness test		
2	Induction training given to all height workers engaged on the job		
3	Height pass is issued and valid for the workers		
4	Safety net, if required, is provided suitably		
5	Supervisor is available at the location of height work		
6	Area is barricaded to check unauthorized entry		
7	Workers are provided with required PPEs like Safety shoes, Helmet, reflective jackets, Safety harness, Fall arrester, life line, etc.		
8	Area is well illuminated for clear visibility		
9	Work location is well Ventilated		
10	Scaffold platforms are inspected and clearance given by an authorized person before use.		
11	Scaffold platforms have provision of proper ladder/staircase for safe access and top & mid rail and toe boards.		
12	Height platforms/locations are provided with harness anchorage point suitable to number of workers.		
13	Roof edges are protected with parapet or hard barricading		
14	Roop openings are covered/barricaded with signage		
15	No height work is done in bad weather or high windy conditions		
16	Metal parts are properly earthed near induction areas		
16	Permit for height work is taken by the concerned supervisor		

Periodicity of inspection: Once a week for every height work location

Name of	Signature with date	
Safety Officer		
Site In-charge		

	Transmission Business Group		Format No.:TBG/HSEP:14-F23
	MONTHLY HSE REPORT		REV: 00
			Date: 12.03.2020
		Page: 01 of 01	

Name of Project:			
Name of Agency			
First Reporting month & Yr:		This Reporting Month & Yr.	
Reported by (Name & Desg.)			

Srl.	Reporting heads	Subcontractor(A)		Customer/Public (B)		Total (A+B)	
		This month	Cumulative	This month	Cumulative	This month	Cumulative
1	Fatal Incident (In Nos)						
2	Serious Injury (In Nos)						
3	Lost Time Injury (Minor) in nos.						
4	First Aid Injury (In Nos)						
5	Near Miss (In Nos)						
6	Unsafe Conditions / Unsafe Act (in Nos)						
7	Environmental incident / accident (In Nos.)						
8	Working Hours Man hours						
9	Permits taken (PTW) (in nos.)						
10	Induction training given to (in nos.)						
11	Medical Test done for (In nos.)						
12	HSE Trainings conducted (in nos.)						
13	Height pass issued to (In nos.)						
14	HSE Audits/Inspections done (in nos.)						
15	Third Party Inspection for T&Ps done (in nos.)						

Name of		Signature with date
Safety Officer		
Site In-charge		



Transmission Business Group

Format No.:TBG/HSEP:14-F24

REV: 00

MONTHLY HSE PLANNING & REVIEW

Date: 12.03.2020

Page: 01 of 03

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	
Sr. No.	Description of HSE Activity & Formats	Plan & Targets for the month of :	Review
1	Availability of First Aid Box at Required Places and Inspection thereof as per Format: F01	Areas 1.	
2	Health check-up as per Format: F02	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: F09	Minimum No. of workers:	
4	Toolbox talks (TBT) conducted before start of work as per Format: F10	Locations of TBTs & No. of workers 1. ...	
5	PPE usage and issue as per Format: F11		
6	Inspection of T&Ps as per Format: F12	List of T&Ps to be inspected 1.	
7	Identification & Inspection Status of T&Ps as per Format: F12		
8	Inspection of Cranes & Winches as per Format: F06	List of Cranes & Winches & Nos. 1. ...	
9	Inspection of Height Working as per Format: F22	Areas: 1. ...	
10	Inspection of Welding & Gas Cutting operations as per Format: F04	Areas: 1. ...	

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



Sr l	Description of HSE Activity & Formats	Plan & Targets for the month of :	Review
1 1	Inspection of Electrical Installations as per Format: F03	Locations: 1. ...	
1 2	Inspection of Excavation as per Format: F25	Locations: 1. ...	
1 3	Job Safety Analysis as per format no. TBG/HSEP14:F20	Activities 1.	
1 4	Regular Job Specific Training (Re-training) for workers involved in hazardous activities	Topics / Hazards & No. of workers 1. ...	
1 5	Mass housekeeping drive in work areas	Areas 1.	
1 6	Vertigo test for height workers	Minimum number of workers	
1 7	Deployment of qualified safety officer as per contract	Location(s) & Nos. 1.	
1 8	Deployment of qualified steward as per contract	Location(s) & Nos. 1.	
1 9	Deployment of safety tools & equipment (Safety nets, Life lines, Fall arrestors, Man-cages, flash back arrestors, scaffoldings, etc.)	Tool/Equipment & Location 1.	
2 0	Safety walks by site in-charge of agency (weekly)	Dates:	
2 1	Safety walks by site engineers (twice a week)	Dates:	
2 2	Availability and display of safety posters / Placards / Signage at strategic locations.	Location nos. 1.	
2 3	Provision of clean drinking water points for workers	Location nos. 1.	



Transmission Business Group

Format No.:TBG/HSEP:14-F24

REV: 00

MONTHLY HSE PLANNING & REVIEW

Date: 12.03.2020

Page: 03 of 03

2 4	Provision of toilets for workers (separate for male & female workers)	Location nos. 1.	
2 5	Rest sheds for workers during lunchtime, rain, dust storms etc.	Location nos. 1.	

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

Srl	Description of HSE Activity & Formats	Plan & Targets for the month of :	Review
26	Availability of following in labour colony	1. Clean drinking water 2. Toilets/Urinals 3. Cleanliness & Hygiene 4. Grass cutting 5. Fogging 6. Electrical Inspection	
27	Availability of dust / waste bins at various locations	Location Nos. 1.	
28	Availability of emergency vehicle during working hours	Emergency vehicle no.	
29	Availability of healthy fire extinguishers	Location & nos. 1.	
30	Tree plantation	Location & nos. 1.	
31	Waste disposal & scrap bins	Location nos. 1.	
32	Adequacy of Illumination Facility at site	Location nos. 1.	
33	Safety award to good practitioners	Minimum 1 per month	
34	Submission of weekly report as per format no. TBG/HSE14:F26	Daily Reports (Night & Day Shifts)	

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

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

	Transmission Business Group	Format No.:TBG/HSEP:14-F25 REV: 00
	INSPECTION OF EXCAVATIONS	Date: 12.03.2020
		Page: 01 of 01

Name of site & Sector:		
Name of Sub-subcontractor:		Package:
Location of Inspection :	Date :	

Sr. No.	Points to be checked (Ensure)	Yes/No	Comment (if any)
1	Taking clearance from customer before excavation for underground facilities such as gas /water /chemical / electrical lines etc.		
2	Excavator is operated by trained and authorized person only		
3	Step cutting or slope cutting as per the soil condition. (Minimum step 600mm at every 1.5m depth and slope of 1:2)		
4	Where slope/step cutting is not possible, shoring shuttering is provided.		
5	Undercuts are not done.		
6	Ramp or proper ladder is provided for workers to enter/exit		
7	Excavated soil is kept away from the edge at-least 1.5m or half of the depth of pit (whichever is higher). Soil is heaped < 2m height.		
8	Pit is barricaded all the while. Provide hard barricading with caution board of "Deep excavation" near passages/Roads		
9	Provide adequate illumination at the pits near passages/roads.		
10	Vehicles are restricted at-least 2m away from the edge.		
11	Materials are stored at-least 1.5m away from the edge.		
12	De-watering facility is available near the excavation if such condition exists.		
13	If a power cable is exposed/unearthed, excavation is stopped and cable is removed by trained electricians only.		

Periodicity of inspection: Once a week for every height work location

Name of	Signature with date
Safety Officer	
Site In-charge	



Transmission Business Group

Format No.:TBG/HSEP:14-F26

REV: 00

WEEKLY HSE REPORTING

Date: 12.03.2020

Page: 01 of 01

Name of site & Sector:			
Name of Sub-subcontractor:		Date:	
Year:	Month:	Week :	

Srl	Name of reportable activity	Status
	Average no. of Staff/per day (Engineers+Supervisors)	
	Average Man power/day (Workers+Gang leaders+Operators+etc.)	
	Availability of safety officer (Number of day present in the week)	
	Availability of safety steward (Number of day present in the week)	
	Tool Box Talk held (No. of Location and Participants)	
	Induction trainings conducted (No. of participants)	
	Vertigo test done (No. of participants)	
	Job specific trainings conducted (no of topics and total participants)	
	Work permits (Taken Vs Returned)	
	Job Safety Analysis done (Activity)	
	Inspection of height working (Locations)	
	Inspection of Excavations (Locations)	
	Inspection of T&Ps (Name & number)	
	Inspection of PPEs (Name & quantity)	
	Inspection of first aid box	
	Safety Walks by Project manager (Yes/No)	
	Safety Walks by Site Engineer (in nos.)	
	HSE Meeting conducted (No. of participants attended)	
	Housekeeping drives (Name of locations)	
	Dust suppression activity done (no. of times per day in a week)	
	No of Unsafe acts/Unsafe conditions recorded (in nos.)	
	No. of Safety observations given by BHEL Vs Observations closed	
	No of near miss reported	
	No. of first aid cases reported/Recorded	
	No. of Lost Time Injuries Reported	
	Any other point/remark	

Report Prepared by:

Report Verified by:



Transmission Business Group

Format No.:TBG/HSEP:14-F27

REV: 00

SCAFFOLD INSPECTION CHECKLIST

Date: 04.01.2025

Page: 01 of 01

Name of site:	Location:	
Inspected by:	Date	Time:

Srl.	Check Points	Yes	No	Remarks
1.	Scaffold components, planking/decking in good condition?			
2.	All scaffold components in place and no defects?			
3.	Poles, legs or uprights of scaffolding are securely braced to prevent swaying / displacement?			
4.	Mud Sills of adequate size are properly placed where required?			
5.	Screw jacks being used to level and plumb scaffold when required?			
6.	Base plates and/or screw jacks in firm contact with mudsills and frame?			
7.	Scaffold is level and plumb?			
8.	Scaffold legs braced, with braces properly attached?			
9.	Guard railing in place on all open sides and ends?			
10.	Visual check to verify clamps secured in place?			
11.	Scaffold secured to structure to prevent movement?			
12.	Brackets, tube and clamp, and accessories properly placed with wedges tightened?			
13.	Area around scaffold has been secured/roped off?			
14.	Planks have minimum 12" overlap and extend 6" beyond supports?			
15.	Toe boards properly installed as per requirement?			
16.	Proper access to get on and off the scaffold? Ladder secured in place and extended min 1m?			
17.	Free standing scaffolding tower protected from tipping by guying or other means?			
18.	Wall scaffolding anchored properly in 'X' and 'Y' directions at suitable distances?			
19.	Scaffold control tag has been signed and approved for use?			
20.	If inspection reveals scaffold is unsafe to use, has "Do Not Use" tag been placed at all access points?			

Named & Signature of competent/authorized Inspector:	
Name & Signature of area in-charge/engineer:	



Transmission Business Group

Format No.:TBG/HSEP:14-F28

REV: 00

NEAR-MISS REPORT

Date: 04.01.2025

Page: 01 of 01

Name of site:

Ref. No.: Site name-XX

Date & Time of incident:

Reported by:
Mobile no.

Incident Location:

Type of Near Miss

- Slips, trips, and falls:
- Equipment failures:
- Improper use of equipment
- Falling objects:

- Unsafe acts
- Unsafe conditions
- Chemical spills
- Fire

Brief description of incident:

Immediate cause of incident:

Immediate actions taken to correct:

Signature & date:

Definition: A **Near-Miss** is an unplanned event that did not result in injury, illness or damage to property but, given a slight shift in time or space, had the potential to do so. Near misses also referred to as close calls, near accidents, or injury-free events.

For the sake of a safe work environment, it is important to report and correct all such events immediately

Use this format to report a Near-Miss incident to BHEL site in-charge/safety coordinator.



Transmission Business Group

Format No.:TBG/HSEP:14-F29

REV: 00

DAILY HSE OBSERVATION REGISTER

Date: 04.01.2025

Page: 01 of 01

Observation					Responsible agency			BHEL	
Sr.	Date	Location	Details	Classification (Unsafe act/ Unsafe Condition)	Agency name	Person (Name & sign)	Closure commitment	Actual Closure date	Witnessed by (Name & Sign)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Note: Above table is a sample format, this format is to be used on a physical register to record, report and address/attend unsafe acts and unsafe conditions at TBG sites on daily basis.



Transmission Business Group

Format No.:TBG/HSEP:14-F30
REV: 00

IDENTITY-CARD FORMAT FOR
SUBCONTRACTORPERSONS

Date: 04.01.2025

Page: 01 of 01

No:

Identity Card

Project:

Agency:	
Name:	
Father's Name:	
Age:	Gender:
Mobile no:	
Aadhaar No.:	
Designation/Skill:	
Issue date:	Valid till:
Signatory name:	
Signature & stamp of authorized signatory	

Front side

Important events	Yes/No	Date
Induction training?		
Health check-up?		
Tetanus vaccination?		
Vertigo test & Medical?		
Validity extensions	Date (till)	Sign
1.		
2.		
3.		

Back side

Skill: Rigger, Fitter, Welder, Driver, Operator, Helper, Electrician, Mason, Bar bender, grinder, etc.

Designation: Manager, Engineer, Supervisor, Safety officer, Safety supervisor, Safety steward, etc.



Transmission Business Group

Format no.: TBG/HSEP14:F31

REV: 00

DAILY HSE REPORT

Date: 23.05.2026

Page: 01 of 01

Name of Site/Sector:			
Reporting date:			
No. of BHEL officials:			
Name of BHEL Safety officers posted at site:	1. 2.		
Agency Name	Site in-charge name	Safety person name	
1.			
2.			
3.			
4.			
5.			

TBT Status:

Total TBT conducted today:

Sr No.	Agency name	Scope (Civil/ETC / Package)	Total Manpower (Nos.)	TBT attended (Nos.)	Conducted by Official's (Name & Design) AND BHEL Rep. Present
1.					
2.					
3.					
4.					
5.					
Total					

Whether the TBT is uploaded on observer app? Yes/No

ACTIVITY	No. of observations	Uploaded on observer App/Remarks
Observations raised today:		
Observations closed today:		
Safety walk conducted today:	(Yes/No)	

HSE Activity Calendar:

Name of activity	Compliance status / Remarks
Activity-1:	
Activity-2:	
Activity-3:	

Name of	Signature with date
Safety Officer	
Site In-charge / BHEL Engineer	

*This report shall be prepared and shared on same day in the evening or next day by 10am through email at tbghse@bhel.in.

	Transmission Business Group	Doc no.: TBG/HSEP-14
	HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE	REV: 01
	OPERATIONS (SUB-SUBCONTRACTOR)	Date: 16.10.2020
		Page: 01 of 01

ANNEXURE-7

PERMIT TO WORK (PTW) FORMATS

This Annexure contains following PTW formats:

Srl.	Name of Permit	Permit Format No.	Rev	No of pages
1	Permit to work (general work permit)	TBG/HSEP12:F01	00	02
2	Height Work Permit (job specific work permit)	TBG/HSEP12:F02	00	03
3	Hot Work Permit	TBG/HSEP12:F03	00	03
4	Confined Space Work Permit	TBG/HSEP12:F04	00	03
5	Excavation Work Permit	TBG/HSEP12:F05	00	03
6	Radiation Work Permit	TBG/HSEP12:F06	00	03
7	Heavy / Complex / Critical Lifting Activity Permit	TBG/HSEP12:F07	00	03
8	Night Work / Holiday Work Permit	TBG/HSEP12:F08	00	03
9	Loading / Unloading Permit	TBG/HSEP12:F09	00	03
10	Safety Net / Safety Facility Removal Permit	TBG/HSEP12:F10	00	03
11	Lockout / Tag out Request Permit	TBG/HSEP12:F11	00	03
12	Electrical work permit	TBG/HSEP12:F12	00	03

(Prepared by)

(Checked by)

(Approved by)

	Transmission Business Group	Format No.:TBG/HSEP:12-F01 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	GENERAL WORK PERMIT	Page: 01 of 02
Permit no.:		Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
	Job Specific Permit Required :		
1.	Height Work Permit Required		
2.	Hot Work Permit Required		
3.	Confined Space Work Permit Required		
4.	Excavation Work Permit Required		
5.	Radiation Work Permit Required		
6.	Heavy / Complex / Critical Lifting Activity Permit Required		
7.	Night Work / Holiday Work Permit Required		
8.	Loading / Unloading Permit Required		
9.	Grating / Safety Net / Safety Facility Removal Permit Required		
10.	Lockout / Tag out Request Permit Required		
11.	Other Permit required. Pl specify :		
	Specific PPEs for the Activity:		
1.	Dust Mask/ other respiratory equipment required. List details:		
2.	Welding and/or Grinding Shield required.		
3.	Gloves: Leather () / PVC () / Welding ()		
4.	Other PPE, List:		
	Procedure Required :		
1.	OCP No. Ref :		

Name of Subcontractor/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:** _____

**Transmission Business Group**Format No.:TBG/HSEP:12-F01
Rev: 00**PERMIT TO WORK**

Date: 31.12.2019

GENERAL WORK PERMIT

Page: 02 of 02

Permit no.:

Emergency Contact No.:

Permit Cancellation / Closure:

I hereby declare that the work is cancelled/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 S/C Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(Validity duration of this permit must not exceed 15 days)**Original at BHEL site (Safety)****Copy: BHEL Sub-Subcontractor**

	Transmission Business Group	Format No.:TBG/HSEP:12-F02 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	WORK AT HEIGHT PERMIT	Page: 01 of 03
Permit no.:		Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

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

Description of Work:

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1.	All workers on the job are competent and medically fit (No acrophobia) for working at height.		
2.	Scaffolding soundness inspected and with valid tag available for use.		
3.	Work platform is safe and not made of bamboo or weak material. Barricading is available.		
4.	Safety harness with life line support/ fall arrester are checked and available in working condition		
5.	Horizontal life lines are provided to cater to design specification of 2300kg per person.		
6.	Safety shoes (Anti-skid), Helmet with, chin strip is available with all		
7.	Safety nets are provided wherever required (below working area).		
8.	Ladders have been secured, inspected and provided as per BHEL standard/contract.		
9.	All lifting / tightening tools, hand tools/equipment checked for its healthiness.		
10.	Access and exit to workplace are safe, marked and without obstruction.		
11.	Adequate lighting provided (for dark hours) as per applicable lux standards (Refer TBG/HSEP:14)		
12.	Working platform is clean without any unwanted and rubbish material. Floor openings are covered.		
13.	RCCB/ELCB provided for Electrical connections. Electrical cable, welding Hose/Compressed air hose properly secured and laid down without obstruction.		
14.	Visible Signboards provided on working platforms in workers' understandable language		
15.	Hazards in the vicinity are identified, controlled and communicated to the worker.		
14	Emergency response team/facility is available. Work area is cordoned off.		
16.	Additional permit (If required please specify below)		
	1.		
	2.		

**Transmission Business Group**Format No.:TBG/HSEP:12-F02
Rev: 00**PERMIT TO WORK**

Date: 31.12.2019

WORK AT HEIGHT PERMIT

Page: 02 of 03

Permit no.:

Emergency Contact No.:

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

Reviewed and approved by BHEL Engineer in charge (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 Agency: _____ **Sign:** _____ **Date:** _____
Time: _____

Permit Cancellation / Closure:

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

Name of Work performing agency: _____ Sign: _____ Date: _____
Time: _____Name of Sub Cont Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____
Time: _____Name of BHEL Site Engr. (Permit Issuing Authority): _____ Sign: _____ Date: _____
Time: _____

(* Permit valid subject to daily renewal as per overleaf instructions)

Original at BHEL site**Second Copy – BHEL SAFETY****Third Copy: BHEL Sub-Subcontractor**



Transmission Business Group, Noida

Format No.:TBG/HSEP:12-F02
Rev: 00

PERMIT TO WORK

Date: 31.12.2019

WORK AT HEIGHT PERMIT

Page: 03 of 03

Permit no.:

Emergency Contact No.:

PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor Safety Officer	Signature of BHEL Engineer In-charge
	(Date) From.....	(Time- Hrs) From.....			
	To.....	To.....			
1.					
2.					
3.					
4.					

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER

Permit is here by returned / closed after completing the job.

Site Engineer, Sub-Subcontractor	Site HSE Engineer, sub-Subcontractor	Signature of BHEL Engineer In-charge	BHEL Site HSE Coordinator*
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.	Approved that the subject work has been completed/stopped and the area cleaned.	To maintain log sheet and for record keeping purpose.
Signature (With Dt. & Time):	Signature (With Dt. & Time):	Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:	Name:	Name:

General Instructions:

1. Permittee to observe precautions as mentioned on pre-page.
2. Permit must be available at the site all the time during work with permit receiver.
3. This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by subcontractor both HSE and Site Engineer.
4. Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

**Transmission Business Group, Noida**

Format No.:TBG/HSEP:12-F03

Rev: 00

PERMIT TO WORK

Date: 31.12.2019

WELDING /HOT WORK PERMIT

Page: 01 of 03

Permit no.:

Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Subcontractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1.	Welding area ensured safe and free from all hazards (explosives etc.) with barricading and safe entry/exit		
2.	Proper ventilation and /or lighting provided (in case of dark hours).		
3.	Welding platform ensured safe and strong. Not built of bamboo or similar material		
4.	In case of welding in enclosed / confined spaces, the integrity of the structure and supports are ensured, Gas Testing done. Proper ventilation is ensured.		
5.	Gas hoses, Welding machine input/output cables, welding holder and weld return clamp (Holder) are in good condition, routed and insulated as required		
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. Gas cylinders covered with shields to prevent falling splinters.		
10.	Pressure gauges/Flash back arrestor (at both ends) 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 / cautions are in place.		
14.	Adequate and Suitable nos. of firefighting extinguisher provided.		
15.	Nearby combustible material removed. Housekeeping done.		
16.	All workers explained about the hazards		
17.	First aid in attendance.		
18.	Other		

Name of SubcontractorSafety Officer: _____ Sign: _____ Date: _____ Time: _____

**Transmission Business Group, Noida**Format No.:TBG/HSEP:12-F03
Rev: 00**PERMIT TO WORK**

Date: 31.12.2019

WELDING /HOT WORK PERMIT

Page: 02 of 03

Permit no.:

Emergency Contact No.:

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 / Closure:***I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

Original at BHEL site**Second Copy – BHEL SAFETY****Third Copy: BHEL Sub-Subcontractor****PERMIT RENEWAL**

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				
6				

	Transmission Business Group, Noida	Format No.:TBG/HSEP:12-F03 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	WELDING /HOT WORK PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER
Permit is here by returned / closed after completing the job.

Site Engineer, Subcontractor	Site HSE Engineer, EPC Subcontractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

1. Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
2. Barricading with tape/hard barricading should be done on all sides of the job as per requirement.
3. Approved Welding procedure shall be followed.
4. Permit must be available at the site all the time during work with permit receiver.
5. This Permit is valid for 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC subcontractor both HSE and Site Engineer.
6. Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements
Original- Permittee, Duplicate - Site Engineer, Subcontractor, Triplicate – HSE Dept., EPC Subcontractor

**Transmission Business Group, Noida**

Format No.:TBG/HSEP:12-F04

Rev: 00

PERMIT TO WORK

Date: 31.12.2019

CONFINED SPACE ENTRY PERMIT

Page: 01 of 03

Permit no.:

Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Subcontractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1.	Has the equipment been Isolated from Power.		
2.	Has the equipment been Isolated from liquid or gasses?		
3.	Has the equipment been de-pressurized and/or drained?		
4.	Has the equipment been Blanked/blinded or disconnected?		
5.	Has the equipment been water flushed?		
6.	Whether man ways open and ventilated?		
7.	Whether constant Inert gas flow arranged?		
8.	Whether mechanically ventilated and adequately cooled?		
9.	Whether 24 V lighting provided inside the confined space?		
10.	Whether Radiation sources removed?		
11.	Whether training on confined space provided to the group?		
12.	Whether required PPEs (hand gloves, goggles, face shield, ear plug/muff, protective clothing etc.) used?		
13.	Whether Safety harness and Lifeline used?		
14.	Whether Dust/Gas/Air Line mask used?		
15.	Whether attendant with SCBA/Air mask available?		
16.	Whether grounded air Exhaust/Blower/ AC provided?		
17.	Whether Personal Gas alarm provided?		
18.	Whether communication Equipment Provided?		
19.	Whether rescue equipment/team available?		
20.	Whether firefighting arrangement done		
21.	Others:		

	Transmission Business Group, Noida	Format No.:TBG/HSEP:12-F04 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	CONFINED SPACE ENTRY PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Name of Subcontractor 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 / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

**Original at BHEL site
Subcontractor**

Second Copy – BHEL SAFETY

Third Copy: BHEL Sub-

PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				

	Transmission Business Group, Noida	Format No.:TBG/HSEP:12-F04 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	CONFINED SPACE ENTRY PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER
Permit is here by returned / closed after completing the job.

Site Engineer, Subcontractor	Site HSE Engineer, EPC Subcontractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

2. Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
2. Permit must be available at the site all the time during work with permit receiver.
3. This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC subcontractor both HSE and Site Engineer.
4. Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

**Transmission Business Group, Noida**

Format No.:TBG/HSEP:12-F05

Rev: 00

PERMIT TO WORK

Date: 31.12.2019

Page: 01 of 03

Permit no.:

Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Subcontractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / 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 structure/Service/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	Hard Barricading & Edge Protection provided		
8	Separate Safe Access for Man and Vehicle		
9	Lighting arrangement		
10	Banks Man (signal man) Provided		
11	Required basic PPEs provided		
12	Slope Cutting/Benching Maintained		
13	Excavated soil / Construction Material / equipment kept away from the edge.		
14	First aid in attendance.		
15	Additional permit (If required please specify below) 1. 2.		

Name of SubcontractorSafety 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: _____

	Transmission Business Group, Noida	Format No.:TBG/HSEP:12-F05 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	EXCAVATION ACTIVITY PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Permit Cancellation / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

Original at BHEL site Subcontractor	Second Copy – BHEL SAFETY	Third Copy: BHEL Sub-
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PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				
6				

	Transmission Business Group	Format No.:TBG/HSEP:12-F05 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	EXCAVATION ACTIVITY PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER

Permit is here by returned / closed after completing the job.

Site Engineer, Subcontractor	Site HSE Engineer, EPC Subcontractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

3. Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
2. Permit must be available at the site all the time during work with permit receiver.
3. This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC subcontractor both HSE and Site Engineer.
4. Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

**Transmission Business Group**

Format No.:TBG/HSEP:12-F06

Rev: 00

PERMIT TO WORK

Date: 31.12.2019

RADIATION WORK PERMIT

Page: 01 of 03

Permit no.:

Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Subcontractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1.	All the persons at the site informed/removed from the area.		
2.	Area around the source of radiation cordoned off with the rope/chord.		
3.	Radiation warning symbol/boards displayed around radiography work on rope/chord.		
4.	Radiographer worn radiation protection PPEs and badges during testing and is within safe limits.		
5.	Radiography camera and carrying case box having radiation symbol.		
6.	Radiation Survey Meter is in working condition, calibrated & within validity period.		
7.	Radiographer has valid certificate from BARC.		
8.	Blinking light provided on road during radiography (in dark hours).		
9.	Proper required Illumination provided		
10.	Safe access and working platform provided to conduct RT work		
11.	All the persons involved in Radiography work are aware of the hazard of radiation		
12.	Other:		

	Transmission Business Group	Format No.:TBG/HSEP:12-F06 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	RADIATION WORK PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Name of Subcontractor 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 / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

**Original at BHEL site
Subcontractor**

Second Copy – BHEL SAFETY

Third Copy: BHEL Sub-

PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				

	Transmission Business Group	Format No.:TBG/HSEP:12-F06 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	RADIATION WORK PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER
Permit is here by returned / closed after completing the job.

Site Engineer, Subcontractor	Site HSE Engineer, EPC Subcontractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

- Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
- Permit must be available at the site all the time during work with permit receiver.
- This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC subcontractor both HSE and Site Engineer.
- Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements



Transmission Business Group

Format No.: TBG/HSEP:12-F07
Rev: 00

PERMIT TO WORK

Date: 31.12.2019

HEAVY / COMPLEX CRITICAL LIFTING ACTIVITY PERMIT

Page: 01 of 03

Permit no.:

Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Subcontractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1.	Crane used for lifting activity TPI 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.	Lifting hook is properly latched to prevent material falling over		
6.	Access and exit marked and without obstruction.		
7.	In case of lifting multiple materials at once, same are tied up with strong rope / material		
8.	Area below lifting activity barricaded to prevent movement		
9.	Minimum 2 taglines have been provided for balancing and guiding jobs to be lifted.		
10.	Periphery area of crane booms as well as lifting job is barricaded and unauthorized/no-entry sign board posted.		
11.	Rigger and signal man is trained and competent for lifting work.		
12.	No lifting activity to be carried out during lightening, heavy wind/rain.		
13.	If scaffolding to be used during lift, scaffolding with valid tag available for use.		
14.	Add drawing /procedure etc. relevant for the lifting.		
15.	Others.		

**Transmission Business Group**Format No.:TBG/HSEP:12-F07
Rev: 00**PERMIT TO WORK**

Date: 31.12.2019

**HEAVY / COMPLEX CRITICAL LIFTING
ACTIVITY PERMIT**

Page: 02 of 03

Permit no.:

Emergency Contact No.:

Name of Subcontractor 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 / Closure:***I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

**Original at BHEL site
Subcontractor****Second Copy – BHEL SAFETY****Third Copy: BHEL Sub-****PERMIT RENEWAL**

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				

	Transmission Business Group, Noida	Format No.: TBG/HSEP:12-F07 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	HEAVY / COMPLEX CRITICAL LIFTING ACTIVITY PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER
Permit is here by returned / closed after completing the job.

Site Engineer, Subcontractor	Site HSE Engineer, EPC Subcontractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

5. Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
2. Permit must be available at the site all the time during work with permit receiver.
3. This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC subcontractor both HSE and Site Engineer.
4. Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

**Transmission Business Group**

Format No.:TBG/HSEP:12-F08

Rev: 00

PERMIT TO WORK

Date: 31.12.2019

NIGHT / HOLIDAY WORK PERMIT

Page: 01 of 03

Permit no.:

Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Subcontractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1	No heavy complex work is being carried out involving heavy, moving machinery etc. during night work		
2	Adequate illumination has been provided		
3	All required safety precautions / Permits / PPEs have been taken		
4	Work area certified safe (with barricading, w/o hazards, proper access / ingress)		
5	Workers are trained for the task		
6	Adequate supervision is in order during the course of work		
7	First Aid and emergency vehicle are in attendance throughout the duration of the task		
8	Other:		
9	Other required Permits have been taken (give details):		

Name of SubcontractorSafety 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: _____

	Transmission Business Group	Format No.:TBG/HSEP:12-F08 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	NIGHT / HOLIDAY WORK PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Permit Cancellation / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

**Original at BHEL site
Subcontractor**

Second Copy – BHEL SAFETY

Third Copy: BHEL Sub-

PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Subcontractor Site Engineer	Signature of Subcontractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				
6.				

	Transmission Business Group	Format No.:TBG/HSEP:12-F08 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	NIGHT / HOLIDAY WORK PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE SUBCONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER
Permit is here by returned / closed after completing the job.

Site Engineer, Subcontractor	Site HSE Engineer, EPC Subcontractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

1. Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
2. Permit must be available at the site all the time during work with permit receiver.
3. This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC subcontractor both HSE and Site Engineer.
4. Work location to be constantly supervised by Subcontractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

	Transmission Business Group	Format No.:TBG/HSEP:12-F09 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	MATERIAL LOADING / UNLOADING PERMIT	Page: 01 of 03
Permit no.:		Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Contractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1	Sufficient Area has been provided for material unloading		
2	Material loaded properly / Safety precautions taken – Unlashing can be undertaken. (In case loosening the material lashes could lead to material falling in uncontrolled manner)		
3	Loading / Unloading Cranes, T&Ps are in order with valid TPI certificate.		
4	Workers involved are properly trained and sensitized to the dangers		
5	Crane operator is authorized.		
6	Communication methodology between different gangs is in place. Communication gear (walkie-talkie sets etc.) provided where required		
7	Adequate supervision is in order		
8	Area barricaded including backside movement of crane.		
9	Other:		

Name of Sub-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:** _____

	Transmission Business Group	Format No.:TBG/HSEP:12-F09 Rev:00
	PERMIT TO WORK	Date: 31.12.2019
	MATERIAL LOADING / UNLOADING PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Permit Cancellation / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

Original at BHEL site Second Copy – BHEL SAFETY Third Copy: BHEL Sub-Contractor

PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Contractor Site Engineer	Signature of Contractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				

	Transmission Business Group	Format No.:TBG/HSEP:12-F09 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	MATERIAL LOADING / UNLOADING PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE CONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER

Permit is here by returned / closed after completing the job.

Site Engineer, Contractor	Site HSE Engineer, EPC Contractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

- Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
- Permit must be available at the site all the time during work with permit receiver.
- This Permit is valid for only the duration of the loading / unloading activity, which can involve multiple vehicles. However, only one vehicle to be loaded / unloaded at one time
- Work location to be constantly supervised by Contractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

	Transmission Business Group	Format No.: TBG/HSEP:12-F10 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	SAFETY NET / SAFETY FACILITY REMOVAL PERMIT	Page: 01 of 03
Permit no.:		Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Contractor: _____

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

Description of Work: _____

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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 / Remarks
1	Has the area been hard barricaded (tape/rope not to be used), to be cordoned off area		
2	Has caution signage been displayed to make people aware of the hazard.		
3	Has adequate illumination been arranged to ensure area is well lit as required		
4	Are personal fall arrest systems being used around hole-opening as required?		
5	Is a structurally solid hole-cover, marked with do not remove notice being used		
6	Others.		

Name of Sub-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:** _____

	Transmission Business Group	Format No.:TBG/HSEP:12-F10 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	SAFETY NET / SAFETY FACILITY REMOVAL PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Permit Cancellation / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

Original at BHEL site	Second Copy – BHEL SAFETY	Third Copy: BHEL Sub-Contractor
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PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Contractor Site Engineer	Signature of Contractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				
6				

	Transmission Business Group	Format No.:TBG/HSEP:12-F10 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	SAFETY NET / SAFETY FACILITY REMOVAL PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE CONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER

Permit is here by returned / closed after completing the job.

Site Engineer, Contractor	Site HSE Engineer, EPC Contractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

- Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
- Permit must be available at the site all the time during work with permit receiver.
 - This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC contractor both HSE and Site Engineer.
 - Work location to be constantly supervised by Contractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

	Transmission Business Group	Format No.:TBG/HSEP:12-F11 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	LOCK-OUT TAG-OUT PERMIT	Page: 01 of 03
Permit no.:		Emergency Contact No.:

Area of work: _____ Date: _____ Time: _____

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

Name of Work Performing Contractor: _____

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

Description of Work:

Duration of Work Execution *: From Time: _____ Date: _____ to Time: _____ Date: _____

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:

TagNo.	Device to be Tagged / Locked I.D. No.	Device Location	Device Position OPEN / CLOSED -ON/OFF	Lock No.	Tag Lock Placed by Name/Sign - Date/Time		Tag/Lock Removed by Name/Sign - Date/Time	

Name of Sub-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.

	Transmission Business Group	Format No.:TBG/HSEP:12-F11 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	LOCK-OUT TAG-OUT PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

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

Permit Cancellation / Closure:

I hereby declare that the work is cancelled/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 SC Site Engr. (Permit Requesting Authority): _____ Sign: _____ Date: _____ Time: _____

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

(* Permit valid subject to daily renewal as per overleaf instructions)

Original at BHEL site Second Copy – BHEL SAFETY Third Copy: BHEL Sub-Contractor

PERMIT RENEWAL

Sl. No.	Extension Period		Signature of Contractor Site Engineer	Signature of Contractor /BHEL Safety Officer
	(Date) From.....	(Time- Hrs) From.....		
	To.....	To.....		
1.				
2.				
3.				
4.				
5.				
6				

	Transmission Business Group	Format No.:TBG/HSEP:12-F11 Rev: 00
	PERMIT TO WORK	Date: 31.12.2019
	LOCK-OUT TAG-OUT PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

TO BE SIGNED JOINTLY BY THE CONTRACTOR HSE & EXECUTION AFTER THE WORK IS OVER

Permit is here by returned / closed after completing the job.

Site Engineer, Contractor	Site HSE Engineer, EPC Contractor
Certified that the subject work has been completed /stopped and the area cleaned.	Certified that the subject work has been completed/stopped and the area cleaned.
Signature (With Dt. & Time):	Signature (With Dt. & Time):
Name:	Name:

General Instructions:

- Permittee to observe precautions as mentioned on pre-page, mentioned by concerned discipline coordinator.
2. Permit must be available at the site all the time during work with permit receiver.
 3. This Permit is valid for maximum 7 days or as indicated. Every day permit shall be renewed before start of the shift by EPC contractor both HSE and Site Engineer.
 4. Work location to be constantly supervised by Contractor and BHEL HSE and Execution, to ensure precautions as per this Permit and other HSE requirements

	Transmission Business Group	Format No.:TBG/HSEP:12-F12 Rev: 00
	PERMIT TO WORK	Date: 09.12.2024
	ELECTRICAL WORK PERMIT	Page: 01 of 03
Permit no.:		Emergency Contact No.:

This permit is required for any work on or near high or low voltage equipment.
Note: for any work involving isolation please use the Lock out Tag out Permit.

Section 1: Applicant Details			
Name of Permit Applicant (person undertaking work onsite)			
Name of agency:			
Name of package safety officer/supervisor		Sign:	Date:
Name of package in-charge		Sign:	Date:

Section 2: Location & work	
☐ Low voltage (up to 415V)	☐ High voltage (>415V)
Location of work:	
Description of work:	
Equipment used:	
Total no. of persons who will work under this permit	

Section 3: Permit duration			
Permit requested for (to be filled out by permit applicant)			
Start date:		End date:	
Start Time:		End Time:	
Permit dates authorized for (to be filled out by permit approver)			
Start date:		End date:	
Start Time:		End Time:	

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

Section 4: General Permit conditions		
(To be filled out by permit applicant and checked in physical by permit approver before issue of permit)	Yes	No
1.0 Is TBT conducted before start of work?	☐	☐
2.0 JSA/Control procedure has been prepared and is available for the works which includes steps for isolation and shut down.	☐	☐
3.0 Are the persons trained enough and authorized to work on electrical systems (live line/off-line).?	☐	☐
4.0 Is the area identified & tagged, barricaded/cordoned off to restrict entry and warning signs placed?	☐	☐
0.0 Are the required PPEs identified, distributed and will be worn by the persons?	☐	☐
6.0 Are the equipment/kits to be used have been inspected and fit for use? Hand tools have insulated handles?	☐	☐
7.0 Is the work to be done outdoor? If yes, area weather conditions suitable for the work?	☐	☐

	Transmission Business Group	Format No.:TBG/HSEP:12-F12 Rev: 00
	PERMIT TO WORK	Date: 09.12.2024
	ELECTRICAL WORK PERMIT	Page: 02 of 03
Permit no.:		Emergency Contact No.:

Section 5: Special conditions for HV Work Permit (including induction areas)		
(To be filled out by permit applicant and checked in physical by permit approver before issue of permit)	Yes	No
1.0 Is HV Switching to be performed? If yes, whether person is authorized? Name the person:	☐	☐
2.0 Will HV equipment be isolated? If yes, whether LOTO applied?	☐	☐
3.0 Will HV equipment be live?	☐	☐
4.0 Does the work involve; a.) Equipment working near HV power lines? Or b.) Equipment passing under HV power lines? Or c.) Personnel working on or near HV equipment?	☐	☐
5.0 Has the minimum distance to be maintained from HV been explained to personnel involved?	☐	☐
6.0 Wherever possible, has the earth-switches engaged and discharge rods connected after disconnecting the breakers?	☐	☐
7.0 While engaging the discharge rod, earthing side will be connected first and then on conductor end will be engaged, whereas while disengaging after completion of work, conductor side will be disconnected first then earthing side.	☐	☐
8.0 OCP for working in charged area/induction zone is followed? Precautions explained to all the working members. Suitable PPEs and tools given to all?	☐	☐
9.0 Is trained and full-time supervisor deputed identified for the work?	☐	☐

Section 6: Permit issuing authority			
Permit Reviewed and approved by BHEL Site Engineer (Permit Issuing Authority):			
Name:		Sign:	
Designation:		Date:	
BHEL Safety Representative:			
Name:		Sign:	
Designation:		Date:	

Original- Recipient (S/C) Second Copy – Issuer (BHEL) Third Copy: BHEL Safety

I have assessed and discussed the work to be performed with the permit issuer and agree to comply with all agreed controls, site safety requirements and with all provisions of this permit, and to explain and enforce those provisions with all persons under my responsibility.

Note: if recipient leaves the site and work is not complete, a new permit must be issued.

Name of permit recipient: _____ **Sign:** _____ **Date:** _____ **Time:** _____

	Transmission Business Group	Format No.:TBG/HSEP:12-F12 Rev: 00
	PERMIT TO WORK	Date: 09.12.2024
	ELECTRICAL WORK PERMIT	Page: 03 of 03
Permit no.:		Emergency Contact No.:

Section 7: Permit cancellation/closure			
I hereby declare that the work is cancelled/complete, all workers under my control have been withdrawn and the site restored to safe tidy condition.			
Permit Recipient: (Sub subcontractor)			
Name:		Sign:	
Designation:		Date:	
Permit Issuer: (BHEL)			
Name:		Sign:	
Designation:		Date:	
BHEL Safety Representative: (BHEL)			
Name:		Sign:	
Designation:		Date:	

Note: All the three copies of the permit shall be returned to BHEL office for future records.

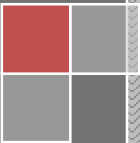
Section 8: Permit Renewal				
If permit is issued for more than a day, it will be considered valid only when daily renewal is done as per table below:				
Sl. No.	Extension Period		Signature of Recipient (Sub-subcontractor)	Signature of Issuer (BHEL)
	(Date) From.....to	(Time-) From..... to		
1.				
2.				
3.				
4.				
5.				
6.				

“END OF THE DOCUMENT”

BILL OF QUANTITIES & PRICE SCHEDULE (BOQ)

RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING,
PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV
ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR ± 800 kV,
6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN

VOLUME-D



BILL OF QUANTITY CUM PRICE SCHEDULE (ANNEXURE-I)**Name of Project : ±800 KV, 6000 MW HVDC Bhadla Station****Name of Work : Receipt, Unloading, Verifying, Shifting, Stacking, Preservation, Handling and handing over of Components EHV Electric Substation/HVDC Terminal Station for ± 800 kV, 6000MW HVDC Terminals at Bhadla in Rajasthan.****Tender Spec No. TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27, Date: 22-09-2026**

S.No	Description of Work/Item	UNIT	Quantity	Unit Rate excl. GST	Amount excl. GST
Section A1 : Material Handling and Material Management for Materials received through Trucks/Trailers at Project Site					
A1.1	Material Unloading – Indoor Storage: Receipt of materials, unloading from truck/trailer/carriers at site store, verification of quantity & condition, safe handling and placement in designated indoor storage area. Applicable for 33kV GIS, Junction Boxes / Marshalling Boxes , VMS, Illumination, Copper material, Testing Instruments, Accessories of Converter Transformer & Reactor & other items as per Annexure-1	MT	200	₹ 556.50	₹ 1,11,300.00
A1.2	Material Unloading – Outdoor Storage (EHV Equipment): Receipt, unloading, verification, placement in designated outdoor area, stacking on sleepers/concrete blocks, covering with tarpaulin sheets and protection as per HSE norms. Applicable for 400kV, 132kV, 72.5kV, 33kV & 11kV Main Equipment / Panels, DC /AC Filter equipments & other items as per Annexure-1	MT	1,975	₹ 505.17	₹ 9,97,704.17
A1.3	Material Unloading – Outdoor Storage (General Materials): Receipt, unloading, verification and placement in designated open storage area. Applicable for Structures/Angles, Cable Drums, Aluminium Tubes, Earthing Materials, Erection Hardware, Converter Transformer, ICT & Reactor Accessories, Oil Drums & other items as per Annexure-1	MT	6,625	₹ 429.33	₹ 28,44,333.33
A1.4	Unloading of Converter Transformers Tanks, ICT Tanks & Reactors Tanks: Receipt, verification, unloading from trailer/hydraulic axles and placement at designated area/foundation/road as instructed, including handling as per OEM guidelines and safety requirements. (Converter Transformers - 5 Nos and 400kV ICT - 2 Nos , 400kV Reactors - 2 Nos) as per Annexure-1	MT	1,665	₹ 553.35	₹ 9,21,327.75
A1.5	Dragging of Converter Transformers Tank from the area of storage area upto equipment foundation/road as instructed, including handling as per OEM guidelines and safety requirements.	Mtrs	250	₹ 493.50	₹ 1,23,375.00
A1.6	Dragging of 400kV ICT/Reactor Tank from the area of storage area upto equipment foundation/road as instructed, including handling as per OEM guidelines and safety requirements.	Mtrs	200	₹ 164.50	₹ 32,900.00
A1.7	Material Unloading : Receipt of materials, unloading from truck/trailer/carriers at site store, verification of quantity & condition, safe handling and placement in designated indoor storage area. Applicable for Thyristor Valves (Each Box Dimension- 1400 x 1000 x 600mm - Weight per box-300kg) as per Annexure-1	MT	86	₹ 445.20	₹ 38,465.28
A1.8	Material Unloading : Receipt of Structure materials, unloading from truck/trailer/carriers at site store, verification of quantity & condition, safe handling and placement in designated outdoor storage area. Applicable for DC Yard, DC Filter Yard, Valve Hall structures & other items as per Annexure-1	MT	1,551	₹ 343.47	₹ 5,32,785.49
A1.9	Material Re-shifting, Re-stacking & Handover of Spares: Internal shifting within project premises, re-stacking, loading onto truck/trailer as per Site Incharge instruction and handover of Testing equipments, spares to Customer store including documentation.	MT	335	₹ 592.67	₹ 1,98,543.33
A1.10	Watch and ward : Watch and ward of stored / erected material at project site and storage area or any other locations as per instruction of site in charge. (round the clock security by authorized service agency).	per Post per month	48	₹ 75,352.41	₹ 36,16,915.52
Section B : Menial and Secretarial Services of the Contractor for the above works					
B.1	Secretarial Services (Skilled) for Store Management	Man-Month	100	₹ 27,066.67	₹ 27,06,666.67
Section C : Supply and installation of CCTV system for storage space with AMC of the CCTV System					
C.1	Supply and Installation of all hardware and software of the IP based PTZ dome camera along with p2p/PMP Outdoor CPE Antenna for wireless communication surveillance system including for storage space.	Nos.	5	₹ 84,000.00	₹ 4,20,000.00
C.2	Supply and Installation of all hardware and software of the IP based Fixed bullet camera along with p2p/PMP Outdoor CPE Antenna for wireless communication surveillance system including for storage space.	Nos.	25	₹ 21,700.00	₹ 5,42,500.00
C.3	Supply and Installation of LED Display Screen – Min. 50” with integration capabilities with CCTV system	Nos.	2	₹ 47,133.33	₹ 94,266.67
C.4	Comprehensive maintenance of the CCTV system (100%)	Months	48	₹ 28,000.00	₹ 13,44,000.00
Section D : HIRING OF CRANES					
D.1	Pick and Carry Crane of capacity 12/14 MT (in Months), Inclusive of fuel, Operator.	Months	36	₹ 92,166.67	₹ 33,18,000.00
D.2	Pick and Carry Crane of capacity 23 MT (in Months), Inclusive of fuel, Operator.	Months	12	₹ 1,07,333.33	₹ 12,88,000.00
D.3	Fork Lift - 2 Tn Capacity , Inclusive of fuel, Operator.	Month	10	₹ 68,833.33	₹ 6,88,333.33
Total Price (Excluding GST)					₹ 1,98,19,416.54

Note:

The scope shall include receipt, unloading, inspection, verification, shifting, stacking, preservation, handling, inventory management, and handing over of all materials and equipment for the BF800 Project at BHADLA HVDC/BHADLA-3 Site. The materials covered under this scope include, but are not limited to EHV AIS equipment , Complete electrical, control & instrumentation equipment, Panels/JB and MKs , Cables and cable trays , Equipment and components of associated systems , Pre-fabricated structures , Structural steel as per Annexure-1 .The contractor shall ensure safe unloading, proper storage (indoor/outdoor as applicable), preservation as per OEM recommendations, periodic inspection, and protection of materials from damage or deterioration. The Contractor shall ensure prior intimation to, and obtain necessary instructions and approvals from, the BHEL Site Engineer before commencement of any activity

The scope also includes supply, installation, and maintenance of CCTV systems for store and site monitoring. Comprehensive materials management services shall be provided, including maintenance of inventory records, documentation, material issue control, and coordination with site execution teams for timely handing over of materials.

Tender Inviting Authority: BHEL, TBG- SubContracting Department, Sector 16A Noida, UP

Name of Work: RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR ± 800 kV, 6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN.

Tender Spec No.: TBSM/BF800/BHADLA/MTL MGMT/TENDER/26-27, Date: 22-09-2026

Name of the Bidder/ Bidding Firm / Company :						
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)						
NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Estimated Rate in Rs. P	TOTAL AMOUNT Without Taxes in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	6	53	55
1	Total amount as per rates in BOQ (as per Annexure-I) for "RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION, HANDLING AND HANDING OVER OF COMPONENTS EHV ELECTRIC SUBSTATION/HVDC TERMINAL STATION FOR ± 800 kV, 6000MW HVDC TERMINALS AT BHADLA IN RAJASTHAN". - Excluding GST	1	Nos	19819417.00	19819417.00	INR One Crore Ninety Eight Lakh Nineteen Thousand Four Hundred & Seventeen Only
Total in Figures					19819417.00	INR One Crore Ninety Eight Lakh Nineteen Thousand Four Hundred & Seventeen Only
Quoted Rate in Figures			Select		0.000	INR Zero Only
Quoted Rate in Words		INR Zero Only				