



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

Ref: PSER:SCT:KLN-Q1973:7607

Date:24-06-2019

NOTICE INVITING TENDER

NOTE: INTENDING BIDDER TO PARTICIPATE MAY DOWNLOAD FROM WEB SITES

Sealed offers in two part bid system are invited from reputed & experienced bidders meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-1 through E-Procurement Portal <https://bhel.abcprocure.com> or hard copy mode, for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Issue/ forwarding intimation regarding tender to any bidder shall not construe that the bidder is considered to be qualified. Consideration of their offer is subject to CUSTOMER APPROVAL & compliance of performance feedback from various ongoing PSER projects. 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	PSER:SCT:KLN-Q1973:19.
ii	Broad Scope of job	<i>Providing services for development of safety culture and effective implementation of Health, Safety & Environment (HSE) at 2x660 MW Maitree STPP, Rampal, Bangladesh.</i>
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-I	<i>General conditions of contract- Applicable</i>
b	Volume-IB	<i>General conditions of contract (Service) - Not Applicable.</i>
c	Volume-IC	<i>Special conditions of contract (Supply) - Not Applicable.</i>
d	Volume-ID	<i>Special conditions of contract (Service) - Combined with Vol-II.</i>
e	Volume-IE	<i>Annexure, formats etc. - Not Applicable</i>
f	Volume-II	<i>Technical specification along with Special conditions of contract-Applicable</i>
g	Volume-III	<i>Price Schedule (Absolute value) – Rev-00- Applicable</i>
h	Volume-IIIB	<i>Not Applicable.</i>
iv	ISSUE OF TENDER DOCUMENTS	<i>This is an E-tender floated online through our E-Procurement Site https://bhel.abcprocure.com</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	<i>Date: 08-07-2019, Time: 15-00 Hrs. The bidder should respond by submitting their offer online in our e-Procurement platform at https://bhel.abcprocure.com or through hard copy mode. Offers are invited in two-parts only. For details regarding Digital Signature etc, interested bidders are requested to go through the details mentioned in www.bhel.com (tender section) available in this link http://www.bhel.com/pdf/DSC_checklist_web.pdf</i>
vi	OPENING OF TENDER	<i>Date: 08-07-2019. 1 hours after the latest due date and time of Offer submission Notes: (1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time. (2) Bidder may depute representative to witness the opening of tender.</i>
vii	EMD AMOUNT	<i>INR 4,39,380/- (or equivalent amount in USD/BDT/Other Foreign Currency as per currency matrix)</i>
viii	COST OF TENDER	<i>INR 2,500/- (or equivalent amount in USD/BDT/Other Foreign Currency as per currency matrix).</i>

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236

ix	LAST DATE FOR SEEKING CLARIFICATION	<i>Date: 01-07-2019 Along with soft version also, addressing to undersigned & to others as per contact address given below.</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)	<i>Not Applicable</i>
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	<i>Not Applicable</i>
xii	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), CPP portal & E-Procurement Site https://bhel.abcprocure.com and not in the newspapers. Bidders to keep themselves updated with all such information.

2.0 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 digitally signed & stamped on each page, 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.

3.0 Unless specifically stated otherwise, bidder shall remit cost of tender (non-refundable) and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Kolkata, issuing the Tender, along with techno-commercial offer.

4.0 Unless specifically stated otherwise, bidder shall have to deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Kolkata. For other details please refer General Conditions of Contract.

Bidders may please be noted that "OEMD" provision stands deleted. Hence, bidders who have deposited Rs. 2 Lakh as OEMD are also requested to submit fresh EMD as mentioned in sl no vii under clause no 1.0 of NIT.

5.0 Procedure for Submission of Tenders: The Tenderers must submit their Tenders as detailed below:

FOR HARD COPY SUBMISSION OF OFFER

- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
- PART-II (Price Bid) – in sealed and superscribed envelope (ENVELOPE-III)
One set of tender documents shall be retained by the bidder for their reference
- Two additional copies of Techno-commercial bid, along with original shall be submitted.

The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below.
FOR HARD COPY SUBMISSION (All pages to be signed and stamped)

Sl no	Description	Remarks
	Part-I A	
	<u>ENVELOPE – I superscribed as :</u> PART-I (TECHNO COMMERCIAL BID) TENDER NO :	

<p>पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय) POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091 फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236</p>

	NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING:-	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. <u>Note:</u> a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained. b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender	
iii.	Supporting documents/ annexures / schedules/ drawing etc as required in line with Pre-Qualification criteria. It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	Applicable.
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume - I : General Conditions of Contract (GCC)-	
ix.	Volume – II : Technical specification along with Special conditions of contract-	
x.	Volume – III- (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item.	
xi.	Any other details preferred by bidder with proper indexing.	

	PART-I B	
	ENVELOPE – II superscribed as: PART-I (EMD &/or COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING:-	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender 2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	

PART-II	
	PRICE BID consisting of the following shall be enclosed
	ENVELOPE-III superscribed as: PART-II- (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:
	CONTAINING THE FOLLOWING:-
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I
ii	Volume III – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)

OUTER COVER	
	ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:
	CONTAINING THE FOLLOWING:
i	<ul style="list-style-type: none"> o Envelopes I o Envelopes II o Envelopes III

FOR SUBMISSION OF OFFER THROUGH E-PROCUREMENT SITE (<https://bhel.abcprocure.com>)

DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING

Sl no	Description	Remarks
PART-I A	(TECHNO COMMERCIAL BID)	
	CONTAINING THE FOLLOWING:-	
xii.	Covering letter/Offer forwarding letter of Tenderer. (To be attached in relevant Attachment section)	
xiii.	Duly filled-in 'No Deviation Certificate' as per prescribed format. (To be attached in relevant Attachment section) Note: c. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be attached in relevant attachment section of the e –procurement portal . It shall be specifically noted that deviation recorded elsewhere shall not be entertained. d. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.	

	<p>iii). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>iv). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	
xiv.	<p>Supporting documents/ annexures / schedules/ drawing etc as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be attached in relevant attachment section and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.</p>	
xv.	<p>All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.</p> <p>(To be attached in relevant Attachment section)</p>	
xvi.	Integrity Pact Agreement (Duly signed by the authorized signatory)	Not Applicable.
xvii.	<p>Duly filled-in annexures, formats etc as required under this Tender Specification/NIT</p> <p>(To be attached in relevant Attachment section)</p>	
xviii.	<p>Notice inviting Tender (NIT)</p> <p>(To be attached in relevant Attachment section)</p>	
xix.	<p>Volume – I : General Conditions of Contract (GCC)</p> <p>(To be attached in relevant Attachment section)</p>	
xx.	<p>Volume – II : Technical specification along with Special conditions of contract-</p> <p>(To be attached in relevant Attachment section)</p>	
xxi.	<p>Volume–III - (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item.</p> <p>(To be attached in Unpriced Bid Attachment section)</p>	
xxii.	<p>Any other details preferred by bidder with proper indexing.</p> <p>(To be attached in relevant Attachment section)</p>	

PART-I B	EMD/ COST OF TENDER (To be submitted offline within due date of offer submission)	
	CONTAINING THE FOLLOWING:-	
i.	<p>3. Earnest Money Deposit (EMD) in the form as indicated in this Tender</p> <p>4. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)</p>	

PART-II	PRICE BID (TO BE ATTACHED IN PRICE BID ATTACHMENT SECTION)	
	CONTAINING THE FOLLOWING:-	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	<p>Volume III – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)</p> <p>Any other document uploaded in the price bid, apart from above tender format, shall not be taken into cognizance for evaluation of offer.</p>	

SPECIAL NOTE:

- A) Your offer & documents submitted along with offer shall be digitally signed & stamped in each page by your authorised representative. No overwriting/ correction in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.

- B) The credentials/ documents submitted towards compliance of Pre-qualification requirement shall be physically signed by the authorized signatory & stamped before uploading/submission with the offer in the e-procurement portal.
- C) All documents/ annexures submitted with the offer shall be properly attached in the respective sections. BHEL shall not be responsible for any missing documents.
- D) Performance Vendor evaluation/ assessment of capability of Bidder : Bidder's capability to for executing the job shall also be assessed through quarterly performance evaluation reports (net weighted average) from various ongoing PSER projects under execution (excluding works not commenced) for the quarter previous to the last quarter reckoned from the date of latest due date of submission) as per enclosed formant (Annexure-5).

Quarter shall be as per the quarter defined in the "VENDOR PERFORMANCE FEEDBACK". For contracts where annexed Quarterly Evaluation performance was not part of the contract, 'Quarterly Performance Reports' previous to the last quarter reckoned from the date of latest due date of submission, given by the respective project site against the contract will be the basis for evaluation.

Evaluation of Bidders performance to execute the job shall be based on as below:

- a) Net Weighted Score from PSER Sites > 60% , vendor shall be Considered 'Qualified' for the job.
 b) Net Weighted Score from PSER Sites = < 60% , vendor shall be Considered 'NOT Qualified' for the job.

Vendors who are not executing any jobs presently in the Region and first timers to the Region, may be considered subject to satisfying all other tender conditions.

- 6.0 No Deviation with respect to tender clauses and no additional clauses/ suggestions/ in Techno-commercial bid/ Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same.
- 7.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
- 8.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 9.0 For any clarification on the tender document, the bidder may seek the same in writing, through e-mail or through **E-Procurement Site <https://bhel.abcpocure.com>** , 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 any delay. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 10.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 11.0 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),

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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.

- 12.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 13.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer),if applicable, along with techno - commercial bid. This pact shall be considered as a preliminary qualification for further participation. The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (xi) of 1 above.
- 14.0 The Bidder has to satisfy the Pre Qualifying Requirements (as applicable) 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 per Annexure-1 (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 HOLD.
- 15.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the PRICE BID shall be intimated to the qualified bidders and in such a case, price bid (Volume-III) uploaded in E-Procurement Site <https://bhel.abcprocure.com> will be opened.
- 16.0 Validity of the offer shall be for six months from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 17.0 BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

However, if reverse auction process is not adopted or is unsuccessful for whatsoever reason, absolute value price bid (Volume-III) uploaded in E-Procurement Site <https://bhel.abcprocure.com/HARD> BID will be opened for deciding the successful bidder. BHEL's decision in this regard will be final & binding on bidder.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L 1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.

If it is found that L 1 bidder has quoted higher in online seal bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

As a reminder to the bidders, system will flash following message (in Red Color) during the course of 'online sealed bid':

"Bidders to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL"

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In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

- 18.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 19.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 20.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 21.0 In case Consortium Bidding is allowed as per Pre Qualifying Requirement, then Prime Bidder and Consortium Partner shall enter into Consortium Agreement. Validity period of Consortium Agreement shall be 6 months after which the same can be re validated.
Stand alone bidder cannot become a 'prime bidder' or a 'consortium bidder' in a consortium bidding. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.
- 22.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped/ digitally signed (as applicable) 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.
- 23.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 24.0 The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL Website (www.bhel.com).

I) Integrity commitment, performance of the contract and punitive action thereof:

a) 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.

b) Commitment by Bidder/ Supplier/ Contractor:

b.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.

b.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.

b.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.

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If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage includes in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal code, 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.

- 25.0 It may please be noted that Guidelines/Rules in respect of Suspension of business dealings (Hold- 12 to 24 Months/ Banning – 3 years etc), Vendor Evaluation formats, quality, safety and HSE guidelines , standard T&P hire charges of BHEL etc may undergo change from time to time and the latest one shall be followed. Latest “Guidelines for Vendor Evaluation” is web based, quality, safety & HSE”; standard T&P hire charges shall be available at site and shall be given to the successful vendors/ subcontractors during execution.
- 26.0 MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or Udyog Aadhar Memorandum (UAM) & Acknowledgement or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure – C where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.

Any Bidder falling under MSME category, shall furnish the following details & submit documentary evidence/Govt. Certificate etc. in support of the same along with their techno-commercial offer: -

Type under MSME	SC/ST owned	Others
Micro		
Small		
Medium		

Note: - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSME category.

- 27.0 The bidder along with its associates/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website 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.
- 28.0 Annexure-A -Amendment to GCC shall be read in conjunction with GCC-Volume-I. This Annexure-A (Amendment to GCC) of NIT shall not be considered as part of the NIT but addendum/corrigendum to the GCC only.
- 29.0 Annexure-B - Terms & conditions of Reverse Auction is enclosed herewith.
- 30.0 Annexure-D – Specific Clause w.r.t. BOCW Act & Cess Act is enclosed herewith.
- 31.0 Annexure-E- Statewise GST Registration nos. is enclosed herewith.
- 32.0 Duly filled & signed Annexure- CPP-GST/I to be submitted by bidders along with their techno-commercial offer.

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33.0 Integrity Pact (IP) –

(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Sl	IEM	Address	Phone & Email
NOT APPLICABLE FOR THIS TENDER.			

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

(c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

Name	ANISH KUMAR	Subrata Sen
Dept	SCT Dept, BHEL PSER, Kolkata	SCT Dept, BHEL PSER, Kolkata
Address	DJ-9/1, Sector – II, Salt Lake, Kolkata – 700091	DJ-9/1, Sector – II, Salt Lake, Kolkata – 700091
Phone	033-2339 8235	033-2339 8226
Email	k.anish@bhel.in	subrata.sen@bhel.in
FAX	033-2339 8236	033-2339 8226

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

All overwriting/ cutting, etc. will be numbered by bid opening officials and announced during bid opening.

35.0 Order of Precedence

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

- Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- Notice Inviting Tender (NIT)
- Price Bid-Volume-III
- Technical specification along with Special conditions of contract (TS &SCC) -- Volume-II
- General Conditions of Contract (GCC) —Volume-I

<p>पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय) POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091 फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236</p>

for BHARAT HEAVY ELECTRICALS LTD

Dy. Mgr (SCT)

Agency	Contact details	
BHEL, PSER, Kolkata	Address	DJ-9/1, Sector – II, Salt Lake, Kolkata – 700 091
	Phone no	033-2339 8236(D)/ 8000.
	FAX no	033-23211960
	E-mail	anupriya.mundu@bhel.in ; k.anish@bhel.in ; subrata.sen@bhel.in

Enclosure

01. Annexure-1: Pre Qualifying Criteria.
02. Annexure-2: Format for No deviation Certificate.
03. Annexure-3: Format for seeking clarification.
04. Annexure-4: Check List.
05. Annexure-5: Format for Performance Evaluation
06. Annexure –A- Amendment to GCC.
07. Annexure -B- Terms & conditions of Reverse Auction.
08. Annexure –C- CA certificate Format.
09. Annexure-D – Specific Clause w.r.t. BOCW Act & Cess Act.
10. Annexure– CPP-GST/I.
11. Annexure-E-GST no.
12. Other Tender documents as per this NIT.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236

ANNEXURE - 1**PRE QUALIFICATION CRITERIA**

JOB	Providing services for development of safety culture and effective implementation of Health, Safety & Environment (HSE) at 2x660 MW Maitree STPP, Rampal, Bangladesh.
TENDER NO	PSER:SCT:KLN-Q1973:19.

SL NO	CRITERIA
1.0	FINANCIAL CRITERIA
(A)	BIDDER SHOULD HAVE AVERAGE MINIMUM ANNUAL FINANCIAL TURNOVER OF INR 65.90 LAKHS OR EQUIVALENT AMOUNT DURING THE LAST 3 (THREE) YEARS, ENDING ON 31-03-2018 OR CORRESPONDING FINANCIAL YEAR FOLLOWED BY THE BIDDER AND HAVING POSITIVE NET WORTH AS ON LATEST AUDITED ACCOUNTS AS SUBMITTED FOR PARA 1(C).
(B)	BIDDER MUST HAVE EARNED PROFIT IN ANY ONE OF THE LAST THREE FINANCIAL YEARS ENDING ON 31-03-2018 OR CORRESPONDING FINANCIAL YEAR FOLLOWED BY THE BIDDER. AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY FOR LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2018 OR CORRESPONDING FINANCIAL YEAR FOLLOWED BY THE BIDDER NEED TO BE SUBMITTED IN SUPPORT OF ABOVE.
(C)	IN CASE AUDITED BALANCE SHEET AND PROFIT AND LOSS ACCOUNT HAS NOT BEEN SUBMITTED FOR ALL THREE YEARS INDICATED ABOVE THEN THE APPLICABLE FINANCIAL AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEARS WILL BE AVERAGED FOR THREE YEARS.
(D)	IF FINANCIAL STATEMENTS ARE NOT REQUIRED TO BE AUDITED STATUTORILY, THEN INSTEAD OF AUDITED FINANCIAL STATEMENTS, FINANCIAL STATEMENTS ARE REQUIRED TO BE CERTIFIED BY CHARTERED ACCOUNTANT.
2.0	TECHNICAL CRITERIA
2.1	THE BIDDER SHALL HAVE EXPERIENCE, AS DETAILED BELOW, OF PROVIDING SIMILAR SERVICES OF HEALTH SAFETY & ENVIRONMENT (HSE) IN ANY UNDER CONSTRUCTION POWER PLANT/ PETRO-CHEMICAL PLANT/ STEEL PLANT/ INDUSTRIAL PLANT SITES DURING LAST SEVEN YEARS ENDING ON LATEST DUE DATE OF BID SUBMISSION. <p style="margin-left: 40px;">A. AT LEAST 87 MAN-MONTHS IN ONE (1) COMPLETED/RUNNING PROJECT, 'OR'</p> <p style="margin-left: 40px;">B. AT LEAST 54 MAN-MONTHS IN EACH OF THE TWO (2) COMPLETED/RUNNING PROJECTS, 'OR'</p> <p style="margin-left: 40px;">C. AT LEAST 43 MAN-MONTHS IN EACH OF THE THREE (3) COMPLETED/RUNNING PROJECTS.</p> RELEVANT SUPPORTING DOCUMENT INCLUDING PERFORMANCE CERTIFICATE FROM AT LEAST ONE CUSTOMER SHALL BE SUBMITTED.
2.2	THE BIDDER SHALL BE EITHER CERTIFIED UNDER ISO 14001/OHSAS 18001/ISO45001 OR SHALL HAVE AUDITOR CERTIFIED UNDER ISO 14001/OHSAS 18001/ISO45001.
2.2	THE BIDDER SHOULD HAVE EXPERIENCE OF PROVIDING SIMILAR HSE SERVICES OUTSIDE INDIA IN ANY UNDER CONSTRUCTION POWER PLANT/ PETRO-CHEMICAL PLANT/ STEEL PLANT/ INDUSTRIAL PLANT SITES DURING LAST SEVEN YEARS ENDING ON LATEST DUE DATE OF BID SUBMISSION.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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NOTE

I	CONSORTIUM/ JV BIDDING IS NOT ALLOWED.
II	IF THE BIDDER HAPPENS TO BE SUBSIDIARY OF A PARENT COMPANY, THEN THE CREDENTIALS OF ITS SISTER-CONCERN (UNDER THE SAME BUSINESS) AND THE PARENT COMPANY CAN ALSO BE CONSIDERED FOR MEETING THE ABOVE PQR.
III	AFTER SATISFACTORY FULFILLMENT OF ALL THE ABOVE CRITERIA, OFFER SHALL BE CONSIDERED FOR FURTHER EVALUATION AS PER NIT AND ALL OTHER TERMS OF THE TENDER.
IV	CONSIDERATION OF OFFER WILL BE SUBJECT TO CUSTOMER'S APPROVAL OF BIDDER.
V	IN CASE THE JOB IS UNDER EXECUTION/ ONGOING JOB, THE VALUE OF EXECUTED PORTION OF THE JOB SHALL AT LEAST CORRESPOND TO THE RESPECTIVE VALUES SPECIFIED ABOVE EVEN IF THE CONTRACT HAS NOT BEEN COMPLETED OR CLOSED.
VI	THE VENDOR SHOULD HAVE ACHIEVED THE CRITERIA SPECIFIED IN THE PRE-QUALIFICATION CRITERIA, EVEN IF THE CONTRACT HAS NOT BEEN COMPLETED OR CLOSED
VII	BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.
VIII	* EQUIVALENT AMOUNT MEANS THAT IT IS THE CONVERTED RATES OF OTHER CURRENCY TO INR AS PER CURRENCY MATRIX.

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ANNEXURE - 2**FORMAT FOR NO DEVIATION CERTIFICATE**
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	Providing services for development of safety culture and effective implementation of Health, Safety & Environment (HSE) at 2x660 MW Maitree STPP, Rampal, Bangladesh.	
Ref	1.0	Tender no PSER:SCT:KLN-Q1973:19.
	2.0	BHEL's NIT, vide reference no PSER:SCT:KLN-Q1973:7607 Date: 24-06-2019
	3.0	All other pertinent issues till date.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted/uploaded offer/documents in accordance with tender instructions with acceptance of the terms & conditions of the tender by us and as per aforesaid references.

Thanking you,

Yours faithfully,

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

ANNEXURE - 3**FORMAT FOR SEEKING CLARIFICATION**

JOB	Providing services for development of safety culture and effective implementation of Health, Safety & Environment (HSE) at 2x660 MW Maitree STPP, Rampal, Bangladesh.
TENDER NO	PSER:SCT:KLN-Q1973:19.

SI no	Reference clause of tender document	Existing provision	Bidder's query	BHEL's clarification

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ANNEXURE - 4**CHECK LIST**

NOTE:- Tenderers are required to fill in the following details and no column should be left blank

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: Please tick (√) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY(BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/Not Applicable	YES/NO
10	Integrity Pact	Applicable/Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not 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 :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

<p>पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)</p> <p>POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091</p> <p>फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236</p>

ANNEXURE - 5**VENDOR PERFORMANCE FEEDBACK**

NAME OF PROJECT:

VENDOR

NAME OF PACKAGE:

PO/WO REFERENCE

PERFORMANCE FEEDBACK QUARTER

SL NO.	DETAILS	PERFORMANCE FEEDBACK				
		5	4	3	2	1
1	QUALITY					
1.1	Functional Quality of service (extent of surveillance/supervision/stage inspection)					
1.2	Finish & workmanship and customer satisfaction					
1.3	Maintenance and submission of quality requirements					
1.4	Possession and implementation of quality system & control of manuals and documents					
1.5	Housekeeping					
	TOTAL of 1					
2	MANPOWER					
2.1	Possession of qualified and experienced personnel					
2.2	System consciousness of management and workforce					
	TOTAL of 2					
3	SITE FINANCE					
3.1	Promptness in payment to employee					
	TOTAL of 3					
4	OTHERS					
4.1	Planning and organizing the work to meet the target					
4.2	Responsiveness to statutory regulations and compliance level					
	TOTAL of 4					

(Signature of Package Holder)

QUARTERLY EVALUATION OF VENDOR PERFORMANCE**NAME OF PROJECT:****VENDOR:****NAME OF PACKAGE :****PO/WO REFERENCE:****PERFORMANCE FEEDBACK QUARTER**

SL. NO.	CRITERIA	MAX. SCORE	SCORE OBTAINED	WEIGHTAGE	WEIGHTED SCORE
1	QUALITY	25		2	
2	MANPOWER	10		3	
3	SITE FIN	5		2	
6	OTHERS	10		1	
TOTAL WEIGHTED SCORE (OUT OF 100)					

LESSScore for Accidents attributable to Contractor during the reporting period
(Major @ 3, minor @1)

Major Accidents - Fatal, Permanent Disability, Major damage to Equipment

Minor Accidents - All others.

Net Weighted Score (out of 100):**Overall Performance Evaluation : Good/ Satisfactory/Unsatisfactory****Net Weighted Score**

80% and above -Good

Between 60% to 80% -Satisfactory

60% and Below -Unsatisfactory

Evaluation of Bidders performance to execute the job shall be based on as below:

a) Net Weighted Score from PSER Sites > 60% , vendor shall be Considered 'Qualified' for the job.

b) Net Weighted Score from PSER Sites = < 60% , vendor shall be Considered ' NOT Qualified ' for the job.

(Signature of Package Holder)

(Signature of Construction Manager)

GM(Project)

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Annexure –A

Amendment to GCC

1. Introduction of Clause No 1.7.2.4 in GCC as below:

Clause No 1.7.2.4 : Additional security deposit (SD) has to be submitted by the successful bidder with value as follows :

“If the final price of successful bidder is lesser by ‘more than 20%’ of BHEL’s estimates then only, ‘Additional Security Deposit’ will be required to be submitted by the successful bidder with value as follows:

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

A = 80% of BHEL estimate

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

OR

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

This ‘Additional Security Deposit’ shall have the same validity as that of the ‘Security Deposit’ and shall be revalidated/released in the manner as spelt out for the ‘Security Deposit’ as per relevant clause of GCC.

The BHEL’s estimated value shall be disclosed to the successful bidder (on their request) at appropriate juncture in case ‘Additional Security Deposit’ is applicable.”

2. Clause no. 2.8.5 of GCC shall be read as below :

Clause no. 2.8.5: 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 Act, 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 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) issued by the Principal Employer/Customer.

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.

3. Clause no 1.3.9.2 of GCC shall be read as below:

Clause no 1.3.9.2:

The EMD may be accepted only in the following forms:

- (a) Cash deposit as permissible under the extant Income Tax Act (before tender opening)

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- (b) Electronic Fund Transfer credited in BHEL account (before tender opening)
- (c) Banker's cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer)
- (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)

In addition to above, the EMD amount in excess of Rs. 2 Lakh may also be accepted in the form of Bank Guarantee from scheduled bank. The Bank Guarantee in such cases shall be valid for atleast six months. EMD of successful tenderer will be retained as part of Security Deposit.

Clause no. 1.3.9.3 & 1.3.9.4 of GCC stands deleted.

4. Clause no 1.7.2 of GCC shall be read as below:

Clause no 1.7.2: The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.

5. Clause no 1.7.3.5 of GCC shall be read as below:

Clause no 1.7.3.5: At least 50% of the required Security Deposit, including the EMD, should be furnished before start of the work. Balance of the Security Deposit can be deposited by deducting 10% of the gross amount progressively from each of the running bills of the Contractor till the total amount of the required Security Deposit is collected.

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 authorities.

6. Clause no 1.7.3 to 1.7.3.4 shall be renumbered as 1.7.3.1 and shall be replaced by following;

Clause no 1.7.3:1:

The balance amount to make up the required Security Deposit of 5% of the contract value may be accepted in the following forms:

- Cash (as permissible under the extant Income Tax Act)
- Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
- Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL
- Fixed Deposit Receipt 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)
- 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)

(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)

Clause no. 1.7.3.6 of GCC stands deleted.

7. Clause no 1.7.4.1 of GCC shall be read as below:

Clause no 1.7.4.1: Security Deposit shall be refunded/Bank Guarantee(s) released to the Contractor along with the 'Final Bill' after deducting all expenses / other amounts due to BHEL under the contract / other contracts entered into with them by BHEL upon fulfilment of contractual obligations as per terms of the contract.

8. Clause no 2.14 of GCC shall be read as below:

Clause no 2.14: ARBITRATION & CONCILIATION**2.14.1 ARBITRATION:**

2.14.1.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 2.21.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice'). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Power Sector Region issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English.

The Arbitrator shall pass a reasoned award.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder as in force from time to time shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Kolkata (the place from where the contract is Issued). The Contract shall be governed by and be construed as per provisions of the laws of India. Subject to this provision 2.21.1.1 regarding ARBITRATION, the principal civil court exercising ordinary civil jurisdiction over the area where the seat of arbitration is located shall have exclusive jurisdiction over any DISPUTE to the exclusion of any other court.

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

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time.

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

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

2.14.2 CONCILIATION:

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

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फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

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

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

2.14.3 No Interest payable to Contractor

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

9.

(I)	New clauses have been introduced under Volume-I-GCC superseding all pertinent clauses of risk and cost
1.1	<p>Risk and cost may be invoked in any of the following cases:</p> <ol style="list-style-type: none"> i). Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of supply does not appear to be executable within balance available period considering its performance of execution. ii). Withdrawal from or abandonment of the work by contractor before completion of the work as per contract. iii). Non completion of work/ Non-supply by the Contractor within scheduled completion/ delivery period as per Contract or as extended from time to time, for the reasons attributable to the contractor. iv). Termination of Contract on account of any other reason (s) attributable to Contractor. v). Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL. vi). Non-compliance to any contractual condition or any other default attributable to Contractor. <p><u>Risk & Cost Amount against Balance Work:</u> Risk & Cost amount against balance work shall be calculated as follows: Risk & Cost Amount= [(A-B) + (A x H/100)] Where, A= Value of Balance scope of Work/ Supply (*) as per rates of new contract B= Value of Balance scope of Work/ Supply (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any. H = Overhead Factor to be taken as 5</p>

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 2321 1691/ 2339 8236

	<p>In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).</p> <p>* Balance scope of work/ supply (in case of termination of contract): Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work/ Supply for calculating risk & cost amount.</p> <p>Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.</p> <p>Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.</p> <p>Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.</p> <p>However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.</p> <p>NOTE: Incase portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work/ supply' for calculating Risk & Cost amount.</p> <p><u>LD against delay in executed work/ supply in case of Termination of Contract:</u></p> <p>LD against delay in executed work/ supply shall be calculated in line with the relevant LD clause(s) 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/ supply till termination of contract.</p> <p>Method for calculation of "LD against delay in executed supply in case of termination of contract" is given below.</p> <p>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</p> <p>ii). Let the value of executed work/supply till the time of termination of contract= X</p> <p>iii). Let the Total Executable Value of work/supply for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y</p> <p>iv). Delay in executed work/supply attributable to contractor i.e. $T2 = [1 - (X/Y)] \times T1$</p> <p>v). LD shall be calculated in line with LD clause of GCC for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.</p>
1.2	<p><u>Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor</u></p> <p>Following sequence shall be applicable for recoveries from contractor:</p> <p>a) Dues available in the form of Bills payable to contractor, SD, BGs against the same contract.</p> <p>b) Demand notice for deposit of balance recovery amount shall be sent to contractor, if funds are insufficient to effect complete recovery against dues indicated in (a) above.</p> <p>c) If contractor fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery: Dues payable to contractor against other contracts in the same Region shall be considered for recovery.</p> <p>If recovery cannot be made out of dues payable to the contractor as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills/Running Bills/SD/BGs/Final Bills of contractor.</p> <p>In-case recoveries are not possible with any of the above available options, Legal action shall</p>

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	be initiated for recovery against contractor.
(II)	Additional clauses have been introduced under Volume-I-GCC under security deposit (SD) & performance bond (PB)
2.0	<p><u>Clause No 1.10.8:</u> Security deposit (SD)</p> <p>SDBG to be furnished by the vendor before start of work. No payment will be released till SDBG is submitted by the vendor.</p> <p>If requested by the vendor, cash recovery equivalent to SDBG value to be made from bills submitted by the vendor.</p> <p>Also recovery of interest calculated @SBI PLR +2% on amount equivalent to SDBG / PBG value to be made for the gap period (difference between date of start of work and date of submission of BG / cash recovery).</p> <p>In case of delay in extension of SDBG, in case of validity expiry, SDBG shall be invoked. However if the vendor submits a new BG after invocation of the previous BG then, it shall be refunded and recovery for the gap period, i.e. the duration for which BG is not available shall be made as stated above.</p>

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Annexure -BTerms & Conditions of Reverse Auction

Against this enquiry for the subject item/ system with detailed scope of supply/service as per tender specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder for any of the eligible items for which techno- commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained for participation in the reverse auction.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form (annexure III) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" which is inclusive of all cost elements in line with terms & conditions of the tender for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure IV) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1 bidder(s) (whose quote is highest in online sealed bid) will not be allowed to participate in further RA process, provided minimum four bidders have submitted online sealed bids. Wherever more than one bidder is H1, all H1 bidders will not be allowed to participate in further RA, provided minimum 3 bidders are left after removal of all such H1 bidders.

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Annexure -C**Certificate by Chartered Accountant on letter head**

This is to to Certify that M/S,
(hereinafter referred to as 'company') having its registered office at
..... is registered under MSMED Act 2006, (Entrepreneur
Memorandum No (Part-II) dtd:.....,
Category:..... (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial year as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.0.1722(E) dated October 5, 2006 :
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:
Rs.....Lacs

(Strike off whichever is not applicable)

The above investment of Rs.....Lacs is within permissible limit of Rs.....Lacs forMicro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category {Micro/ Small} (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name-

Membership number-

Seal of Chartered Accountant

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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Annexure –D**Specific Clause w.r.t. BOCW Act & Cess Act**

1. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
2. It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.
3. It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4. It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may , by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.
5. In case where the contractor has been accorded written approval by the Construction Manager and the contractor is required to furnish information in Form I and deposit the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, fails to do so, BHEL reserves right to impose penalty at the rate of 30% of Cess Amount.
6. It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
7. It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
8. It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
9. It shall be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics :
 - (i) Number of Building Workers employed during preceding one month.
 - (ii) Number of Building workers registered as Beneficiary during preceding one month.
 - (iii) Disbursement of Wages made to the Building Workers for preceding wage month.
 - (iv) Remittance of Contribution of Beneficiaries made during the preceding month
10. BHEL shall reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.

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11. It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.
12. If any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed, BHEL reserves the right to withhold a reasonable amount from the payables to discharge any obligations on behalf of Contractors. The reasonable amount shall be decided by the Construction Manager in consultation with Resident Accounts Officer & Head HR and shall be final.
13. The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.

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ANNEXURE-E**Statewise GST Registration nos.**

Sl. No.	State / UT	GST Reg. No.
1	Andhra Pradesh	37AAACB4146P7Z8
2	Assam	18AAACB4146P1ZE
3	Bihar	10AAACB4146P1ZU
4	Chandigarh	04AAACB4146P1ZN
5	Chattishgarh	22AAACB4146P1ZP
6	Daman & Diu	25AAACB4146P1ZJ
7	Delhi	07AAACB4146P1ZH
8	Gujarat	24AAACB4146P1ZL
9	Haryana	06AAACB4146P1ZJ
10	HP	02AAACB4146P1ZR
11	Jharkhand	20AAACB4146P5ZP
12	Karnataka	29AAACB4146P1ZB
13	Kerala	32AAACB4146P1ZO
14	Maharashtra	27AAACB4146P1ZF
15	MP	23AAACB4146P1ZN
16	Punjab	03AAACB4146P2ZO
17	Rajasthan	08AAACB4146P1ZF
18	Tamil Nadu	33AAACB4146P2ZL
19	Telangana	36AAACB4146P1ZG
20	Tripura	16AAACB4146P1ZI
21	UP	09AAACB4146P2ZC
22	Uttarakhand	05AAACB4146P1ZL
23	West Bangal	19AAACB4146P1ZC
24	Mizoram	15AAACB4146P1ZK
25	Orissa	21AAACB4146P1ZR
26	Arunachal Pradesh	12AAACB4146P1ZQ

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Annexure- CPP-GST/I**Please arrange to submit this filled-up format along with Tender**

Name of the Company	
Address of Company*	
Company Registration Number*	
Name of Partners / Directors	
ALL THE STATES WHERE BIDDER HAS A PLACE OF BUSINESS*	
ALL ADDRESS OF VENDOR MENTIONING THEIR PIN AS PER THE LATEST GST REGISTRATION*	
GSTN OF ALL THE ABOVE NOTED PLACES OF VENDOR*	
Bidder Type: Indian/ Foreign*	
City*	
State*	
Country*	
Postal Code*	
PAN/TAN Number*	
Company's Establishment Year	
Company's Nature of Business*	
Company's Legal Status* {limited /undertaking/joint venture/partnership/other}	
Company Category* {micro unit as per MSME/small unit as per MSME/medium unit as per MSME/Ancillary unit/project affected person of this company/ssi/ other}	
Enter Company's Contact Person Details	
Title(Mr. / Mrs. / Ms. / Dr. / Shri)*	
Contact Name*	
Date Of Birth*	
Correspondence Email*	
(Correspondence Email ID can be same as your Login ID. All the mail correspondence will be sent only to the Correspondence Email ID.)	
Designation	
Phone*	
Fax*	
Mobile*	

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TENDER NO: PSER:SCT:KLN-Q1973:19

VOLUME -I

GENERAL CONDITIONS OF CONTRACT

FOR

Providing services for development of safety culture and effective implementation of Health, Safety & Environment (HSE) at 2x660 MW Maitree STPP, Rampal, Bangladesh.

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

Bharat Heavy Electricals Limited		
Power Sector – Eastern Region, Kolkata		
TENDER NO – PSER:SCT:KLN-Q1973:19		
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Bharat Heavy Electricals Limited		
Power Sector – Eastern Region, Kolkata		
TENDER NO – PSER:SCT:KLN-Q1973:19		
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SECTION – I
GENERAL INSTRUCTION TO TENDERER

CLAUSE NO	DESCRIPTION
1.1	NOTICE
1.1.1	Sealed tenders complete in all respects shall be submitted, duly superscribing the tender document No. and name of work, to the OFFICER INVITING TENDER within specified date and time.
1.1.2	Bharat Heavy Electricals Ltd., take no responsibility for any delay, loss or non receipt of tender document sent by post and also reserve the right to reject any or all the tenders without assigning any reason thereof. Tenders not accompanied by prescribed earnest money are liable to be summarily rejected.
1.2	PROCEDURE FOR SUBMISSION OF SEALED TENDERS
1.2.1	The tenderer must submit their tenders as required in three parts in separates sealed covers prominently superscribed as Part – I “TECHNO – COMMERCIAL BID”, Part – II “PRICE BID” and Part – III “EMD” and also indicating on each of the covers the tender specification number and due date and time. All the three sealed envelopes shall be enclosed in a third envelop superscribing tender specification No. and due date and time on the top.
1.2.2	No deviation from the tender specifications shall be acceptable to BHEL. For this purpose the tenderers shall confirm their unqualified acceptance of the terms and conditions in the technical bid, and that the rate quoted are in accordance with the tender specification by giving a written undertaking to that effect as per the enclosed format. This certificate shall be kept outside the techno-commercial bid during submission. TENDERS NOT COMPLYING WITH THE ABOVE MAY BE REJECTED.
1.2.2.1	PART – I (TECHNO – COMMERCIAL BID) – Cover I. All schedules, data sheets & details, reference of EMD (without disclosing amount) and Volume-I & Volume-II (signing on all the pages) shall be enclosed in Part-I, TECHNO–COMMERCIAL BID.
1.2.2.2	PART-II (PRICE BID) – Cover II All indications of price as per rate schedule (Volume III) alongwith Volume III (signing on all the pages) shall be submitted in this Part II, PRICE BID.
1.2.2.3	PART-III (EMD) – Cover III This cover should contain only Earnest Money deposit (EMD) for the specification.
1.2.3	Tenders submitted by post shall be sent ‘REGISTERED POST AC-KNOWLEDGEMENT DUE’ and shall be posted with the due allowance for any postal delay. Tenders received after the due date and time of opening is liable to be rejected. Telegraphic offers and offers received by telex may not be considered unless confirmed in writing by a detailed offer.
1.2.4	Tenders shall be opened by the authorized officers of BHEL at his office at the specified time and date in the presence of such of those, tenderers or their authorized representatives who may be present. Such representatives shall have to bring with them an authorization letter during the opening of price bids.
1.2.5	The tenderers shall closely peruse all the clauses, specification and drawings indicated in the tender documents before quoting. Should the tenderer have any doubt about the meaning of any portion of the tender specifications or find discrepancies or omission in the drawing or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, scope of work etc, shall at once contact the authority inviting the tender for clarification before submission of offer.
1.2.6	Before tendering, the tenderers are advised to inspect the site of work and the environments and be well acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour. No claim will be entertained later on the ground of lack of knowledge.
1.2.7	Tenderer must fill up all the schedules and annexure and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the tender specification, comprising of Volume I, Volume II and Volume III must be SIGNED, STAMPED AND SUBMITTED ALONGWITH THE OFFER by the tenderer in token acceptance thereof. The information furnished shall be complete by itself.
1.2.8	The tenderer shall quote the rates in English language and international numerals. The rate shall be in whole rupees. These rates shall be entered in figurers as well as in words. In case of difference in rates between words and figurers THE LESSER OF THE TWO will be treated as valid rate. For the purpose of the tender, the metric system of units shall be used.

Bharat Heavy Electricals Limited		
Power Sector – Eastern Region, Kolkata		
TENDER NO – PSER:SCT:KLN-Q1973:19		
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1.2.9	All entries in the tender shall either be typed or be in ink. Erasing and over writing are not permitted and may render such tender liable to summary rejection. All cancellations and insertions shall be duly attested by the tenderer.
1.3	QUALIFICATION OF TENDERERS
	Only tenderers who have been previously qualified in the work of this nature and description detailed in this tender specification and have other resources and expected to quote for this work.
1.3	DATA AND DOCUMENTS TO BE ENCLOSED
1.3.1	Full information shall be given by the tenderer in respect of following. Non-submission of these information may lead to rejection of the offer.
1.3.2	Attested copies of partnership deed, power of attorney and tender specifications duly signed as mentioned in the tender documents.
1.3.3	In case of an proprietorship firm, full name of proprietor, address, place and nature of business shall be furnished. In case of partnership firm, names of all the partners and their address, copy of partnership deed, instrument of partnership duly certified by the Notary Public shall be enclosed. In case of company, 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), nature of business carried on by the company and submissions of the memorandum relating thereof, names and particulars including addresses of all the directors and their previous experiences etc shall be furnished.
1.3.4	Prescribed Earnest Money Deposit.
1.3.5	Previous experience
	A statement giving particulars duly supported by documentary evidence of the various services rendered for each similar work by the tenderer indicating the particulars and value of each work, the site location and the duration and date of completion and also list of site location and particulars and values of various works that are under progress.
1.3.6	Organization chart
1.3.6.1	The organization that is totally available and that will be employed by the tenderer for this work duly indicating the number of supervisors the number of skilled and unskilled persons etc.
1.3.6.2	A list of tools and tackles that the tenderer is having and those will be used on this job including deployment plan.
1.3.6.3	Audited Balance Sheet and Profit & Loss A/c of last three years.
1.3.7	Banker's Certificate
	A latest certificate from Scheduled Bank to prove his financial capacity to undertake the work or solvency certificate from the concerned government authority.
1.3.8	Income Tax / Sales Tax Certificate
1.3.8.1	A valid certificate of Income Tax / Sales Tax verification from the appropriate authority in the forms prescribed duly indicating annual turnover. These certificates shall be valid for one year from the date of issue or for the period prescribed therein for all tenders submitted during the period.
1.3.8.2	A written declaration indicating that no deviation from the tender specification has been taken.
1.3.8.3	In addition to above, other particulars, required in various annexure shall be furnished.
1.3.9	EARNEST MONEY DEPOSIT (EMD)
1.3.9.1	Every tender must be accompanied by the prescribed amount of Earnest Money Deposit as indicated in the tender enquiry letter, in any of the following forms. (All securities are to be discharged and pledged in favour of BHEL).
1.3.9.2	Note: Cheque, Money order, postal order or bank guarantee will not be accepted.
1.3.9.3	The amount shall be remitted by the bidder in cash (as permissible under Income Tax Act) to the cashier of Bharat Heavy Electricals Limited, Power Section, Eastern Region, Kolkata and cash receipt issued by BHEL shall be enclosed alongwith the tender.
1.3.9.4	Pay orders, demand draft payable at Kolkata duly pledged in favour of Bharat Heavy Electricals Limited.
1.3.9.5	Tenders received without earnest money in full in the manner prescribed above are liable to be rejected.
1.3.9.6	The Earnest money deposit of the successful tenderer paid in cash /DD/pay order shall be retained towards part of Security Deposit.
1.3.9.7	In the case of unsuccessful tenderers, the Earnest Money shall be refunded within a reasonable time after acceptance of award of work by the successful tenderer.
1.3.9.8	BHEL reserves the right of forfeiture of earnest money deposit in case the tenderer:

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1.3.9.9	After opening of the tender, the tenderer revokes his tender within the validity period or increases his earlier quoted rates.	
1.3.9.10	Fails to commence the work within the period as specified in the Letter of Intent or communicate the unqualified acceptance of the Letter of Intent within 15 days of date of the Letter of Intent.	
1.4	AUTHORISATION AND ATTESTATION	
	Tenders shall be signed by persons duly authorized / empowered to do so. Certificated copies of such authority and relevant documents shall be submitted alongwith the tenders.	
1.5	VALIDITY OF OFFER	
	The rates in the tender shall be kept valid for acceptance / for minimum period of six months from the date of submission of latest offer. If a tenderer withdraws or revokes his tender or revises the tendered rates and conditions for any items within the aforesaid period, his earnest money is liable to be forfeited. In case Bharat Heavy Electricals Limited calls for negotiations, such negotiations shall not amount to cancellation or withdrawal, of the original offer which shall be binding on the tenderers.	
1.6	EXECUTION OF CONTRACT	
	The successful tenderer's responsibility under this contract commences from the date of issue of letter of intent by Bharat Heavy Electricals Limited. The successful tenderer shall be required to execute agreement in the prescribed form with BHEL within a reasonable time after the acceptance of his tender and in any case before submitting the first bill for payment. The total expenses towards preparing agreement (no of copies to be specified by BHEL at the time of execution of agreement) shall be borne by the contractor.	
1.7	SECURITY DEPOSIT (SD)	
1.7.1	Upon acceptance of tender, the successful tenderer within the time specified in the letter of intent must deposit required amount as security deposit for satisfactory completion of work and shall not commence work under the contract before remitting security deposit except as directed by BHEL.	
1.7.2	The amount of Security Deposit shall be as follows:	
1.7.2.1	In the case of work upto 10 lac.	10%
1.7.2.2	In the case of work costing above Rs 10 lac upto Rs 50 lac.	Rs 1 [one] lac plus 7.5% of the amount exceeding Rs 10 lac.
1.7.2.3	Above Rs 50 lac.	Rs 4 [four] lac plus 5% of the amount exceeding Rs 50 lac.
1.7.3	The Security deposit may be deposited in any of the following form:	
1.7.3.1	The total Security Deposit as indicated in the letter of intent can be paid in cash(as permissible under the Income Tax Act)/Pay Order or Demand Draft (in favour of Bharat Heavy Electricals Limited payable at Kolkata)/local cheques of Scheduled Banks (subject to realization) to BHEL, Power Sector, Eastern Region, Kolkata within the time limit stipulated in the letter of intent.	
1.7.3.2	The Security Deposit as indicated in the letter of intent can be paid in the form of Bank Guarantee from Scheduled Banks / Public Financial institutions as defined in the Companies Act in the prescribed proforma, the validity being upto completion of work as stipulated in the letter of intent. The Bank Guarantee furnished towards Security Deposit should be kept valid by proper renewal till the said work is actually completed.	
1.7.3.3	The security deposit may be submitted through securities from Post Offices such as National Savings Certificates/Kisan Vikas Patras etc (certificates should be held in the name of the contractor furnishing the security and duly pledged in favour of Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Kolkata and discharged on the back).	
1.7.3.4	The security deposit may be submitted by Fixed Deposit Receipt issued by Scheduled Banks/Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Kolkata, duly discharged on the back.	
1.7.3.5	The security deposit can be recovered by deduction from running bills @ 10% of the value of each running bills till the full Security Deposit is made up. However, in such cases at least 50% of the Security Deposit should be deposited before start of work and the balance may be recovered from RA bills.	
1.7.3.6	Acceptance of security deposit against sl No. 1.7.3.3 & 1.7.3.4 above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for collection of interest or renewal of the documents or in any other matter connected therewith.	
1.7.3.7	If the value of the work done at any time exceeds accepted agreement value, the security	

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	deposit shall be correspondingly enhanced and the extra security deposit shall be immediately deposited by the contractor or recovered from payments due to him.
1.7.3.8	Regarding adjustment of Earnest Money deposit towards part of Security Deposit, refer clause under EMD above.
1.7.3.9	Failure to deposit security money within stipulated time may lead to forfeiture of Earnest Money and cancellation of award of work.
1.7.3.10	If any parts of security deposit of the contractor is held in the form of approved securities, it shall be kept transferred in the name of Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Kolkata in such a manner the BHEL can realize it fully without reference to the contractor. BHEL shall not be responsible for any depreciation in the value of the security while in BHEL's custody or for any loss of interest thereon.
1.7.3.11	BHEL reserve the right of forfeiture of security deposit in addition to other claims and penalties in the event of the contractor's failure to fulfil any of the contractual obligations (including liquidation or bankruptcy of the contractor, non-payment of money payable by means of arbitration award in favour of BHEL) or in the event of termination of contract as per terms and conditions of contract. BHEL reserve the right to set off these security deposit, against any claims of any other contract with BHEL.
1.7.3.12	In case of small value contracts not exceeding Rs.10 lakhs and all SAS jobs, work can be started before Security Deposit is collected. However, payment can be released only after collection / recovery of initial 50% Security Deposit.
1.7.4	Return of Security Deposit
1.7.4.1	If the contractor duly performs and completes the contract in all respects to the entire satisfaction of BHEL and presents an absolute no Demand Certificate in the prescribed form and returns properties belonging to BHEL taken / borrowed or hired by him for carrying out the said works, half of the amount of Security Deposit will be released to the contractor after deducting all costs of expenses or other amounts that are to be paid to BHEL under this 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. Balance half of the amount of Security Deposit will be released only after the satisfactory completion of Warranty / Guarantee Period as per terms of specification.
1.7.4.2	No interest shall be payable by BHEL on earnest money / security deposit or any money due to the contractor by BHEL.
1.8	REJECTION OF TENDER AND OTHER CONDITIONS
1.8.1	The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever.
1.8.1.1	To reject any or all of the tender.
1.8.1.2	To split up the work amongst two or more tenderers.
1.8.1.3	To award the work in part.
1.8.1.4	Either of the contingencies stated in 1.8.1.2 and 1.8.1.3 to modify the time for completion suitably.
1.8.2	Conditions and unwitnesses tenderers, tenders containing absurd or unworkable rates and amounts and tenders which are incomplete and otherwise considered defective and not in accordance with the tender conditions, specification etc., are liable to be rejected.
1.8.3	If a tenderer expires after his submission of the tenders 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 the tender or after the acceptance of the tender, BHEL may cancel such tender at their discretion unless the firm retains its character.
1.8.4	BHEL will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. They 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.
1.8.5	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 Earnest Money / Security Deposit.
1.8.6	Canvassing in any form in connection with the tenders is strictly prohibited and the tenders submitted by the contractor who resort to canvassing are liable to rejection.
1.8.7	Should a tenderer of contractor or in the case of a firm or Company one or more its partners / shareholders / directors have a relation or relations employed in the capacity of an officer of BHEL, the authority inviting tender shall be informed of the fact alongwith the Officer, failing this, BHEL may, at it sole discretion, reject the tender or cancel the contract and forfeit the

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	Earnest Money / Security Deposit.
1.8.8	The successful tenderer should not subcontract the part or complete work detailed in this tender specification / undertaken by him without written permission of BHEL. The tenderer is solely responsible to BHEL for the work awarded to him.
1.8.9	No deviation from the tender specifications shall be acceptable to BHEL. Tenderers shall confirm their unqualified acceptance of the terms and conditions by giving an undertaking to this effect in a separate envelope alongwith the techno-commercial bid superscribed the word "undertaking for NO DEVIATION".

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SECTION – II
GENERAL TERMS AND CONDITIONS OF CONTRACT

CLAUSE NO	DESCRIPTION
2.1	DEFINITION The following terms and expression shall have the meaning hereby assigned to them excepting where the context otherwise requires :-
2.1.1	'BHEL' shall mean Bharat Heavy Electricals Limited, a company registered under Indian Companies Act 1956, with its Registered office at 'BHEL HOUSE', SIRI FORT, NEW DELHI – 110 049. Power Sector, Eastern Region, Kolkata – 700 001 or its administrative officers or its site engineer or other employees authorized to deal with any matters with which these persons are concerned on its behalf.
2.1.2	EXECUTIVE DIRECTOR / GENERAL MANAGER shall mean the officer in administrative charge of BHEL, Power Sector, Eastern Region or their other regional offices.
2.1.3	'ENGINEER' OR 'ENGINEER IN CHARGE' shall mean engineer deputed by BHEL. The term includes 'SITE ENGINEER' 'RESIDENT ENGINEER' and 'ASSISTANT SITE ENGINEER' of BHEL at the site as well as the officers in charge at Kolkata Office.
2.1.4	'SITE' shall mean the place or places at which the plants / equipment are to be erected and services are to be performed as per the specification of this contract.
2.1.5	'CLIENTS OF BHEL' or 'CUSTOMER' shall mean the Project authorities to whom BHEL is supplying the equipment.
2.1.6	'CONTRACTOR' shall mean the individual firm or company who enters into this contract with BHEL and shall include their executors, administrators, successors and permitted assigns.
2.1.7	'CONTRACTOR' or 'CONTRACT DOCUMENT' shall mean and includes the agreement of work order, the accepted appendices or rates, schedule or quantities, if any and general conditions of contract, the special conditions of contract, instructions to the tenders, the drawing, the specification, the special specifications if any, the tender documents and the letter of intent / accepting letter issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or supporting letters shall not form part of the contract unless specifically accepted in writing by BHEL and incorporated in this agreement.
2.1.8	'GENERAL CONDITION OF CONTRACT' shall mean the instruction to Tenderers and general conditions of contract pertaining to the work detailed.
2.1.9	'TENDER SPECIFICATION' shall mean the specific condition, technical specifications, appendices, site information and drawings pertaining to the work in which the tenderers are required to submit their offers. Also this will include the specifications covered under specifications detailed in NIT of client of BHEL for erection, testing and commissioning of plant. Individual specification No. will be assigned to each tender specification.
2.1.10	'TENDER DOCUMENTS' shall mean the general condition of contract and tender specification.
2.1.11	'LETTER/TELEX OF INTENT (LOI/TOI)' shall mean the intimation to the tenderer that the tender has been accepted in accordance with provision contained in it. The responsibility of the contractor commences from the date of issue of this letter and all the terms and condition of contract are applicable from this date.
2.1.12	'COMPLETION TIME' shall mean the period by date specified in the acceptance of the tender for handing over of the erected equipment/plant which are found acceptable by the Engineer being of required standard and conforming to the specifications of the contract.
2.1.13	'PLANT' shall mean the connote the entire assembly of the plant and equipment covered by the contract.
2.1.14	'EQUIPMENT' shall mean all equipment, machinery, materials, structurals, electricals and other components of the plant covered by the contract.
2.1.15	'TESTS' shall mean and includes such test 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's work or part thereof.
2.1.16	'APPROVED', 'DIRECTED' or 'INSTRUCTED' shall mean approved, directed or instructed by BHEL.
2.1.17	'WORK or CONTRACT WORK' shall mean and include supply of all categories of labour, specified consumable, tools and tackles required for complete and satisfactory site transportation, handling, stacking, storing erecting, testing and commissioning of the equipment to the entire satisfaction of BHEL.
2.1.18	'SINGULAR AND PLURAL ETC' works carrying singular number shall also include plural and

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	<p>vis-versa where the context so require. Words importing the masculine gender shall be taken to include any company or association or body of individuals whether incorporated or not.</p>
2.1.19	<p>'HEADINGS'. The headings in these general conditions are solely for the purposes of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.</p>
2.1.20	<p>'MONTH' shall mean Calendar month.</p>
2.1.21	<p>'WRITTING' shall include any manuscript type written or printed statement under the signature or seal as the case may be.</p>
2.2	<p>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. The Civil Court, having ordinary original civil jurisdiction, Kolkata shall alone have exclusive jurisdiction in regard to all claims in respect of this contract.</p>
2.3	<p>ISSUE OF NOTICE The contractor shall furnish to the BHEL Engineer name, designation and address of his authorized agent and all complaints, notices, communications and reference shall be deemed to have been duly given to the contractor if delivered to the contractor or his authorized agent or left at or posted to address either of the contractor or of his representative and shall be deemed to have been so given in case of posting on the day on which they would have reached such address in ordinary course of post or on which they were so delivered of /or left.</p>
2.4	<p>USE OF LAND No land belonging to BHEL or their customer under temporary possession of BHEL shall be occupied by the contractor without the written permission of BHEL.</p>
2.5	<p>COMMENCEMENT OF WORK</p>
2.5.1	<p>The contractor shall commence the works within the time indicated in the letter / talex of intent from BHEL and shall proceed with same with due expedition without delay.</p>
2.5.2	<p>If the successful tenderer fails to start the work within the stipulated time, BHEL at its sole discretion will have the right to cancel the contract. His earnest money and / or Security Deposit with BHEL will stand forfeited without any further reference to him, without prejudice to any and all of BHEL's rights and remedies in this regard.</p>
2.5.3	<p>All the works shall be carried out under the direction and satisfaction of BHEL.</p>
2.5.4	<p>The erected / constructed plant or work performed under the contract shall be taken over when it has been completed in all respects and / or satisfactorily put into operation at site.</p>
2.6	<p>MODE OF PAYMENT & MEASUREMENT OF THE WORK COMPLETE All payments due to the contractor shall be paid by ' Account Payee Cheques'.</p>
2.6.1	<p>For progress running bill payment: 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 letter of intent. The basis of arriving at the quantities / weights shall be relevant documents and drawings released by BHEL. These measurement sheets shall be entered in measurement book and signed by both the parties.</p>
2.6.2	<p>These measurement sheets will be checked by BHEL engineers 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 in the parties.</p>
2.6.3	<p>Based on the above quantity, contractor shall prepare the bills in prescribed proforma and work out the financial value. These will be entered in M. Book and signed by both the parties and paid for duly effecting recoveries due.</p>
2.6.4	<p>All recoveries due from the contractor for the month/period shall be effected in full from this corresponding running bills unless specific approval from the competent authorities is obtained otherwise.</p>
2.6.5	<p>Measurement shall be restricted to that for which it is required to ascertain the financial liability of BHEL under this contract.</p>
2.6.6	<p>The measurement shall be taken jointly by persons duly authorized on the part of BHEL and by the contractor.</p>
2.6.8	<p>If, at any time due to any reason whatsoever, it becomes necessary to measure the work done in full, or in part, the expenses towards such re-measurements shall be borne by the contractor.</p>
2.6.9	<p>Passing of measurement as per bills does not amount to acceptance of the completion of the work mentioned. Any left out work has to be completed if pointed out at a later date by BHEL.</p>

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2.6.10	Final measure bill shall be prepared in the final bill proforma prescribed for the purpose based on the certificate issued by BHEL Engineer that entire work as stipulated in the tender specification has been completed in all respects to the entire satisfaction of BHEL. Contractor shall give unqualified “NO DUE” and no demand certificate. All the tools and tackles loaned to him would be returned by the contractor in satisfactory condition to BHEL. Quantities / weights erected shall be prepared and paid, within a reasonable time after completion of work. After payment of final bill only guarantee obligation percentage shall remain unpaid which shall be released in accordance with terms of specification. The final bill quantities and financial value shall also be entered in measurement book and signed by both the parties to the contract.
2.7	RIGHTS OF BHEL
2.7.1	BHEL reserve the following rights in respect of this contract without entitling the subcontractor for any compensation.
2.7.2	To get the work done through other agency at the risk and cost of the contractor, in the event of Contractor’s poor progress or inability to progress the work for completion as stipulated in the contract, poor quality of the work etc and to recover compensation for such losses from contractor including BHEL’s supervision charges and overheads from security deposit/other dues.
2.7.3	To withdraw any portion of work and /or to restrict alter the quantum of works as indicated in the contractors during the progress of erection and get it done through other agency and/or by departmental labour to suit BHEL’s commitment to its customer or in case BHEL decides to advance in date of completion due to other emergency reason/BHEL’s obligation to its customer.
2.7.4	To terminate the contract after due notice and forfeit security deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages/penalty in the events of followings:
2.7.5	Contractor’s continued poor progress brought to his notice from time to time.
2.7.6	Withdrawal form or abandonment of the work before completion of the work.
2.7.7	Corrupt act of contractor.
2.7.8	Insolvency of the contractor.
2.7.9	Persistent disregard to the instructions in writing of BHEL.
2.7.10	Assignment, transfer, sub-letting of the contract without BHEL’s written permission.
2.7.11	Non-fulfillment of any contractual obligations.
2.7.11.1	Any delay in completion of works / or non – achievement of periodical targets due to reasons attributable to the contractor, the same will 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.
2.7.11.2	To recover any money due from the contractor from any money due to the contractor under this contract or any other contract or from the Security Deposit.
2.7.11.3	To Claim compensation for losses sustained including BHEL’s supervision charges and overheads in completion on termination of contract and/or to impose penalty for delay in completion of the work, at the rate of ½ % (half percent) of the contract value per week of delay or part thereof subject to a ceiling of 10% (ten percent) of the contract value.
2.7.11.4	To terminate the Contract or to restrict the quantum of the work and pay for the portion of work executed in case BHEL’s contracts with their customers are terminated for any reason.
2.7.11.5	To effect recovery from any amounts due to the contractor under this or any other contract etc., in any other form, the money BHEL is forced to pay to anybody, due to contractor’s failure to fulfil any of his obligations.
2.7.11.6	While every endeavour will be made by BHEL, they cannot guarantee uninterrupted work due to conditions beyond their control. Contractor will not be entitled for any compensation / extra payment in this account.
2.7.11.7	In the event of any dispute of any nature, the decision of BHEL shall be final and binding on the contractor.
2.8	RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS OF EMPLOYMENT OF WORKERS ETC.
2.8.1	The following are the responsibilities of the contractor in respect of observation of local laws, employment of personnel, payment of taxes etc.
2.8.2	As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.
2.8.3	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

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	to all local festivals and religions and other customs.
2.8.4	The contractor shall comply with all state and central laws, statutory rules, regulations etc. such as:
2.8.5	The Payment of Wages Act, Minimums Wages Act, Workmen Compensation Act, Employers Liability Act, Industrial Dispute Act, Employees Provident Fund Scheme, Employees State Insurance Scheme, Contract Labour (Regulation & Abolition) Act 1970 and other Acts, Rules & Regulations for labour as may be enacted by the government during the tenure of the contract and having force or jurisdiction at site. The contractor shall give to the local government body, police and other relevant authorities all such notices as may be required by law.
2.8.6	The contractor's quoted price shall be inclusive of all taxes, fees, licence charges, deposits, duties, royalty commission or other charges towards this contract applicable at the time of submission of latest offer. However, in case Sales Tax on Works Contract, Turn Over Tax and Excise Duty are levied subsequently, the same will be considered for reimbursement by BHEL on production of documentary evidence (assessment order) towards same. The contractor have to obtain clearance / acceptance in writing from BHEL before making such payment.
2.8.7	While BHEL could pay the inspection fees, of the Boiler Inspectorate, all other arrangements for the visits periodically by Boiler Inspector to site, inspection certificates etc. will have to be made by the contractor.
2.8.8	The 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 the contract.
2.8.9	The contractor shall fulfil all his obligations in respect of accommodation including proper medical facilities for the personnel employed by him.
2.8.10	The contractor shall be responsible for proper behaviour at site and observance of all regulations by the staff employed by him.
2.8.11	The contractor shall ensure that no damage is caused to any personnel property of other parties working at site. If any, such damage is caused, it is the responsibility of the contractor to make good the losses or compensate for the same.
2.8.12	All the properties / equipment / components of BHEL / their client loaned with or without deposit to the contractor in connection with the contract shall remain the properties of BHEL/their client. The contractor shall use such properties for the purpose of execution of this contract. All such properties /equipment/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 the site engineers, will be recovered from the contractor.
2.8.13	It is not obligatory on the part of BHEL to supply any tools and tackles or other materials other than those specifically agreed to do so by BHEL, however, depending upon the availability, BHEL's customer's handling equipment and other plants may be made available to the contractor on payment of the Hire charge as fixed, subject to the conditions laid down by BHEL /customer from time to time. Unless paid in advance such hire charges, if applicable shall be recovered from contractor's bill / security deposit in ONE instalment.
2.8.14	The contractor shall not claim any compensation of the scope of work, due to change in design which curtails the quantum.
2.8.15	The contractor shall fully indemnify BHEL against all claims of whatsoever nature arising during the course of erection / construction / performing work under the contract.
2.8.16	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.
2.8.17	The contractor shall keep the area of works clean and shall remove 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 place to be specified by the BHEL Engineer. The contractor will also demolish all the hutments, sheds, offices, constructed and used by him and shall clean the debris. In the case of his failure to do so, the same will be arranged to be removed by the BHEL Engineer. The expenses therefore, will be recovered from contractor.
2.8.18	The contractor shall arrange and co-ordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.
2.8.19	All safety rules and codes applied by the client / BHEL at site shall be observed by the contractor without exemption. The contractor shall be responsible for the safety of the

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	equipment material and work to be performed by him and shall maintain all light, fencing, guards, signs etc., or other protection necessary for the purpose. Contractor shall also take such additional precaution as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards and 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 the work under this contract.
2.8.20	The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite tests of handling equipment, lifting tools, tackles etc as per prescribed standards and practices.
2.8.21	The contractor will be directly responsible for payment of wages to his workman. A pay roll sheet giving all the payments given to the workers and duly signed by the contractor's representatives should be furnished to BHEL site office for record purpose.
2.8.22	The intent of specification is to provide services according to most modern and proven techniques and codes. The omission of specific preference to any method, equipment of materials necessary for the proper and efficient performance of work shall not relieve the contractor of responsibility of providing much facilities to complete the work.
2.8.23	In case of any class of the 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.
2.8.24	No levy or payment or charge made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied or demanded or charged.
2.8.25	The detailed drawings, specifications, instruction manual, if any, available with the BHEL Engineer will form part of tender specification. These documents will be made available for reference only to the contractor during execution of work.
2.8.26	Should any error or ambiguity be discovered in the specification or information, the contractor shall forthwith bring the same to the notice of BHEL before commencement of work. BHEL's interpretation in such cases shall be final and binding on contractor.
2.8.27	No idle labour charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour being rendered idle due to any cause at any time.
2.8.28	It is possible that some minor repair / rectification / modification may be needed on the equipment to be erected / constructed / work to be performed under this specification, for reasons not attributable to the contractor. All such repair / rectification / modification work which can be done with the available facilities at site shall be carried out by the contractor free of cost and no extra charges shall be paid to the contractor, unless stated otherwise elsewhere.
2.8.29	The quality and progress of work will be regularly reviewed. The schedule and programme of work will be given to the contractor in advance and it will be the obligation of the contractor to achieve the desired quality and progress of work by suitably reinforcing their labour force and/or by working extra hours or in more than one shift without any extra cost. Workman found unsuitable for the work will be replaced immediately by the contractor on being informed by BHEL.
2.8.30	During the erection / construction/performing work under the contract, it is very essential that proper and adequate inspection should be made constantly to maintain the quality of workmanship so that any deviation from design dimension does not exceed permissible limits. The proper function of the unit, while in operation, depends to a great extent on the above factors. The fact that effective supervision and inspection at the execution stage is less costly than any down time of running unit even for short period need not be over emphasized. For the details regarding alignment and permissible dimensional deviations in the subassemblies, engineer may be consulted.
2.8.31	The contractor shall furnish daily labour report showing by classification of number of employees engaged in the various categories of work date wise and a progress report of work as required by BHEL Engineer.
2.8.32	The contractor shall execute the work in the most substantial and workmen like manner in stipulated time. Accuracy of work and timely execution are the essence of this contract. The contractor shall be responsible to ensure that the assembly and workmanship confirm to the dimensions and clearances given in the drawings and/or as per instructions of BHEL Engineer.
2.8.33	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 /their client. Where necessary, suitable temporary fencing and lighting shall have to be provided by contractor as a safety measure

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	against accident and damage of property of BHEL. Suitable caution notices shall be displayed where access to any part may be deemed to be unsafe and hazardous.
2.8.34	It will be the responsibility of the contractor to ensure safe lifting of the equipment taking due precautions to avoid any accidents and damage to other equipments and personnel.
2.9	CONSEQUENCES OF CANCELLATION
2.9.1	Whenever BHEL exercises its authority to terminate the contract / withdraw a portion of work under the clause 2.7 they may complete the work by any means at the contractor's risk and expenses provided that in the event of the cost of completion (as certified by the site engineer which is final and conclusive) being less than the contract cost the advantage shall accrue to BHEL and that if the cost of completion exceeds the money due to the contractor under the contract, the contractor shall either pay the excess amount ordered by BHEL or the same shall be recovered in addition to the forfeiture of security deposit and recovery of liquidated damage as per relevant clauses.
2.9.2	In case BHEL completes the work under the provisions of this condition, cost of such completion to be taken into account in determining excess cost to be charged to the contract under this condition, shall consist of materials purchased and/or labour, provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.
2.10	INSURANCE
2.10.1	BHEL/ their customer shall arrange for insurance the materials / properties of BHEL /customer covering the risks during transit storage, erection and commissioning.
2.10.2	It is the sole responsibility of the contractor to issue the workmen against accident and injury while at work as required by relevant rules and to pay compensation, if any, to workmen as per workmen's compensation act. Contractor shall insure his staff against accidents. The work will be carried out in a protected area and all the rules and regulation 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.
2.10.3	If due to negligence and/or non-observance of safety and other precautions, any accident/injury occurs to other person/public, the contractor shall have to pay necessary compensation and other expenses, if so decided by the appropriate authorities.
2.10.4	If due to contractors carelessness, negligence or non-observance of safety precaution damage to BHEL's / customer's property and personnel should occur, and if BHEL is unable to recover, in full cost from the Insurance Company, the balance will be recovered from the contractor. The damage is to be reported within 48 hours, of occurrence alongwith engineer's report. In the event of loss /theft of BHEL's customer's property while in the custody of the contractor, it will be the responsibility of the contractor to lodge an FIR with local police authorities and furnish the details of FIR and engineer's investigation report about loss / theft within 48 hours of occurrence . This is for the purpose of lodging insurance claim. If BHEL is unable to recover full cost from Insurance Company, the balance including deductible franchise wherever applicable will be recovered from the contractor.
2.11	STRIKE AND LOCKOUTS The contractor will be fully responsible for all the disputes and others issues connected with his labour. In the event of the contractor's labour resorting to strike or the lock-out declared is not settled within a period of one month, BHEL shall have the right to get the erection work executed employing its own labour or through any other agencies or both and the cost so incurred by BHEL shall be deducted from the contractor's bills as per clauses 2.7. For all purposes whatsoever the employee of the contractor shall not be deemed to be in the employment of BHEL.
2.12	FORCE MAJEURE
2.12.1	The following shall amount to force majeure:
2.12.2	Acts of God, acts of any Government, war, sabotage, riots, civil commotion, police action, revolution, flood, fire, cyclone, earthquake and epidemic and other similar cause over which the contractor has no control.
2.12.3	If the contractor suffers delay in the due execution of the contractual obligation due to delays caused for force majeure as defined above, the agreed time of completion of the job covered by this contract or the obligations of the contract shall be extended by a period of time equal to the period of delay provided that on the occurrence of any such contingency the contractor immediately reports to BHEL in writing the causes of delay and contractor shall not be eligible for any compensation.
2.13	GUARANTEE Even though the work will be carried under supervision of BHEL engineers, contractor will be

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	responsible for the quality of the workmanship and shall guarantee the work done for a period of 12 months from the date of start of guarantee period, as certified by the engineer for good workmanship and shall rectify free of cost all defects due to faulty erection. In case contractor fail to repair the defective works within the time specified by the engineer. BHEL may proceed to undertake the repairs of such defective works at contractor's risk & cost without prejudices to any other rights and recover the same SD/other dues.
2.14	ARBITRATION
2.14.1	Except where otherwise provided in the contract all question and disputes relating to the meaning of specifications, design, drawings and instructions hereinbefore mentioned and as to the quality of workmanship or materials used in the work or as to anyother questions, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or those conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to and decided by the engineer whose decision shall final to the parties hereto subject however, to the Arbitration referred hereunder. Any disputes of differences including those considered as such by only one of the parties arising out of or in connection with the contract shall be to the extent possible settled amicably between the parties. If amicable settlement can not be reached then all such disputed issues shall be referred to the sole Arbitration of General Manager or his appointed nominee.
2.14.2	The parties to the contract understand and agree that there will be no objection to any such appointment that the arbitrator so appointed in a Government servant or in the employment of the employer, that he had to deal with the matters to which the contract relates and that in the course of his duties or any of the matters in disputes or difference as a government servant or as an employee of the employer he had expressed views on all or any of the matter in dispute or difference. The award of the arbitrator shall be final and binding on the parties to this contract.
2.14.3	In the event of the arbitrator dying, neglecting or refusing or resigning or transferred or being unable to act for any reason, or his award being set aside by the court for any reason, it shall be lawful for the GM or his successor, as the case may be, either to act himself as the Arbitrator or to appoint another arbitrator in place of outgoing Arbitrator in the matter aforesaid.
2.14.4	The arbitrator may from time to time with the consent of both the parties to the contract enlarge the time for making the award.
2.14.5	The arbitrator may from time to time with the consent of both the parties to the contract enlarge the time for making the award.
2.14.6	Work under the contract shall continue during Arbitration proceedings unless the employer shall order the suspension or termination thereof or any part thereof of the work or any portion of the work.
2.14.7	Subject Arbitration as aforesaid, shall be conducted in accordance with the provision of Indian Arbitration Act, 1940 or any statutory modification or re-enactments thereof and the rules made there- under and for the time being in force shall apply to the Arbitration proceeding under the clause. The venue of Arbitration, if any, shall be Kolkata.

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SECTION – III
COMMON CONDITIONS OF CONTRACT

3.1	DRAWING AND DOCUMENTS
3.1.1	The detailed drawings, specification available with BHEL. Engineers will form part of this tender specifications. Those documents will be made available to the contractor during execution of work at site.
3.1.2	One set of necessary drawings to carry out the execution work will be furnished to the contractor by BHEL on loan which shall be returned to BHEL Engineer at site after completion of work. Contractor's personnel shall take care of these documents given to them.
3.1.3	The data furnished in various appendices and the drawings enclosed with this tender specification describes the equipment to be installed, tested and commissioned under this specification briefly. However, the changes in design and in quantity may be expected to occur as is usual in any such large scales of work.
3.1.4	Should any error or ambiguity be discovered in the specification or information, the contractor shall forthwith bring the same to the notice of BHEL before submission of the price bids. BHEL's interpretation in such cases shall be final and binding on the contractor if pointed out at a later date.
3.1.5	Deviation from design dimension should not exceed permissible limit. The contractor shall not correct or alter any dimension /details without specific approval of BHEL.
3.2	SAFETY AND CLEANLINESS
3.2.1	The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or its authorized officials to prevent loss of human lives, injuries to personnel engaged and damage to property. Before commencing the work, the contractor shall submit a 'SAFETY PLAN" to the authorized BHEL officials. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work.
3.2.2	If the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by the authorized BHEL officials, BHEL shall have the right to take corrective steps at the risk and cost of the contractor.
3.2.3	During the course of construction, alternations or repairs, scrap lumber with protruding nail, sharp edge etc and all other debris shall be kept cleaned from working areas, passage, ways and stairs in and around site.
3.2.4	Combustible scrap and debris shall be removed at regular intervals during the course of execution. Safe means shall be provided to facilitate such removal. The combustible scrap should be stored in safe place away from the plant materials to avoid fire accidents. The area shall be chosen in consultation with BHEL Engineer and to be cordoned off.
3.2.5	Rigging equipment for material handling shall be inspected prior to use in each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.
3.2.6	Rigging equipment shall not be loaded in excess of its recommended safe working load.
3.2.7	Rigging equipment, when not in use, shall be removed from the original work area so as not to present a hazard to employees.
3.2.8	Contractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the contractor 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 shall be entertained.
3.2.9	Where it is necessary to provide and/or store petroleum products or petroleum mixture and explosives, of the contractor shall be responsible for carrying out such provision / storage in accordance with the rules and regulations laid down in the relevant Petroleum Act, Explosive Act and Petroleum and Carbide 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 authorities. The contractor shall be responsible for obtaining the same.
3.2.10	Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck or permitted to strike each other violently.
3.2.11	When cylinders are transported by powered vehicle they shall be secured in a vertical position.

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3.2.11.1	Safety Helmets conforming to IS-2965: 1984.
3.2.11.2	Safety Belts conforming to IS-3521: 1980.
3.2.11.3	Safety Shoes conforming to IS-1989: 1978.
3.2.11.4	Eye and Face protection devices conforming to IS-8520: 1977 & IS-8960: 1978.
3.2.11.5	Hand and Body protection devices conforming to IS-2573: 1975, IS-6994: 1973, IS-8867: 1978 and IS-8519: 1977.
3.2.13	The contractor shall insure his workmen against all accidents and the policy shall be presented to BHEL Engineer on demand. Otherwise, BHEL will arrange the same and the expenditure towards this will be debited to the contractor. In case of a fatal or disabling injury accident to any person at construction sites due to lapses by the contractor, the victim and/or his/her dependants shall be compensated by the contractor as per statutory requirements. However, if considered necessary BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependants before imposing any such penalty. Appropriate enquiry shall be held by BHEL giving opportunity to the contractor for presenting his case. Above safety conditions are not exhaustive but gives an idea for the contractor and the contractor shall adhere to all the safety precaution given by the BHEL Engineer at site.
3.2.14	The contractor shall arrange at his cost suitable lighting arrangements for various levels for safe and proper working operations during night hours at the work spot as well as at the pre-assembly area.
3.2.15	The contractor shall be responsible for provision of all the safety notices and safety equipment as enjoined on him by the application of relevant statutory regulation / provisions and/or as called upon by the BHEL Engineer from time to time. He shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instruction that may endanger safety of men equipment and material.
3.2.16	The contractor shall provide temporary fencing wherever required as safety measure against accident and damage to properties. Suitable caution notices shall be displayed where access to any part is found to be unsafe and hazardous.
3.2.17	Contractor shall ensure safety of all the workmen, material and equipment, either belonging to him or to others working at site.
3.2.18	It will be the responsibility of the contractor to ensure safe lifting of the equipment, taking due precautions to avoid any accident and damage to other equipment and personnel. The T&P and other equipment shall be rested and certificate of fitness obtained before putting them to use.
3.2.19	The contractor shall provide necessary First –Aid facilities for all his employees, representatives and workmen at site. The First –Aid boxes should be placed in various elevations to as to make them available within the reach and at the quickest possible time. The contractor should conduct periodical first aid classes to keep his supervisors and Engineers properly trained for attending to any emergency.
3.2.20	All the contractor’s supervisory personnel and sufficient number of workers shall be trained for fire protection duties. Enough number of such trained personnel must be available during the tenure of contract. Contractor should nominate one of his supervisors to co-ordinate and for implementation of the safety measure.
3.2.21	Contractor shall provide enough fire protecting equipment of the types and numbers at his office, temporary structures, 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 dried at periodic intervals. The date of charging 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 department of BHEL shall be followed. Non-compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring, either to his materials or equipment or those of others.
3.2.22	The contractor shall at his cost, remove from vicinity of work all scrap packing materials, rubbish, unused and other materials and deposit them in places specified by BHEL Engineer to keep the work with clean and tidy.
3.2.23	The contractor 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, turbines casings, condensers etc.
3.2.24	All portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed. Only electricians licenced by appropriate statutory

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	authority shall be employed by the contractor to carry out all types of electrical works.
3.2.25	In case of any delay in the completion of a job due to mishaps attributable to lapses by the sub-contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably.
3.2.26	Valve protection caps shall be in place and secured.
3.2.27	The contractor shall be responsible for the safe storage of his radio-active sources as per BARC rules and regulations.
3.2.28	Tarpaulin being inflammable should not be used. Only non-inflammable covering material shall be used as protective cover while pre-heating, welding, stress relieving at site.
3.2.29	If the contractor 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 contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
3.2.60	If the contractor succeeds in carrying out its job in time without any fatal or disabling injury accident and without any damage to property, BHEL shall favourably consider to reward the contractor suitably for his performance.
3.2.31	The contractor shall carefully follow the safety requirement as per BHEL/their customer's requirement with regard to voltages used for heat treatment job lighting in critical areas.
3.2.32	Contractor shall use only properly insulated and armoured cables which conform to the requirements of Indian Electricity Act and Rules for all wiring for all electrical applications at site. BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc at the cost of the contractor.
3.2.33	The contractor shall arrange adequate No. of persons specifically for clearing any debris and for house keeping of the erection area including restacking of components in the erection areas.
3.2.34	In case of any damage to property due to lapses by the contractor BHEL shall have the right to recover the cost of such damages from the contractor after holding an appropriate enquiry.
3.2.35	The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorized BHEL official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, periodic reports on safety shall also be submitted by the contractor to the authorized BHEL official from time to time as prescribed.
3.2.36	Before commencing the work, the contractor shall appoint/nominate a responsible person to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
3.3	PROGRESS OF WORK
3.3.1	During the course of execution, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workmen like fitters, operators, technicians employed are not sufficient, BHEL will induct required additional workmen to improve the progress and recover all charges incurred on this account including all expenses together with BHEL overheads from contractor's bills.
3.3.2	The contractor shall submit daily, weekly and monthly progress reports, manpower reports, materials reports, consumable reports and other reports considered necessary by the engineer. The manpower report shall clearly indicated the manpower deployed category wise daily, specifying also activities in which they are engaged. The periodicity of the reports will be decided by BHEL Engineer at site.
3.3.3	The progress reports shall indicate the progress achieved against planned with reasons indicating delays if any, and shall also furnish in detail the reasons for the same and shall give remedial action which the contractor intends to take to make good the slippage or lost time, so that further works can proceed as per the original programme and the slippage do not accumulate and affect the overall programme, in a format designed and approved by BHEL site Engineer.
3.3.4	The contractor shall arrange for weekly progress review meeting with the Engineer at site during which actual progress during the vis-a-vis schedule programme shall be discussed for action to be taken for achieving targets. The programme for subsequent week shall also be presented by the contractor for discussions. The contractor shall constantly update/revise his work programme to meet the overall requirement and suit the material availability.

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3.3.5	The contractor shall arrange for submitting 3 sets of coloured progress photographs along with negatives every month to BHEL office. The areas to be photographed will be as per the instructions of BHEL Engineer. The quoted rate shall include this contingency. (Maximum ten different snaps per month). The photographs & negatives will become property of BHEL.
3.3.6	The contractor shall maintain a record in the form as prescribed by BHEL for all operations carried out on each weld and maintain a record indicating the number of welds, the names of welders who welded the same, date and time of start and completion, preheat, temperature, radiographic results, rejections if any, percentage of rejection, etc., and submit copies of the same to the BHEL Engineer as required.
3.4	INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL/ STATUTORY INSPECTION
3.4.1	All equipment piping and accessories covered under this specification shall be subject to stage wise inspection by BHEL/customer engineer.
3.4.2	The contractor has to follow BHEL FQA checklist for erection and welding of various equipment and piping schemes at site.
3.4.3	The protocols between contractor and customer /BHEL shall be made prior to installation for correctness of foundation, material inspection at each stage of installation as per requirement of BHEL/ customer.
3.4.4	Preparation of quality assurance log sheets and protocols with customer's engineers, welding logs and other quality control and quality assurance documentation as per BHEL engineer's instruction is within the scope of the contractor
3.4.5	A daily log book shall be maintained by ever supervisor / engineers or contractor on the job in duplicate (one for BHEL one for contractor) for detailing and incorporating alignment / clearance / levelling readings and inspection details of various equipment. All important measurements shall be recorded in the daily log book with sketches based on drawings indicating readings / measurements actually taken and signed by BHEL /customer's / contractor's representative. Approval given by BHEL for welding, results of various tests shall also be recorded. High pressure welding details like serial number, welder's name, date of welding, details of repair etc, likewise radiography details and heat treatment details shall be recorded.
3.4.6	All the electrical / mechanical and testing instruments, feeler gauge, height gauge, dial gauge, micrometers, spirit levels, surface plates, straight edges, vernier calipers and all other instruments as per the instructions of BHEL Engineer shall be provided by the contractor for checking, levelling, align to centering etc of the erected equipments at various stages.
3.4.7	The contractor shall ensure deployment of valuable and calibrated INSTRUMENT, MEASURING and TEST EQUIPMENTS (IMTE). The IMTEs shall have test / calibration certificates from authorized / Govt. approved/accredited agencies traceable to national / international standards. Retesting / recalibration shall also be arranged by the contractor at their own cost at regular intervals during the period of use as advised by BHEL. The contractor shall also have alternate arrangement of such IMTEs so that work does not suffer when the particular IMTE is sent for calibration. Also if any IMTE found not fit for use, BHEL shall have the right to stop use of such IMTE and instruct the contractor to deploy proper IMTE and recall, i.e. repeat the reading taken by that instrument failing which BHEL may deploy IMTEs and retake the readings at the contractor's cost.
3.4.8	Apart from day to day inspection by BHEL Engineers, stage inspection of equipment under erection and commissioning at various stages by engineers from manufacturing plants and Field Quality Assurance team will be conducted. Contractor shall arrange labours, tools and plants for such inspection free of cost.
3.4.9	Statutory Inspection
3.4.9.1	However, piping system which are under the purview of IBR shall be tested as per the requirement of the IBR. The piping system has to be tested as per the instructions given in the respective drawings, BHEL's decision is final in this regard.
3.4.9.2	The scope includes getting the approval from statutory authorities (like boiler inspector). This includes arranging for inspection visits of Boiler Inspector periodically as per BHEL Engineer's instructions, submitting documents, radiography etc. and following up the matter with them. All fees and expenditure connected with the contractor for testing his welders and testing, calibration of his instruments and equipment arrangement of Boiler Inspector's visit will be paid by the contractor.
3.4.9.3	It will be contractor's responsibility to obtain approval of statutory authorities, wherever applicable for conducting any work which comes under the purview of these authorities.
3.4.9.4	However, BHEL will pay fees for Boiler Inspector's visits in connection with hydraulic test,

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	light inspection fees, registration fees etc. In case these inspections have to be repeated due to the default /fault of contractor and the fees have to be paid again, the contractor shall have to bear the charges.
3.5	TOOLS & PLANTS
3.5.1	All TP's including precision measuring instruments, lifting devices shall have to be arranged by the subcontractor unless otherwise specifically mentioned.
3.5.2	In the event of BHEL issue TP's, measuring instruments etc. the subcontractor and BHEL shall maintain joint protocol as per enclosed annexure about the condition of all T&P, instruments etc taken from BHEL's custody and return to BHEL after use. The subcontractor shall not use these equipments for purposes other than the scope of work given in this tender documents.
3.5.3	It is the responsibility of subcontractor to keep these equipments always in working condition and ensure their safe return in working condition to BHEL's store subject to normal wear & tear. Non-compliance to this may entail BHEL to get the necessary repair done at the risk and cost of the subcontractor.
3.5.4	All the T&P, measuring instruments etc must be mobilized at site in advance prior to actual start of the job. They must be in accordance with those recommended in the tender document, if any, and must be got verified to that effect. Formal clearance in writing must be obtained from BHEL's resident Manager / Engineer before the subcontractor starts the job.
3.5.5	All T&P, lifting tackles and pulling devices to be used must bear valid/latest test certificates for their suitability, and the same to be furnished alongwith the offer or during execution.
3.5.6	Also certificates of test / calibration with date of validity for various measuring instruments have to be submitted by the tenderer alongwith the offer or during execution.
3.5.7	T&P/ Instrument found defective /improper /insufficient or not having valid test / calibration certificate should be made good immediately.
3.5.8	In the event of failure of subcontractor to bring necessary and sufficient T&P, BHEL will arrange /hire the same at the risk and cost of the subcontractor including transportation of the same from the source place. The entire charge for hire as above and overhead charges as applicable shall be paid by the subcontractor or deducted from the subcontractor's bills.
3.5.9	BHEL may at his discretion also terminate this contract / or take out any or whole part of the contract from the scope of the subcontractor. Decision of BHEL in this regard will be final and binding on the subcontractor.
3.6	CONSUMABLE
3.6.1	All consumables, like gas, electrodes, chemicals, lubricants etc required for the job shall be arranged by the subcontractor at his cost unless otherwise specifically mentioned. However, any spares / components / consumables / materials, excepting welding materials, going permanently into the clients equipment and materials as specifically mentioned in special condition of contract, VOL –II or elsewhere in the NIT shall be provided to the subcontractor.
3.6.2	All consumables to be used for the job shall have to be approved by BHEL prior to use.
3.6.3	In the event of failure of subcontractor to bring necessary and sufficient consumables, BHEL shall arrange for the same at the risk and cost of the subcontractor. The entire cost towards this alongwith overhead shall be paid by the subcontractor or deducted from the subcontractor's bills.
3.6.4	BHEL may at his discretion terminate this contract / or take out any or whole part of the contract from the scope of the subcontractor. Decision of BHEL in this regard will be final and binding on the subcontractor.
3.7	MANPOWER
3.7.1	The subcontractor shall deploy all types of workmen like high pressure welder, fitter, mill right fitter, electrician, carpenter, rigger, serang, khalasi helper, painter etc as recommended in the tender or as required for proper completion of the job. Only trained and competent workmen with previous experience of similar job shall be deployed. They shall hold valid certificates as necessary for the job.
3.7.2	The subcontractor shall submit tentative deployment plan of manpower matching with the job completion schedule.
3.7.3	The subcontractor shall ensure proper out-turn and discipline on the part of workmen put on the job. The workmen shall carry out the job in safe and proper manner and in co-ordination with the workmen of BHEL of other agencies.
3.7.4	In the event of failure of subcontractor to bring necessary and sufficient manpower, BHEL shall arrange for the same at the risk and cost of the subcontractor. The entire cost towards this shall be paid by the subcontractor or deducted from the subcontractor's bills.
3.7.5	BHEL may at his discretion terminate this contract /or take out any or whole part of the

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	contract from the scope of the subcontractor. Decision of BHEL in this regard will be final and binding on the subcontractor.
3.8	PLANNING
3.8.1	Contractor shall draw the monthly programme of activities alongwith BHEL Engineer indicating quantum of work to be achieved and events to be completed. Once the programme is drawn he shall adhere to the same. The contractor shall prepare and submit by 15th of every month to BHEL site incharge a programme for activities from 25 th of the month to 24 th the succeeding month indicating the work front, quantum and nature of work etc. Discussions will be held by the contractor with BHEL Site Incharge and the programme will be finalized jointly signed by the Engineer Incharge and the contractor within a week of submission of the programme (say by 22 nd , the agreed programme should be ready). A review of the performance will be made and considering the availability of components to be erected and other constraints over which the contractor has no control, the performance will be ascertained and jointly recorded by both the parties. Even when a programme could not be made, ascertainment of performance and recording the same by both the parties is necessary.
3.8.2	In addition, contractor shall arrange for weekly progress review meetings with the engineer at site during which actual progress during the week, vis-à-vis scheduled programme shall be discussed and action taken for achieving the targets.

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ANNEXURE - A
DECLARATION SHEET

I/We, _____ hereby declare and confirm that we have visited the project site, namely, _____ site, under specification no PSER:SCT: _____, issued by M/S BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR-EASTERN REGION, KOLKATA, and acquired full knowledge and information about the site conditions including the law & order and other conditions prevalent at and around site. We further confirm that the above information is true and correct and we will 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.

I/We, have carefully perused the following documents connected with the above specification and agree to abide by the same:

1. Volume I, II and III of tender specification.
2. Other sections, annexures, schedules, documents etc.

I/We, further confirm that I/we have not changed/tampered the tender document downloaded from the BHEL's website { www.bhel.com or www.jantermanter.com } and in case any change from the tender document published in the website is detected at a later date in the signed copy of the same submitted by us along with the offer, the same shall stand null and void and the terms and conditions of the tender as published in the above mentioned BHEL website shall prevail only.

I/we, further certify that Sri _____ is authorised to represent on behalf of me/us for the above mentioned tender and a valid power of attorney to this effect is also enclosed.

I have deposited/forwarded herewith the earnest money deposit in the form prescribed and as stipulated towards earnest money deposit for a sum of Rs _____ (Rupees _____ only) vide BHEL cash receipt No _____, dated _____, Call deposit no _____, dated _____, Demand draft no _____, dated _____, which shall be refunded should our offer not be accepted. I/we further agree to deposit such additional sum which along with the sum of Rs _____ (Rupees _____ only) mentioned above, shall make up the security deposit for the work as provided for in the tender specification within the stipulated time as may be indicated by BHEL, Power Sector, Eastern Region, DJ-9/1, Sector-II, Salt Lake, Kolkata - 700 091.

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

Date: _____ Tenderer: _____
Place: _____ Address: _____

Witnesses with their addresses

Signature	Name	Address
-----------	------	---------

- 1.
- 2.
- 3.

Authorised representative's signature with name and address:

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ANNEXURE - B
GENERAL INFORMATION ABOUT TENDERER

FORMAT I - ORGANISATION STRUCTURE

1. Management structure of the firm

Whether Public Limited/Private Limited/Proprietorship:

2. Details of staff presently on permanent roll of organisation

A1	Name of site incharge	
A2	Qualification and experience	

b) Engineering staff:

Sl no	No of Officials	Designation	Specialists, if any (indicate the area of specialisation)	Qualification with experience	State no, proposed to be deployed	Remarks if any
1	2	3	4	5	6	7

c) Details of technical staff:

Sl no	Category	Total no on roll	Nos proposed to be deployed at site for this job
1	Supervisors/Foreman		
2	Storekeepers		
3	Crane Operators		
4	Compressor Operator		
5	Mill Wright Fitter		
6	Mill Fitters		
7	Instrument Fitter		
8	Electrician		
9	Sarang		
10	Rigger		
11	Carpenter		
12	Painter		
13	Tinsmith		
14	Sheet metal fabricator		
15	Pipe fabricator		
16	Cable jointing		
17	Light Vehicle Driver		
18	Heavy vehicle Driver		
19	Others		

d) Please indicate how you propose to ensure quality of work at site.

FORMAT II - FACILITIES FOR STAFF AND WORKERS AT SITE

1. Accommodation

a) For Engineers/supervisors/other staff

Sl no	Category	Type of accommodation	Facilities provided	Remarks

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b) No of quarters, plinth area of each quarter and estimated cost proposed to be constructed for workmen

2. Medical

3. Conveyance

4. Other amenities

Signature of the tenderer

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ANNEXURE - C
PROFORMA OF FINANCIAL VIABILITY

1	Owner's capital in the business (in case of Partnership, please mention percentage shares and amounts).	
2	Quantum of business done during last three financial years. a. b. c.	
3	Value of fixed assets of the business in last three years. a. b. c.	
4	Guarantee limits (if any) enjoyed by the firm.	
5	Over draft limits (if any) enjoyed by the firm.	
6	Please enclose audited profit and loss account and balance sheet for last three years (indicate no of sheets).	
7	Certificate from Scheduled Bank to prove contractor's financial capacity to undertake the work duly indicating the financial limits the tenderer enjoys.	
<p>Note: All the above documents should be duly certified by auditors /bank as may be applicable.</p>		

Signature of the tenderer

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ANNEXURE - D
ANALYSIS OF SIMILAR JOBS EXECUTED/IN PROGRESS

SI No	Agency by whom awarded	Location of project	Capacity and unit no	Scope of work and tonnage	Date of award	Contract value in Rs. Lacs	%age work completed & due date for compln	Date of completion if job is already over	No of skilled /unskilled workers deployed	No. of Engrs. & Sup. deployed	Details of Major T&Ps deployed	Consumables
1	2	3	4	5	6	7	8	9	10	11	12	13

Signature of the tenderer

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ANNEXURE – E
MONTHWISE MANPOWER DEPLOYMENT PLAN
[INDICATE NO. OF PERSONS TO BE DEPLOYED IN EACH MONTH]

SL. NO.	CATEGORY	MONTH-1	MONTH-2	MONTH-3	MONTH-4	MONTH-5	MONTH-6	MONTH-7	---- SO ON				

Signature of the tenderer

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ANNEXURE - F
STATUS OF T&P AND DEPLOYMENT PLAN

A. STATUS OF TOOLS AND PLANTS

SL NO	NAME OF EQPT.	QTY. OWNED	REGISTRATION NO. WHEREVER APPLICABLE	DOCUMENTS ENCLOSED FOR PROOF OF OWNERSHIP	PRESENT LOCATION	QTY. PROPOSED TO BE DEPLOYED FOR THIS JOB

Signature of the tenderer

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B. MONTHWISE T&P DEPLOYMENT PLAN
[INDICATE NO. OF PERSONS TO BE DEPLOYED IN EACH MONTH.]

SL. NO	CATEGORY	MONTH-1	MONTH-2	MONTH-3	MONTH-4	MONTH-5	MONTH-6	MONTH-7	--- SO ON				

Signature of the tenderer

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ANNEXURE - G
ANALYSIS OF QUOTED RATE

Sl no.	Description	Percentage of quoted rate	Remarks
1	Salary & wages of staff and workers		
2a	Consumables		
2b	Gases		
2c	Welding Electrodes		
2d	P.O.L.		
	Others		
3	Depreciation and maintenance for T&P		
4	Depreciation and Maintenance for other items		
5	Establishment and administration expenses of site		
6	Overheads		
7	Profit		

Signature of the tenderer

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ANNEXURE - H
CHECKLIST OF GENERAL PARTICULARS

Note: Tenderers are requested to fill in the following details and no column should be left blank.		
1	Name and address of the tenderer	
2	Telegraphic/Telex address	
3	Phone no/FAX no (Office)	
4	Details about type of the firm/company	
5	Name and designation of the official of the : tenderer	
6	Attested copy of the Power of Attorney	
7	Tenderers proposal no and date	
8	Whether EMD submitted and submission details	
9	Declaration sheet (in the format of Annexure - A)	
10	Details of experience (in the format of Annexure - D)	
11	Monthwise & categorywise manpower deployment : plan (in the format of Annexure - E)	
12	Status of T&P and monthwise deployment plan : (in the format of Annexure - F)	
13	Financial status (in the format of Annexure - C)	
14	Valid Income tax clearance certificate	
15	Analysis of rate quoted (in the format of : Annexure - G)	

Date

Signature of the tenderer
(with company seal)

Witness (signature with full particulars)

1.

2.

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ANNEXURE – I

PROFORMA OF BANK GUARANTEE (in lieu of SECURITY DEPOSIT)

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having agreed to exempt (Name of the Vendor / Contractor / Supplier) having its registered office at _____¹ (hereinafter called the said Contractor which term includes supplier), from demand under the terms and conditions of the Contract reference No. _____² dated _____² valued at Rs.² (Rupees -----
-----)² for <Nature of the Work>³ (hereinafter called the said Contract) of Security Deposit for the due fulfilment by the said contractor of the terms and conditions contained in the said Contract, on production of a Bank Guarantee for Rs. _____⁴ (Rupees _____ only), we ____ (indicate the name and address of the Bank) having its Head Office at _____ (address of the head Office) (hereinafter referred to as the Bank) at the request of _____ [Name of Contractor(s)] do hereby undertake to pay to the Employer an amount not exceeding Rs. _____ in the event of any breach by the said Contractor(s) of any of the terms and conditions contained in the said Contract.

We, _____ (indicate the name of the Bank), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Employer. 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 Contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

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

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We, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claim satisfied or discharged or till _____⁵ or till the office/Department/Division of Bharat Heavy Electricals Limited certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said contractor(s) and also including the satisfactory performance of the equipment during guarantee period and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____⁶, (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all the liability under this guarantee thereafter.

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

This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before _____⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited

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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, _____ (indicate the name of the Bank) _____ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Any claim or dispute arising under the terms of this document shall only be enforced or settled in the courts of at Kolkata only.

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

(Signature of Authorised signatory)

¹ NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER .

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS.

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**

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- 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 (BHEL's Consortium Bank). 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). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
- b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

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CONTRACT AGREEMENT

Agreement No : PSER:SCT: _____, Dated :

1. This agreement made this day the _____, 200_ between Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Calcutta-700 091, having its registered office at BHEL House, Siri Fort, New Delhi-110 049 (hereinafter called the FIRST PARTY) of one part and Messers _____ (called the "CONTRACTOR") of the second part.
2. Whereas the first party is desirous of executing the work of, more particularly described in the appendices including specifications attached herewith.
3. Whereas in pursuance of the said contractor's tender having been accepted, the first party has decided to give the above said work to the contractor. Whereas the said contractor has agreed to do the aforesaid work of the first party subject to the conditions herein contained in these presents, instructions to tenderers, general conditions and special conditions, schedules appendices, Letter of intent, Work order and specifications (hereinafter referred as the said contract rate).
4. AND WHEREAS THE SAID contractor has furnished a Bank Guarantee No _____, dated _____, for a sum of Rs _____ /- (Rupees _____ only) from M/s _____ Bank, Branch _____, valid upto _____ towards initial 50% security deposit and has further agreed for balance 50% security deposit being recovered at 10% of the value of each running bill till the full security deposit is made up/full security deposit for the satisfactory completion and performance of the work and whereas the validity of the said bank guarantee has to be extended by the contractor, if so required before _____ for the balance period of contract and in the event of his failure to do so, the contractor shall pay or accept recovery of this amount of Rs _____ (Rupees _____ only) from the bills forthwith in one instalment and it has further been agreed that the failure to extend the validity of the Bank guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute the breach of contract, and first party reserves the right to take any legal action deemed fit for recovering the said sum of Rs _____ (Rupees _____ only).
5. NOW THESE PRESENTS WITNESS that in consideration of the said contract schedule and said contract rate, as also of agreement of good and faithful service to be rendered and performed by the contractor in the execution of the said work, subject to the stipulation hereinafter expressed.
6. That the said contractor will perform the aforesaid work subject to the condition contained in these presents, instructions to tenderers, general and special

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condition of contract and the contract document attached herewith including the said schedules, specifications, appendices, Letter of intent, Work order attached and also such other drawings and instructions as may from time to time be given by the first party. And that the said contractor shall be deemed to have carefully examined, the specifications and conditions of contract, appendices, schedules, Letter of intent, Work order, drawings etc as aforesaid and also to have satisfied himself as to the nature and character of the work to be executed.

7. That the said contractor shall carry out the complete execution of the said work to the entire satisfaction of the engineer within the agreed time schedule.
8. That the first party after proper scrutiny of the bills submitted by the said contractor will pay to him during progress of the said work, at the said contract rate and agreed terms of payment, a sum as determined by the first party in respect of the work executed by the contractor.
9. That the contract shall come into force with retrospective effect _____, the date which the letter accepting the tender (Letter/Telex of Intent) has been issued to the said contractor. However start of work shall be as defined in the tender specification.
10. That whenever under this contract or other wise, 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 conditions of contract as aforesaid.
11. That all charges on account of octroi, terminal and sales tax or other duties on materials obtained for the works shall be borne by the said contractor.
12. That is agreed between the parties that the non-exercise of any of the powers conferred on the authorities of the first party will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the said contractor either of past or future compensation shall remain unaffected.
13. That the expression BHEL wherever occurring means THE BHARAT HEAVY ELECTRICALS LIMITED, POWER-SECTOR, EASTERN REGION, CALCUTTA - 700 071.
14. The documents hereto attached viz:
 - (1) BHEL's tender specification No: _____.
 - (2) Contractor's offer No: _____, dated _____.
 - (3) BHEL's TOI/LOI No: _____, dated _____.
 - (4) Contractor's unqualified acceptance letter no: _____, dated _____ of BHEL's TOI/LOI.
 - (5) BHEL's Work Order No: _____, dated _____.

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(6) Contractor's unqualified acceptance letter no _____, dated _____ of above BHEL's Work Order.

(7) and others, if any.

shall also form part of the contract agreement.

15. In witness hereof the parties have respectively set their signature in the presence of:

FOR CONTRACTOR

WITNESS

1.

2.

FOR BHARAT HEAVY ELECTRICALS LIMITED

WITNESS

1.

2.

Bharat Heavy Electricals Limited		
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ANNEXURE-K

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____¹ hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated² valued at Rs.....² (Rupees -----)for <Nature of Work>³ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance 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 a maximum amount Rs ----- (Rupees -----)⁴ without any demur, immediately on a demand from the Employer, .

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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 Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto 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 contractors/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 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.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/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 Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said 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 Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

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This Guarantee shall remain in force upto and including.....⁵ 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 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 the⁶ (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all liabilities under this guarantee thereafter.

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:

- d) The liability of the Bank under this Guarantee shall not exceed.....⁷
- e) This Guarantee shall be valid up to⁸
- f) Unless the Bank is served a written claim or demand on or before⁹ (3 months more than the present date of validity of Bank Guarantee) 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.

Any claim or dispute arising under the terms of this document shall only be enforced or settled in the courts of at Kolkata only.

For and on

behalf of

Bharat Heavy Electricals Limited		
Power Sector – Eastern Region, Kolkata		
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(Name of the

Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

² DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS.

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

3. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

4. In Case of Bank Guarantees submitted by Foreign Vendors-

c. 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.

d. 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 (BHEL's Consortium Bank). 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.

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- b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
- b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

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ANNEXURE-L
FORMAT FOR BANK GUARANTEE FOR SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE BOND

B.G. NO.

Date

This deed of Guarantee made this ----- day of -----two thousand ---- by <Name and Address of Bank> hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/s Bharat Heavy Electrical Limited (A Govt. of India Undertaking) 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 <Address of Power Sector Region¹> hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns)

WHEREAS < Contractor's Name and Address> (hereinafter referred to as the Contractor) have entered into a contract arising out of Letter of Intent no. < LOI REF & Date > (hereinafter referred to as "the contract") for < Name of Work > with the company.

AND WHEREAS the contract inter-alia provides that the contractor shall furnish to the company a sum of Rs.----- (Rupees-----) towards security deposit for due and faithful performance of the contract in the form and manner specified therein.

AND WHEREAS the contractor has approached the Guarantor and in consideration of the arrangement arrived at between the contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the company.

The Guarantor do hereby guarantee to the company the due and faithful performance, observance or discharge of the Contract by the contractor and further unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of Rs.----- (Rupees-----) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the contractor making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the contract.

The decision of the company whether any default has occurred or has been committed by the contractor in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them as contained in the contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the contractor making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the contractor admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the contract or extend time of performance by the contractor or to postpone for any time and from time to time any of the powers exercisable by it against the contractor and either enforce or forebear from enforcing any of the terms and conditions governing the contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the contractor or any other forbearance, act or commission on the part of the company or any indulgence by the company to the contractor or any other matter or thing whatsoever

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which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the contract have been fully and properly carried out by the contractor and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after ----- i.e. (3 months more than the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.

It shall not be necessary for the company to proceed against the contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.----- (Rupees-----). Our guarantee shall remain in force until -----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before ----- (3 Months more than the validity date) we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of at < **Name of place** > only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the -----
(Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the

(Designation of the Authorized Person Signing the

Bank

Guarantee)

(Signatory No.-----)

DATED:

SEAL

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Notes :

1. **Address of Power Sector Regions (inviting the Tender)** is as below:
 - PSNR : Bharat Heavy Electricals Limited, Power Sector Northern Region, HRDI & PSNR Complex, Plot No 25, Sector 16-A, Noida – 201 301 (Uttar Pradesh)
 - PSER : Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700 091
 - PSWR: Bharat Heavy Electricals Limited, Power Sector Western Region, Shree Mohini Complex, 345 Kingsway, Nagpur 440 001
 - PSSR: Bharat Heavy Electricals Limited, Power Sector Southern Region, 690, Anna Salai, Nandanam, Chennai 600 035

2. **Name of place (for jurisdiction of Courts)** is as below:
 - PSNR : Delhi
 - PSER : Kolkata
 - PSWR: Nagpur
 - PSSR : Chennai

3. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.

4. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted under sealed cover.

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VOLUME -II &ID

**TECHNICAL SPECIFICATION ALONG WITH SPECIAL CONDITIONS OF
CONTRACT**

FOR

**Providing services for development of safety culture and effective
implementation of Health, Safety & Environment (HSE) at 2x660 MW
Maitree STPP, Rampal, Bangladesh.**

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,


KOLKATA – 700091.

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This volume shall be construed as part of tender document and shall be read along-with others volumes of tender. Unless otherwise specified, in case of any confusion of any clause/ provision of this volume or any conflict/ inconsistency of any clause/ provision of this volume with that of other volume, the same shall be brought out by the bidder in writing to BHEL for clarification or during pre-bid discussions, if applicable, failing which most stringent interpretation in favour of BHEL shall be adopted and the same shall be binding to the bidder. Unless otherwise specified, all terms & conditions shall be applicable for entire scope and for each part/ package of the tender.

CLAUSE NO	DESCRIPTION
1.0	PROJECT SYNOPSIS AND GENERAL INFORMATION
1.1	<p>The 2x660 MW MAITREE SUPER THERMAL POWER PROJECT is located in Moithara Village, Rampal Upazila, Bagerhat District, Bangladesh.</p> <p>The Bidder shall acquaint himself by a visit to the site, with the conditions prevailing at site before submission of the bid. The information given here in under is for general guidance and shall not be contractually binding on the Owner. All relevant site data / information as may be necessary shall have to be obtained / collected by the Bidder.</p>  <p style="text-align: center;">LOCATION MAP:2X660MW MAITREE RAMPAL PROJECT</p>



LOCATION MAP:2X660MW MAITREE RAMPAL PROJECT

1.2	<p>APPROACH TO SITE</p> <p>The nearest town Khulna is at a distance of 23 km from project site. The site is Connected by road from Mangla- Khulna Highway.</p> <p>Nearest Domestic airport is Jessore, Bangladesh at a distance of about 93 KM and international airport is Dhaka at a distance of 263 KM, Bangladesh</p>
1.3	<p>OWNER</p> <p>Bangladesh-India Friendship Power Company (Pvt.) Limited (BIFPCL) is the owner which is a 50:50 joint venture company of NTPC, India and Bangladesh Power Development Board BPDB, Bangladesh.</p>
1.4	<p>OWNER'S ENGINEER (CONSULTANT)</p> <p>FICHTNER GmbH & Co. KG, Stuttgart, Germany is the Owner's Engineer i.e. consultant of the Owner.</p>
2.0	<p>NAME OF WORK</p> <p>Providing services with manpower for Development of Safety Culture and effective implementation of Health, Safety and Environment Management system for construction of 2x660MW Maitree Super Thermal Power Project site, Rampal, Bangladesh in compliance with relevant Bangladesh Legislations, HSE plan, ISO-14001 and OHSAS-18001 and to the satisfaction of the owner & its consultant, Fichtner GmbH, BHEL and other stakeholders.</p>
3.0	<p>OBJECTIVE</p>
3.1	<p>To take preventive measures so as to avoid any unwarranted incident at site.</p>
3.2	<p>BHEL site job involve working at height, Hot work, Radiography, Confined Space, Deep Excavation, Heavy Lifting, Chemical handling, Handling of Electrical and Electronic circuits including high voltage and also in hazardous condition like uneven mud road, water accumulation, strong wind etc. To ensure safe working, systematic approach to identify the risks, analyze the risk and find out the mechanism to mitigate the same, needs to be developed in line with the best practices prevailing in the industry.</p>
3.3	<p>Further for sustenance of these activities, safety culture needs to be built up by</p>

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	training of personnel and hand holding for a longer period.
4.0	BROAD SCOPE OF WORK
4.1	To assess the gaps in execution pertaining to safety and advise BHEL site management on relevant improvement measures to be adopted and provide guidance on implementation.
4.2	Train BHEL personnel and those working with erection agencies through classroom and on-site training, for building capability for adopting proactive measures to prevent incidents.
4.3	Conducting regular audits at site for identifying weak areas and suggest corrective measures.
4.4	Put in place a system to manage risk areas at the site
4.5	Evaluate the gaps in experience and capability of man-power deployed and provide support to ensure capabilities required for critical work by through conducting Capacity building programs for safety supervisors of BHEL/Sub-contractor.
4.6	ROLES & RESPONSIBILITIES
4.6.1	Assist BHEL in Liaising with Local authority/ statutory authority/local facilities like hospitals, fire stations, disaster management agencies etc. as and when required.
4.6.2	Coordinating in setting up and maintenance of a safety park at a suitable location with help of agencies
4.6.3	Providing HSE induction training (in Hindi and Bengali) of all persons of BHEL and agencies before issue of gate pass. A short induction briefing to be made to all visitors at the gate. HSE Competency evaluation of skilled workmen to be performed before engagement in the job and also during execution whenever required.
4.6.3.1	Providing HSE training to Management and Supervisory staff of BHEL and its agencies to improve HSE culture at site.
4.6.4	Co-ordinating with Medical Centre for Pre-job and regular health check-up of personnel
4.6.5	Drawing up monthly HSE activity plan in line with HSE plan and strictly following the same
4.6.6	Imparting HSE related skill training (in Hindi & Bengali) with certification (like certification for Scaffolders, Scaffolding supervisor, Scaffolding inspectors, Riggers, Operators etc) and organizing mock drills on rescue, first-aid, trauma and emergency response
4.6.7	Inspection of all PPEs, safety equipment, T&Ps etc. and maintaining record.
4.6.8	To Ensure risk assessment / hazard spotting exercises are carried out on regular basis Preparation/monitoring/approval of Permit-to-work, HIRA & Method statement, JSA, lifting plan and development of auxiliary documents/ formats related to HSE plan
4.6.9	Systematically conducting HSE inspection on daily basis, Recording and analysis of observations, categorisation, reporting and finally following up closure of observations. In addition, co-ordination of Internal/External audit.
4.6.10	Incident management and documentation
4.6.11	Generation of periodic report and sharing the same with competent authorities
4.6.12	Liaising closely with those responsible for Emergency Procedures within the organisation to ensure, so far as possible, the prevention of fire and the safe evacuation of employees in emergency situations

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4.6.13	Checking labour welfare measures both at site and labour colony and monitoring closing of related issues..	
4.6.14	Organizing HSE promotion activities like Tool Box talk, pep talks, Monthly HSE celebration, Periodic HSE review, putting up educative posters and banners, organizing house-keeping drive, walk-through by top officials, periodic health camps etc.	
4.6.15	Designing and implementation of appropriate scaffolding conforming to codes, imparting training and guidance to scaffolders, scaffolding supervisors and certification of scaffolding Supervisors and inspectors.	
4.6.16	Designing and implementation of Lift Plan, imparting training, certification and guidance to riggers, rigging foreman, crane operators and signalman. Inspection before Critical and ODC Lift.	
4.6.17	Managing environmental project activities including, scheduling, tracking and planning for environmental assessments, site investigations, feasibility studies, and remedial action plans. It includes house-keeping, waste disposal, storage and handling of chemicals, environmental monitoring and ensuring legal compliance.	
4.6.18	Establishment and promotion of Safety culture at site by means of survey, trainings/workshops for management personnel as well as supervisory personnel of BHEL and its associates.	
5.0	SITE VISIT	
	The bidder must visit site, to acquaint themselves with the conditions prevailing at site and in & around the plant premises, together with all statutory, obligatory, mandatory requirements of various authorities before submission of bid.	
6.0	DEVIATIONS/ CLARIFICATIONS	
	Normally no deviation with respect to tender is acceptable to BHEL. However, in case of unavoidable circumstances, the bidder may submit their query for seeking clarifications of BHEL as per modality stipulated in NIT or may submit the same along with offer as per prescribed schedule/ format without any ambiguity. Any assumptions, presumptions, deviations etc, indicated or implied anywhere by the bidder except those indicated in the deviation schedule/ format, will not be recognized and will not form a part of consideration/ offer. In the absence of such filled-up schedule/ format it will be understood and agreed that the bidder's offer is based on strict conformance to the specification and no negotiation would be allowed in this regard. BHEL reserve the right not to recognize any/ all deviations submitted after opening of the bid.	
7.0	SITE FACILITIES	
7.1	ACCOMODATION	
	Furnished Bachelor accommodation (single room basis) along with Mess facilities shall be provided by BHEL free of cost. However, food shall be on chargeable basis.	
7.2	LOCAL CONVEYANCE	
	Local conveyance, as required, for to and fro movement between site and living accommodation, shall be given by BHEL free of cost.	
7.3	SITE OFFICE	
7.3.1	Site Office along with other infrastructure such as training room etc. shall be provided by BHEL within the quoted rates.	
7.3.2	The contractor shall provide unlimited mobile facility, camera and sufficient nos. of Laptop/ Desktop for the use of their safety personnel at their own cost.	
7.4	MISCELLANEOUS	
7.4.1	The contractor has to arrange for medical facilities for their personnel posted at site at their cost.	
7.4.2	Contractor shall also nominate one of their senior Engineer/ Engineer as site-in-	

	charge for all contractual dealings/payment purpose etc. for the site and power of attorney shall be issued in his name.		
7.4.3	The to and fro travel charges from India / any other country upto the place of stay near site, as arranged by BHEL, shall be in the scope of the successful bidder.		
8.0	COMPLETION PERIOD		
8.1	The contract period for the scope of work as per tender terms and conditions shall be for a period of 12 (Twelve) months from the date of start of work as intimated by BHEL site.		
8.2	Further, at the sole discretion of BHEL, this contract may be extended further for a period of maximum 12 (Twelve) months at the same rate and terms and conditions in phases of one month each.		
8.3	DEPLOYMENT PERIOD		
8.3.1	The tentative category wise requirement and deployment period of HSE personnel at the project site shall be as mentioned below:		
	DESCRIPTION	QTY	DURATION
8.3.1.1	HSE Expert/Manager	1 No.	12 Months
8.3.1.2	HSE Trainer for Supervisors & Engineers	1 No.	12 Months
8.3.1.3	HSE Trainer for workers	1 No.	12 Months
8.3.1.4	Sr. HSE Officers	2 Nos.	12 Months (each)
8.3.1.5	HSE Officer	1 Nos.	12 Months
8.3.1.6	Environment Safety Officer	1 No.	12 Months
8.3.1.7	Scaffolding Expert	1 No.	12 Months
8.3.1.8	Rigging Expert	1 No.	12 Months
8.3.2	Zero date of deployment: It shall be likely within one month from award of contract. However, intimation for deployment/mobilization shall be provided by BHEL after award of the contract. Contractor shall mobilize the manpower and start the work at site within 15 (Fifteen) days from the date of getting written intimation from BHEL site.		
8.3.3	Each of these HSE personnel shall be deployed in specific area of erection and shall co-ordinate with all sub-agencies for facilitating implementation of HSE system. The HSE officers of various agencies of BHEL shall report to the HSE Expert/Manager deployed by the successful vendor. The HSE team shall report to BHEL site HSE Head or Site Construction Manager, as the case may be		
8.3.4	The agency shall deploy a team of Qualified HSE professionals as advised by BHEL from time to time in synchronization with the project progress.		
8.3.5	The abovementioned duration is tentative and actual man-month deployed may vary to any extent. The quoted Unit rate shall remain firm throughout contract duration, including extensions if any, for such variation, affecting up to +/- 30% variation in total contract value.		
9.0	QUALIFICATION OF CONTRACTOR'S PERSONNEL		
9.1	The category wise qualification of HSE personnel shall be as mentioned below:		
9.1.1	HSE Expert/Manager		
	i. Must be at least a graduate in engineering in Mechanical/Electrical/ Civil/ Construction Management/ Environmental Science from a recognized institution		
	ii. Must have a SCTE&VT/AICTE recognized degree or diploma in industrial safety with a paper in construction safety		
	ii. Must have worked for 15 years or more as on the date of deployment in the field of construction of power plant/ Port/ Petrochem/ Refinery factory, out of which at least 10 years should be in HSE function. He shall have experience of managing HSE Management System of a large capacity plant from main contractor or owner		

	<p>side.</p> <p>iii. Must be a certified Internal Auditor for ISO 14001 and ISO 45001</p> <p>iv. Must be fluent in English and Bangla/Hindi in reading and writing.</p> <p>v. Must have working proficiency in Computer operation including MS Office, Power Point, etc.</p> <p>vi. The candidate shall be neither younger than 35 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.</p>
9.1.2	<p>HSE Trainer for Supervisors & Engineers</p> <p>i. Must be at least a graduate in engineering in Mechanical/Electrical/ Civil/ Construction Management/ Environmental Science from a recognized institution</p> <p>ii. Must have a SCTE&VT/AICTE recognized degree or diploma in Safety Management or NEBOSH IGC</p> <p>iii. Must have worked for 10 years or more as on the date of deployment in the field of construction of power plant/ Port/ Petrochem/cement factory, out of which at least 07 years should be in HSE function and training.</p> <p>iv. Must be a certified Internal Auditor for ISO 14001 and ISO 45001</p> <p>v. Must be fluent in English and Bangla in reading and writing.</p> <p>vi. Must have working proficiency in Computer operation including MS Office, Power Point, etc.</p> <p>vii. The candidate shall be neither younger than 35 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.</p>
9.1.3	<p>HSE Trainer for workers</p> <p>i. Must be at least a Diploma / Graduate in engineering in Mechanical/Electrical/ Civil/ Construction Management/ Environmental Science from a recognized institution</p> <p>ii. Must have a SCTE&VT/AICTE recognized degree or diploma in Safety Management or NEBOSH IGC</p> <p>iii. Must have worked for 07 years or more as on the date of deployment in the field of construction of power plant/ Port/ Petrochem/cement factory, out of which at least 5 years should be in HSE function and training. He shall have competency in on job training as well skill based training.</p> <p>iv. Must be fluent in English and Bangla in reading and writing.</p> <p>v. Must have working proficiency in Computer operation including MS Office, Power Point, etc.</p>

	vi. The candidate shall be neither younger than 30 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.
9.1.4.1	<p>Sr. HSE Officers:</p> <ul style="list-style-type: none"> i. Must be at least a graduate in engineering in Mechanical/Electrical/ Civil/ Construction Management/ Environmental Science from a recognized institution ii. Must have a SCTE&VT/AICTE recognized degree or PG diploma in Industrial Safety with a paper in construction safety- iii. Must have worked for 10 years or more as on the date of deployment in the field of construction of power plant/ Port/ Petrochem/cement factory, out of which at least 7 years should be in HSE function. iv. Must be fluent in English and Bangla in reading and writing. v. Must have working proficiency in Computer operation including MS Office, Power Point, etc. vi. The candidate shall be neither younger than 30 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.
9.1.4.2	<p>HSE Officers:</p> <ul style="list-style-type: none"> i. Must at least complete Diploma in engineering from a recognized institution ii. Must have a recognized degree or diploma in Safety Management <ul style="list-style-type: none"> OR NEBOSH IGC /Managing safety IOSH OR Advanced Certificate in Workplace Safety & health from Singapore (Min Duration: 60days) OR Have attended certificate courses in following topics: <ul style="list-style-type: none"> a) Work-at-height safety b) Scaffolding safety c) Fire Safety d) Excavation safety/civil work safety e) Confined space safety f) Electrical safety g) Safe Lifting h) Risk Identification & Control i) Incident reporting & Investigation j) Disaster Management iii. Must have worked for min 2 years in case of graduate engineers or 5 years in case of Diploma holders. iv. Must be fluent in Bangla in speaking, reading and writing and in English in reading and writing. v. Must have working knowledge in Computer operation vi. Candidates with awareness of ISO-14001 and OHSAS-18001 will be preferred.

	<p>vii. The candidate must not be younger than 27 years and older than 45 years of age. He must have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate in specified format from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.</p>
9.1.5	<p>Environment Safety Officer:</p> <p>i. Must be at least a graduate in engineering in Mechanical/Electrical/ Civil/ Construction Management/ Environmental Science from a recognized institution</p> <p>ii. Must have a PG degree or PG diploma in Environmental Science/ Management (If he is not a graduate in engineering in Environmental Science).</p> <p>iii. Must have worked for 10 years or more as on the date of deployment in the field of construction of power plant/ Port/ Petrochem/cement factory, out of which at least 7 years should be in Environmental Management function. He must be thorough in the Environmental Rules and Regulations of Bangladesh.</p> <p>iv. Must be fluent in English and Bangla in reading and writing.</p> <p>v. Must have working proficiency in Computer operation including MS Office, Power Point, etc.</p> <p>vi. The candidate shall be neither younger than 30 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.</p>
9.1.6	<p>Scaffolding Expert:</p> <p>i. Must be at least a diploma in engineering in Mechanical/ Construction Management from a recognized institution</p> <p>ii. Must have a recognized certification from CITB or STI or TUV or equivalent for min Level 2</p> <p>iii. Must have worked for 10 years or more as on the date of deployment as Scaffolding expert in the field of construction of power plant/ Port/ Petrochem refinery factory. The candidate shall have professional expertise for coaching and certification for Scaffolding inspector/supervisors and scaffolders. He shall have competency in designing Scaffold schemes as per site requirement</p> <p>iv. Must be fluent in Hindi and Bangla in reading and writing.</p> <p>v. The candidate shall be neither younger than 30 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.</p>
9.1.7	<p>Rigging & Lifting Expert:</p> <p>i. Must be at least a diploma in engineering in Mechanical/ Construction Management from a recognized institution</p> <p>ii. Must have a recognized certification from LEEA or LOLER or OPITO or equivalent for inspector level.</p> <p>iii. Must have worked for 10 years or more as on the date of deployment as Scaffolding expert in the field of construction of power plant/ Port/ Petrochem/cement refinery factory. The candidate shall have professional expertise for coaching and certification for Rigger, Signalman, and supervisors.</p>

	<p>He shall have competency in preparing lift plan for critical and ODC Lifting.</p> <p>iv. Must be fluent in Hindi and Bangla in reading and writing.</p> <p>v. The candidate shall be neither younger than 30 years nor older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. A medical check-up certificate from a Qualified Doctor (min MBBS) must be attached along with CV and the original be produced at the site.</p>
9.2	The CV in line with above requirements along with copy of proof of identity and address, academic and professional qualifications and experience shall be submitted to BHEL Site/EHQ or BIFPCL (if required) for approval before deployment. If required, interview (Physical/telephonic) may be conducted before acceptance / approval of the personnel. Post deployment approval shall not be permitted nor any deviation. The candidate shall be required to produce all original certificates at the site / BHEL EHQ for verification.
10.0	CONTRACT PRICE
	The bidder shall quote their rates, in INR, strictly in accordance with prescribed price schedule of Volume-III (latest version). The total price quoted in Price Schedule, Volume-III, shall be considered for evaluation & awarding.
11.0	TERMS OF PAYMENT
11.1	Successful bidder shall submit RA bill at the end of each month as per billing break-up of the tender and in line with currency matrix. Bill shall be accompanied with list of services rendered during the month and attendance sheet (certified by BHEL Engr.).
11.2	Progressive payment shall be made by BHEL against successful bidder's RA bill, complete & correct in all respects accompanied by BHEL engineer's certified/ measurement sheet, jointly signed; requisite statutory certificates, certified by BHEL; within 45 days of submission of the bill.
11.3	However, no extra payment / interest charges shall be made in the event of deferment in payment.
11.4	For all items of work as per vol.-III, rate/price schedule, the monthly interim payment shall be limited to 95% of the gross value of interim bill (RA bills) on item rate basis. All admissible recovery / adjustments etc. shall be made from the interim payable amount. The balance 5% shall be payable along-with final bill which shall be released on completion of all the works, smooth closing / winding up of the site and on certification of the BHEL site in-charge. Contractor's invoices shall be accompanied by progress report for the month (with details of man-days etc.), duly signed by BHEL Engineer. Payments will be made as per rates accepted.
11.5	All admissible recovery/ adjustment, etc. shall be made from interim payable amount.
11.6	The contractor shall raise monthly RA bills either from their Bangladesh office on BHEL-site office (Bangladesh) or from their Indian office on BHEL Kolkata office, India. However, the bill shall be submitted at site for verification and further processing for onward payment.
11.8	BHEL site in-charge shall be the paying authority cum controlling officer for contractual dealing of the site.
11.9	Please refer currency matrix for further details on terms of payment
12.0	BIILING BREAK-UP
12.1	Progressive payment, as per terms of payment provision of the tender, shall be made as per billing schedule break-up, operated on contract rate/ price. The percentages of billing schedule are only for the purpose of progressive payments and should not be construed as price of individual items and successful bidder shall complete the work without any reference to the break up.
12.4	BHEL, at their discretion, may further split up above percentages and effect payment to suit the site condition, cash flow requirement and according to the progress of work.

12.5	The billing break-up is drawn for progressive payment and shall not be construed as the value/ price of corresponding item, unless otherwise decided by BHEL.
13.0	SUB-CONTRACTING
	Sub-letting of jobs within the agreed scope of work, in any way is not permitted.
14.0	HEALTH, SAFETY & ENVIRONMENT
14.1	HSE shall be guided by a separate volume (DOCUMENT NO HSEP:14-MAITREE: VENDOR DATE:05.05.16) , over and above the below mentioned terms and conditions.
15.0	CLEANLINESS
	The successful bidder shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of contract. The successful bidder shall employ enough number of special personnel to thoroughly clean his work-area at least once in a day. All such rubbish and scrap material shall be stacked or disposed in a place to be identified by BHEL/ customer. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.
16.0	RESPONSIBILITIES WITH REGARD TO EMPLOYMENT OF LABOUR, ETC.
16.1	Successful bidder shall also comply with the requirements of local authorities (Govt. of Bangladesh) with regard to employment of labours/workers at project site. They shall comply with any other statutory requirement/ local authority requirement such as police verification of antecedents of the workmen, staff, etc. with regard to employment of labours/ workers at project site. In case of workmen / supervisors deployed to project from INDIA / any other country, necessary statutory guidelines issued by Indian Govt./ concerned Govt. authorities shall be strictly complied with in addition to local laws.
16.2	BHEL/ customer may insist for witnessing the regular payment to the labour. They may also like to verify the relevant records for compliance with statutory requirements. Successful bidder shall enable such facilities to BHEL / Customer.
16.3	It is the responsibility of the successful bidder to arrange gate pass for all his employees, T & P etc. for entering the project premises. Necessary coordination with customer officials is the responsibility of the successful bidder. Successful bidder to follow all the procedures laid down by the customer for making gate passes. where permitted, by customer/ BHEL, to work beyond normal working hours, the successful bidder shall arrange necessary work permits for working beyond normal working hours.
16.4	If at any time during the execution of work, it is noticed that the work is suffering on account of non-availability/shortfall in provision of resources from the successful bidder's side BHEL will make suitable alternate arrangements at the risk and cost of successful bidder. The expenditure incurred with overheads thereby shall be recovered from the successful bidder.
16.5	The successful bidder shall deploy all the skilled/semiskilled/ unskilled labour including highly skilled workmen etc. These workmen should have previous experience on similar job. They shall hold valid certificates wherever necessary. BHEL reserves the right to insist on removal of any employee of the successful bidder at any time if he is found to be unsuitable and the successful bidder shall forthwith remove him. Successful bidder should furnish a tentative deployment plan of his manpower as required in GCC. Also the actual deployment will be so as to satisfy the project schedule of erection and commissioning.
16.6	It is the responsibility of the successful bidder to engage his workmen in shifts and or on overtime basis for achieving the targets set by BHEL. This target may be set to

	suit BHEL 's commitments to its customer or to advance date of completion of events or due to other reasons. The decision of BHEL in regard to set the erection and commissioning targets will be final and binding on the successful bidder.
16.7	Successful bidder shall deploy only qualified and experienced engineers/ supervisors. They shall have professional approach in executing the work.
16.8	The successful bidder's supervisory staff shall execute the work in the most professional manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. They shall be responsible to ensure that the assembly and workmanship conform to dimensions and tolerances given in the drawings/instructions given by BHEL engineer from time to time.
16.9	The supervisory staff employed by the successful bidder shall ensure proper outturn of work and discipline on the part of the labour put on the job by the successful bidder. Also in general they should see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other successful bidders of BHEL or BHEL 's client.
16.10	If at any time, it is found that the successful bidder is not in a position to deploy the required engineers/supervisors/workmen due to any reason, BHEL shall have the option to make alternate arrangements at the successful bidder's risk and cost.
17.0	INSURANCE
17.1	BHEL shall arrange comprehensive MCE (marine cum erection) Insurance Policy for total project supply & services including balance of plant package covering transit risks & loss, destruction or damage during handling at Site, Storage, civil works ,erection, testing and commissioning up to trial operation completion of unit including theft, sabotage, fire, lightning and other natural calamities.
17.2	Contractor shall report to BHEL in writing any damages to equipment/components on receipt, storing, and during withdrawal of the materials from stores, in transit to site and unloading at place of work and during erection and commissioning till trial operation completion including handing over. The above report shall be as prescribed by BHEL site management. Any consequential loss arising out of non-compliance of this stipulation will be borne by contractor.
17.3	The contractor will take necessary precautions/ due care to protect the material at Project site, while in his custody from any damage/ loss till the same is handed over to BHEL/ customer at Project site. For lodging/ processing of insurance claim the contractor will submit necessary documents. BHEL will reserve the right to recover the loss from the contractor as detailed below in case the damage/loss is due to negligence/ carelessness on the part of the contractor. In case of theft of material under contractor's custody, the same shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL/ customer for taking up with insurance. However, this will not relieve the contractor of his contractual obligation for the materials in his custody.
17.4	In case the damage/loss/theft of materials are attributable to negligence/failure in discharging the duties and obligations of the contractor, the expenses incurred for repair/replacement of such components in excess of the amount realized from the underwriters, limited to Normal Excess (Deductible Franchise) shall be recovered from the contractor.
17.5	Other conditions of Insurance shall be as per relevant clause of GCC/SCC.
18.0	CERTIFICATE TOWARDS COMPLETION
	The work under the scope of the successful bidder shall be deemed to have been completed in all respects only when so certified by BHEL/ owner. The decision of BHEL in this regard shall be final and binding on the successful bidder.

19.0	EXTENSION OF TIME FOR COMPLETION
19.1	If the completion of work as detailed in the scope of work gets delayed beyond the contract/ completion period, the successful bidder shall request for an extension of the contract and BHEL at its discretion may extend the contract.
19.2	Based on the reviews jointly signed, the works balance at the end of original contract period less the backlog attributable to the successful bidder 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 successful bidder is bound to complete the portion of backlog attributable to the successful bidder. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.
19.2	However, if any 'Time extension' is granted to successful bidder to facilitate continuation of work & completion of contract, due to backlog attributable to successful bidder alone, then it shall be without prejudice to the rights of BHEL to impose penalty/ LD for the delays attributable to successful bidder, in addition to any other actions BHEL may take at the risk and cost of successful bidder.
19.3	A joint programme shall be drawn for the balance amount of work to be completed during the period of 'Time Extension', along with matching resources to be deployed by the successful bidder as per specified format. Review of the programme and record of shortfall shall be done.
19.4	During the period of 'Time extension', successful bidder shall maintain their resources as per mutually agreed program
19.5	At the end of total work completion as certified by BHEL engineer, and upon analysis of the total delay, the portion of time extensions attributable to (i) Successful bidder, (ii) Force majeure conditions, and (iii) BHEL, shall be worked out and shall be considered to be exhausted in the same order. The total period of time extensions shall be the sum of (i), (ii) and (iii) above and shall be equal to 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 attributable to successful bidder and recoverable from the dues payable to the successful bidder.
20.0	INTEREST BEARING RECOVERABLE ADVANCE/ MOBILISATION ADVANCE
	Not applicable for this tender.
21.0	OVER RUN CHARGES
	Not applicable for this tender.
22.0	REVISION ON ACCEPTED CONTRACT RATE
	Not applicable in this tender.
23.0	PRICE VARIATION CLAUSE/ ESCALATION
	Not applicable in this tender.
24.0	SECURITY DEPOSIT, PERFORMANCE BOND & FINAL BILL
24.1	Security deposit shall be applicable as per relevant clause of GCC (Volume-IB).
24.2	Performance bond is not applicable for the tender.
24.3	RELEASE OF SD BG AND FINAL BILL
	In addition to other provisions of tender regarding release of SD and final bill, following provisions shall also be governing to this tender.
24.3.1	For SD BG- further extension beyond date of acceptance of final bill will not be enforced if the following is fulfilled.
24.3.1.1	Successful bidder discharges their responsibility in r/o of submission of final bill along with absolute 'No Demand Certificate' and other documents as detailed below to the satisfaction of BHEL
24.3.1.2	Joint protocol of set of documents as submitted as detailed in below is certified by site & successful bidder's representative.
24.3.1.3	There is no negative value of the final bill (after release of SD BG) - site to certify the

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	same before release of SD BG.
24.3.1.4	Successful bidder has returned the property belonging to BHEL - site to certify the same before release of SD BG.
24.3.1.5	Successful bidder has submitted joint protocol against `Delay analysis`, if applicable for delayed execution of job.
24.3.2	List of documents to be submitted & jointly protocoled indicating acceptance of final bill by BHEL.
24.3.2.1	Final bill.
24.3.2.2	Measurement for final bill signed, jointly signed by BHEL & successful bidder's representative.
24.3.2.3	Statement having cumulative joint measurement for the contract, jointly signed by BHEL & successful bidder's representative.
24.3.2.4	Claim by successful bidder for refund of security deposit.
24.3.2.5	Jointly signed material reconciliation statement.
24.3.2.6	Statement of payment received from BHEL – Bill wise (Including RA/ PVC/ ORC/ rate revision/ extra work).
24.3.2.7	No claim certificate by successful bidder.
24.3.2.8	Clearance certificates wherever applicable, viz clearance certificates from customer, various statutory authorities, like Labour Department, PF Authorities, Commercial Department, etc.
24.3.2.9	Notarized Indemnity Bond as per prescribed format.
25.0	TAXES, DUTIES, ETC
25.1	Below mentioned clauses shall be applicable for Bidders outside India:
25.1.1.0	BANGLADESH VAT
25.1.1.1	The Bidder shall submit copy of VAT registration Certificate (Musak-8), TIN, Certificate, Trade License to the BHEL site office immediately after receiving the Order but before raising the first Tax Invoice against this tender.
25.1.1.2	The subject job shall be a Supply of manpower Job [Service Code S 072.00]. As per Section 6 (4aa) of The Bangladesh Value Added Tax Act, 1991, the bidder shall not collect VAT from BHEL as the Employer (i.e. Customer of BHEL) shall make deduction of VAT from BHEL's invoice and deposit the same to the Government Treasury. Documentary evidence shall be provided to the bidder.
25.1.1.3	Adequate documents for not charging/ claiming VAT from BHEL shall be made available to the Bidder.
25.1.1.4	The bidder shall raise Tax Invoice (Challan Patra) as per Rule 16(1) (Musak-11) of the Value Added Tax Rules, 1991 mentioning Name, Address and VAT Registration Number of BHEL site office.
25.1.1.5	Bidder shall note that the Tax Invoice complying with Rule16(1) of the Value Added Tax Rules, 1991 must contain the 'Bill to' and 'Ship to' details as below: BHEL Bangladesh VAT Regn. No. 000761853 Bharat Heavy Electricals Limited Power Sector Eastern Region, 2x660 MW Maitree Super Thermal Power Project Moidara Village, Rampal Upazila, Bagerhat District, Bangladesh
25.1.1.6	Bidders shall quote price excluding Bangladesh VAT envisaging VAT exemption on the same. In this connection, please note that VAT, if and as applicable, on Bidders Quoted Price and in case BHEL is unable to provide exemption documents shall be payable extra. In such case, bidder shall submit self-certified copy of the Treasury Challan and / or self-attested copy of the Current Account (Musak-18) along with the Tax Invoice as an evidence of payment of output tax claimed from BHEL.
25.1.1.7	Value Added Tax Deduction at Source:

	BHEL will not deduct any VAT from Bidder's Gross Bill and such bidder need not to load any Output VAT in Bidder's quoted price.
25.1.2	INCOME TAX DEDUCTION AT SOURCE:
25.1.2.1	Bidder should have valid 12-digit TIN number in Bangladesh prior to start of work. Advance Income Tax (AIT) under the Income Tax Ordinance,1984(and rules made thereunder) shall be deducted at prevailing rates on Gross Invoice value from the bills unless Exemption Certificate from the appropriate authority/ authorities is/ are furnished under Income Tax Laws of Bangladesh
25.1.2.2	Since payment shall be made in Bangladesh. Bangladesh Income Tax shall be deducted, as is applicable.
25.1.2.3	The Bidder shall carry out their own tax diligence to get acquainted with the relevant rules and regulations of Bangladesh pertaining to the subject job.
25.1.2.4	The bidder is responsible for compliance of all relevant Tax Laws of Bangladesh and all other related places outside Bangladesh in connection with this contract and BHEL will not bear any such liability.
25.1.2.5	Except otherwise mentioned above bidder shall quote their rates/ price inclusive of all taxes, duties, Cess, any State or Central Levy, social security contribution and other Taxes in or outside Bangladesh (but excluding Bangladesh VAT) in line with provisions as mentioned above etc. together with variation thereto during contract period including extension, if any. BHEL shall not release any additional payment in this regard.
25.1.2.6	New tax & duties, if imposed subsequent to latest due date of offer submission, as per NIT & TCN, as applicable, by statutory authority after due date of submission of latest price offer and within the contract period including extension, if any (provided reason for extension is not attributable to vendor), shall be reimbursed by BHEL at actual on production of relevant supporting document to the satisfaction of BHEL. However, the vendor shall obtain prior approval from BHEL before depositing new taxes & duties. Benefits and/or abolition of all existing taxes must be passed on to BHEL against new Taxes, if any, proposed to be introduced at a later date.
25.2	Below mentioned clauses shall be applicable for Bidders from India:
25.2.1	All taxes excluding GST with applicable cess & BOCW Cess (mentioned elsewhere in the Tender) but including, Charges, Royalties, , any State or Central Levy and other Taxes for materials if any obtained for the work and for the execution of the contract shall be borne by the bidder and shall not be payable extra by BHEL.
25.2.2	Any increase in the above at any stage during execution including extension of the contract, if any, shall have to be borne by the contractor. Quoted/ accepted rates/ price shall be inclusive of all such requirements.
25.2.3	GST with applicable Cess, legally leviable & payable by the successful bidder as per GST Law, shall be paid extra by BHEL. Hence, Bidder shall not include GST with applicable Cess in their quoted price.
25.2.4	The successful bidder shall furnish proof of GST registration with GSTN Portal covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.
25.2.5	Since GST on output will be paid by BHEL separately as enumerated above, bidder's quoted rates/ price should be after considering the Input Credit under GST law at their end.
25.2.6	TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills unless exemption certificate from the appropriate authority/ authorities is furnished.

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25.2.7	TDS under GST shall be deducted at applicable rates on gross invoice value from the running bills.
25.2.8	<p>Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules (Section 31 of GST Act & Rules referred there under) wherein the 'Bill To' details shall be as per following.</p> <p>BHEL GSTN – 19AAACB4146P1ZC NAME - Bharat Heavy Electricals Limited ADDRESS – Plot No. 9/1, DJ-Block, Sector-II, Salt Lake City, Kolkata, West Bengal 700091.</p>
25.2.9	<p>Bidder to intimate immediately on the day of removal of Goods(in case of any supply of goods) to BHEL along with all relevant details and a scanned copy of Tax Invoice through following communication mode for enabling BHEL to meet its GST related compliances</p> <p>Portal Address – Shall be intimated later. And Email Address – Shall be intimated later.</p> <p>In case of delay in submission of the abovementioned documents on the date of dispatch, BHEL may incur penalty /interest for not adhering to Invoicing Rules under GST Law. The same will be liable to be recovered from the successful bidder, if such delay is attributable to the bidder.</p>
25.2.10	In case of raising any Supplementary Tax Invoice (Debit / Credit Note) Bidder shall issue the same containing all the details as referred to in Section 34 read with Section 31 of GST Act & Rules referred there under.
25.2.11	Bidder shall Comply with the Time limit prescribed under the GST Law and rules thereof for raising of the tax invoice. If any supply of goods is applicable, Bidder shall also ensure prompt delivery of Goods after dispatch.
25.2.12	Bidder shall note that in case GST credit is delayed/ denied to BHEL due to delayed / non receipt of goods and /or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reasons attributable to the bidder, GST amount shall be recoverable from the bidder along with interest levied / leviable on BHEL, as the case may be.
25.2.13	Bidder shall upload the Invoices raised on BHEL in GSTR-1 within the prescribed time as given in the GST Act. Bidder shall note that in case of delay in declaring such invoice in your return and GST credit availed by BHEL is denied or reversed subsequently as per GST Law , GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from the bidder along with interest levied / leviable on BHEL.
25.2.14	Any new taxes & duties, if imposed subsequent to the due date of offer submission as per NIT & TCN, by statutory authority during contract period (including extensions for which delay is not attributable to the bidder), shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, bidder shall obtain prior approval from BHEL before depositing any such new taxes and duties. Benefits and/or abolition of all existing taxes must be passed on to BHEL against new taxes, if any, introduced at a later date.
26.0	LIMITATION OF LIABILITY
	Notwithstanding anything to the contrary in this Agreement or the Purchase Order or

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	any other mutually agreed document between the parties, the maximum liability, for damages, of the Supplier, its servants or agents, shall under no circumstances exceed an amount equal to the Price of the Agreement or the Purchase Order. The Supplier shall not in any case be liable for loss of profit or special, punitive, exemplary, indirect or consequential losses whatsoever.
27.0	LIQUIDATED DAMAGE
	Since time is the main essence of the contract, the deployment of manpower is to be made within the time limit specified in this Tender. In case Contractor deploys the manpower beyond the period specified in the Contract, BHEL will have no obligation to accept the same and reserves the right to deploy such manpower at the risk and cost of the contractor, along with BHEL overheads @ 5%. The total ceiling for such overheads as liquidated damages shall be limited to 10 % of the executed contract value.
28.0	GUARANTEE
28.1	Not applicable.
29.0	CUSTOM CLEARANCE
29.1	The successful bidder shall be responsible for Bangladesh customs clearance of all materials, supplies, equipment, tools and other articles shipped into Bangladesh by him for the implementation of his works, including the food and the personal effects of the Successful bidder's personnel.
29.2	All payment for clearance charge, storage charge, etc. which are imposed by the relevant agencies of the Government of Bangladesh, relating to the clearance of equipment, materials and Plant that will be incorporated in the Permanent Works or relating to the Temporary Works shall be borne by the Successful bidder. Further, if the Successful bidder is delayed in submitting necessary shipping documents to the Employer, the demurrage charges by the Port Authority will be borne by the Successful bidder.
29.3	Tools and equipment and other equipment of the Successful bidder for use during construction but which are to remain the property of the Successful bidder and which are to be exported by the successful bidder from Bangladesh at the completion of the Work shall be carefully documented and specially listed to facilitate both import and export. The Successful bidder shall determine prior to shipment the customs regulations applicable to this special case as well as normal import rules and regulations applicable. The Successful bidder shall also be responsible for inland transport by barge/ truck/train to the Site.
30.0	IDENTIFICATION OF CONTRACTOR'S EMPLOYEES, VEHICLES AND BUILDINGS
30.1	The Contractor shall provide each of his employees with a name tag bearing the picture, the name or initials of the employee, a serial number and the name of the Contractor. Each employee shall wear his badge visibly to the security personnel at any time.
30.2	All vehicles and large equipment furnished and used by the Contractor on the Work shall be clearly marked with the Contractor's business name. The Contractor's offices, stores, depots and other facilities shall also be clearly identified. The detailed requirements are defined in the Safety Health and Environmental (SHE) Plan to be provided by the Contractor.
30.3	The Contractor shall be liable for and shall provide all aspects of security and security measures for the Site, Employer's site offices and Employer's living accommodation, including guard services, transfer organizations and transport etc.
30.4	Around-the-clock security presence and operational routine shall be maintained throughout the year. Passes and temporary identification permits shall be issued and examined and access to any part of the Site, the site offices and living

	accommodation shall be controlled and limited to those who have an authorization.
31.0	EXPATRIATE PERSONNEL
31.1	The Contractor shall submit to BHEL / Employer data of all personnel he intends to bring into Bangladesh for the performance of the Work. This data shall include the name and present address of each person, his intended assignment and responsibility in connection with the Work and a concise resume of his experience in the type of work to which he will be assigned. This data shall be submitted to the BHEL / Employer at least thirty (30) days prior to their expected arrival in Bangladesh.
31.2	Any expense associated with illness of the Contractor's personnel, including replacement thereof, shall be to the Contractor's account.
31.3	Costs of passports, visas, travel documents, inoculations and other incidental expenses incurred by the Contractor's non-Bangladesh employees and their dependents occasioned by travel to and from Bangladesh shall be borne by the Contractor.
31.4	All accommodations and amenities for the Contractor's personnel and families (including all staff and labour) must be provided by the Contractor, and BHEL / Employer shall not have any liability for the same.
32.0	BANK DETAILS
32.1	EMD, Tender cost, & Security Deposit amount, as applicable, can also be submitted directly by Indian Bidders to the followings Bharat Heavy Electricals Limited bank account in India- 1. SBI (Branch Address:-Commercial Branch, Salt Lake, Sector V, Kolkata, Branch Code SBIN0004289), A/C No. 11107800029, INR Account.
33.0	LAWS AND REGULATIONS
33.1	The Successful bidder agrees and acknowledges that:
33.1.1	He and their respective employees, servants, consultants and agents abide by all Applicable Law, (i) relating to the performance of the Work; (ii) by all rules and regulations of those Governmental Authorities who have control or jurisdiction over the Site or the countries where the Successful bidder may reside or perform work, directly or indirectly under this Contract (including the timely payment of any and all fees, assessments, or other governmental charges and registrations with relevant agencies or other Governmental Authorities required in connection therewith) and; (iii) with the terms and conditions of any Authorizations.
33.1.2	Successful bidder represents that it is fully aware of all of the Applicable Laws, terms and conditions of any Authorizations, business practices and plant rules and regulations which must be complied with when performing the Work.
33.1.3	Successful bidder shall furnish to Employer and Engineer, promptly upon request, such information concerning Successful bidder, their respective employees, consultants, servants and agents as the Employer or Engineer may be required to furnish to any applicable Governmental Authority.
33.2	Without prejudice to the generality of the foregoing:
33.2.1	The Successful bidder shall observe, comply with and respect Bangladesh laws, rules and regulations and shall not interfere with Bangladesh political or religious affairs either directly or indirectly.
33.2.2	The Successful bidder shall comply with such other rules and regulations as Employer and the Engineer may establish from time to time with respect to the construction work and personnel employed by the Successful bidders provided such rules and regulations shall not modify any of the Contract.

33.2.3	The Successful bidder shall, in all dealings with its labor, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labor.
33.2.4	The Successful bidder shall not give or barter or otherwise dispose of, to any person or persons, any arms or ammunition of any kind, or permit the same as aforesaid.
33.2.5	In the event of any outbreak of illness of an epidemic nature the Successful bidder shall comply with and carry out such regulations, orders and requirements as may be made by the Government of the People's Republic of Bangladesh or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.
33.3	Compliance
33.3.1	Successful bidder shall ensure that its employees, servants, consultants and agents abide by all Applicable Law, relating to the performance of the Work and by all rules and regulations of those Governmental Authorities and persons who have control or jurisdiction over the Site (including the timely payment of any and all fees, assessments, or other governmental charges and registrations with relevant agencies or other Governmental Authorities required in connection therewith) and with the terms and conditions of any Authorizations.
33.3.2	Successful bidder represents that it is fully aware of all of the Applicable Laws, terms and conditions of the Authorizations, consents, business practices and plant rules and regulations which must be complied with when performing the Work.
33.3.3	Successful bidder shall furnish to the BHEL / Employer, promptly upon request, such information concerning its employees, consultants, servants and agents as BHEL / Employer may be required to furnish to any applicable Governmental Authorities.
33.4	Related Compliance Obligations
33.4.1	The Successful bidder shall Take all reasonable care that the Work is performed with the minimum possible impact on the environment and local community in respect of land and occupants affected by or adjacent to the Work.
33.4.2	The Successful bidder shall have responsibility prior to Provisional Acceptance Certificate for administration and co-ordination with the Governmental Authorities, as necessary, of any testing or the taking of any other action necessary to demonstrate the Work's compliance with all Applicable Laws, as well as the Authorizations, Consents, as maybe required for or issued in connection with the development, construction, erection and operation of the Works.
33.4.3	The Successful bidder shall provide BHEL / Employer with a copy of all communications with any such authorities and at least five (5) days prior written notice to BHEL / Employer in respect of any meeting with any such authorities (with Successful bidder responsible for obtaining all necessary permissions for the attendance of a representative of BHEL / Employer at any such meeting).
33.4.4	The Successful bidder shall carry out its obligations under this Contract so as not to cause or contribute to any breach by, or violation of, Employer of any Applicable Law, consent or Authorization.
33.5	Permits and Licenses
33.5.1	Successful bidder shall obtain and maintain all consents, permits and licenses (" Consent ") which are required by Applicable Law for the performance of the Work and to allow Successful bidder to perform and complete the Work in accordance with the Contract Schedule (irrespective of whether the same are required to be procured in the name of Successful bidder or Employer), other than the Authorizations.

33.5.2	Specifically, where a Consent by its very nature can only be procured by the Employer (BIFPCL), the Employer shall at the Successful bidder's request, execute such documents and complete such formalities as are necessary for presentment of the application or other Consent related documents to the relevant Governmental Authority or other person. However, the foregoing shall in no circumstances be construed as (i) relieving the Successful bidder from his obligations under Clause 23.3.1 for which he shall remain primarily and fully responsible, or (ii) as imposing any responsibility on the Employer in respect of procurement of consents/ licenses/ approvals/ permits other than the Authorizations.
33.5.3	<p>If requested by Successful bidder, BHEL / Employer shall provide reasonable assistance to Successful bidder in obtaining and maintaining such Consents. Successful bidder shall not be entitled to any adjustment to the Contract Schedule or the Contract Price or any other terms of this Contract relating to any delay or failure to obtain or maintain any such Consents.</p> <p>Employer /BHEL will provide reasonable assistance to the Successful bidder for obtaining any required authorization and export licenses for exporting tolls, equipment, test equipment, and other Successful bidder's Equipment, all of which are and remain the property of the Successful bidder, from Bangladesh at the conclusion of the Work.</p>
33.6	<p>SUCCESSFUL BIDDER'S RESPONSIBILITY TO GET ACQUAINTED WITH BANGLADESH LAWS, IMPORT POLICY, ETC.</p> <p>The Successful bidder shall get himself acquainted with the relevant Bangladesh Laws as well as the import policy of the Government of People's Republic of Bangladesh remaining in force regarding import of banned items, if any, during the execution of the Contract. In case of import of any banned items and/or contraband item, the consequential liability shall rest with the Successful bidder. Similarly the Successful bidder shall be responsible for any non-conformance of Bangladesh Laws either by its own employees during execution of the Contract.</p>
34.0	OTHER TERMS
34.1	The contractor shall provide signed ' <i>Certificate of Declaration for Confirming the Knowledge of Site Conditions, Laws and Regulations</i> ' as per attached format on its letter head along with the offer.
34.2	Applicable Law or Law with respect to any person, shall mean any law, legislation, statute, act, by-laws, rule, regulation, ordinance, order, decree, protocol, notification, policy, by-law, administrative guideline, ruling, instruction, directive, code, requirement, consent, license, approval, permit, judgment, court order, treaty or any interpretation thereof by any Governmental Authority or person acting under the authority of any Government Authority and / or of any statutory authority, whether in effect as on the Contract Date or thereafter, as applicable to such person.
34.3	Customer shall mean the Bangladesh –India Friendship Power Company (Pvt.) Limited (BIFPCL), having its office at Level 17, Barak Unique Height, 117, Kai Nazrul Isam Avenue, Eskaton Garden, Dhaka, Pin 1217, Bangladesh.
34.4	Engineer or Consultant shall mean M/s. FICHTNER GmbH & Co. KG, Stuttgart, Germany or such other engineer or consultant, as may be appointed from time to time by Customer and who is acting on behalf of Customer as Engineer for the purpose of the Contract with Customer and includes such other person (if any) to who the Engineer's authority may have been lawfully delegated pursuant to the Contract with Customer.
34.5	Governmental Authority shall mean, in respect of a country, the government (Central, State and local) or any ministry, directorate, department or political sub division

	thereof and any person exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government or law or any other governmental entity, instrumentality, agency, authority, corporation, committee or commission under the direct or indirect control of any such government.
34.6	Site means the Project Site at Rampal, District Bagerhat, Bangladesh, all off-site and lay down areas, jetty, intake water system, ash dyke and other locations where all or any part of the work is to be executed under the scope of work of BHEL in accordance with the Contract with Customer.
34.7	The Contractor shall provide and employ in connection with the execution of the Works :
34.7.1	Only such technical assistants as are skilled and experienced in their respective trades and such sub-agents, foremen and leading hands as are competent to give proper supervision to the Work they are required to supervise.
34.7.2	Such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution of the Works. To the extent possible, the Contractor shall deploy unskilled labour from the local populations.
34.7.3	Child Labour: The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development in compliance with the applicable labor laws and other relevant treaties ratified by the government.
34.7.4	<u>Working Time:</u> No work shall be done on legal Bangladesh holidays or at times other than the regularly established working hours without the written approval of BHEL/ Owner (BIFPCL) and/ or Engineer (Fichtner), which shall not be unreasonably withheld. However, work necessary in case of emergencies or for the proper case, receipt, unloading, transporting, maintenance, and protection of equipment or finished work may be done without prior approval. This requirement shall not preclude the Contractor's use of scheduled overtime work and such work may be established by the Contractor, as a regular procedure, with the written permission of BHEL/ Owner (BIFPCL) and/ or Engineer (Fichtner); such permission, however, may be revoked at any time by BHEL/ Owner (BIFPCL) and/ or Engineer (Fichtner) if the Contractor fails to maintain adequate equipment and supervision for proper execution and control of the Work and all operations performed there under.
34.7.5	The Contractor shall comply with all applicable relevant labour Laws including the Bangladesh Labour Act 2006 and the Bangladesh Labour Rules 2015 to the Contractor's personnel relating to their employment, health, safety, welfare, immigration and shall allow them all their legal rights.
34.7.6	The Contractor shall be responsible for obtaining all necessary permits(s) and /or visa(s) from the relevant Governmental Authorities for the entry and deployment of employees, representatives, labour, consultants and other personnel to be employed on the Site into the country where the Site is located, and otherwise for ensuring all due compliance with Applicable Laws with respect thereto.
34.7.7	The contractor shall arrange passports for all his employees, representatives, labour, consultants and other personnel. BHEL will assist Contractor for issue of Visa including multi-entry visa and other permits as per requirement for the job/Work. However, the Contractor shall arrange for attestation of certificates and other documents required for travel arrangements, medical test as applicable and comply with other formalities. All expenses for all these activates will be borne by the Contractor.
34.7.8	It shall be the responsibility of the Contractor to pay wages/ salaries and other

	benefits to its employees / personnel engaged by it as per the agreement with them, and in keeping in line with the Local laws in Bangladesh. The Contractor shall submit the Construction Manager, BHEL Maitree Project, Bangladesh regularly, the details / Statement of wages/ salaries and other benefits paid to its employees / personnel in India /Back home, besides wages / salaries and other benefits paid in Bangladesh.
34.7.9	The Contractor, in particular, shall provide proper accommodation to his labourers and arrange proper water supply, conservancy and sanitation arrangements at the site for all necessary hygienic requirements and for the prevention of epidemics in accordance with relevant regulations, rules and orders of the government.
34.7.10	The Contractor, further in particular, shall pay applicable wages to his labourers, and pay them in time. In the event of delay in payment BHEL may effect payments to the labourers and recover the cost from the Contractor.
34.7.11	The Contractor shall at all times during the progress of the Contract use its best endeavour to prevent any unlawful, riotous or disorderly conduct or behaviour by or amongst its employees, representatives, labour, consultants and other personnel.
34.7.12	The Customer and / or Engineer or BHEL after notifying and discussion with the Contractor, be entitled to object to and require the Contractor to remove forthwith from the Work any person employed by the Contractor in or about the execution of the Work who in the opinion of the Customer and / or Engineer or BHEL misconduct himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the Employer and / or Engineer to be undesirable and such person shall not be again employed upon the Work without the written permission of the Customer and / or Engineer or BHEL. Any person so removed form the Work shall be replaced immediately by a competent substitute approved by Customer and / or Engineer or BHEL.
34.7.13	All employees or representatives engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the BHEL or Customer , and nothing contained in the Contract shall construed to create any contractual relationship between any such employees, representatives and BHEL or Customer.
34.8	Indemnification : Contractor shall protect, defend, indemnify and hold the Customer, the Engineer, BHEL (and their respective officers, directors, employees, servants or agents) (the “Indemnified Persons”) harmless from and against:
34.8.1	Any and all Losses arising directly or indirectly from or incurred by reason of the acts or omissions of any of Contractor or any of their respective officers, directors, employees, servants or agents in the performance of Contractor’s obligations under the Contract, without limitation, whether or not resulting from any defect in or condition of the premises on which the Work is or is to be performed or any equipment thereon, including any such Losses arising from injury to or death or damage to or loss of property.
34.8.2	Any and all Losses arising directly or indirectly from or incurred by reason of claims or sanctions or penalties imposed by any Governmental Authorities or others for any actual or asserted failure by any of Contractors or any of their respective officers, directors, employees, servants or agents to comply with any Applicable Law or Authorizations or Consents or with any rules and regulations applicable to it or them or to obtain or maintain any Consents.
34.8.3	Any and all Losses arising directly or indirectly from or incurred by reason of any failure of Contractor:
34.8.3.1	To pay any Taxes relating to income or any other Taxes required to be paid by such person;
34.8.3.2	To make any payments in respect of Taxes which are to be paid by such Person in connection with the performance of its obligations relating to this contract or, in the

	case of the Contractor, any Taxes which it is required to pay pursuant to the terms of this Contract.
34.8.3.3	To file tax returns as required by Applicable Laws or comply with reporting or filing requirement under Applicable Law relating to Taxes; or nothing in this clause shall restrict any person's right to contest the amount of any tax or other liability owned to a competent authority provided such contest is bona fide and made in good faith;
34.8.4	Any and all Losses arising directly or indirectly from or incurred by reason of hazardous materials introduced to the Site or any other location by any of other location by Contractor or any of their respective officers, directors, employees, servants or agents in t the performance of the Work;
34.8.5	Any and all Losses arising directly or indirectly from or incurred by reason of non-compliance with Applicable Laws by the Contractor or any of their respective officers, directors, employees, servants or agents including , without limitation , labour laws; and
34.8.6	Any and all Losses arising directly or indirectly from or incurred by reason of any accident or injury to any workman or other person in the employment of the Contractor.
34.8.4	Contractor Obligation to Ensure
34.8.4.1	The Contractor shall appropriately insure against such liability in compliance with all Applicable Law and shall continue such insurance during the whole of the time that any persons are employed by him/it on the Work and shall provide BHEL, Customer or Engineer with a copy of such policy of insurance and the receipt of payment of the current premium or evidence that it has complied with the Applicable Law in this regard.
34.8.4.2	All accidents shall be reported by the Contractor directly to the appropriate Governmental Authority as per Applicable Law remaining in force.
34.8.4.3	Automobile Liability Insurance: Covering use of all vehicle use by the Contractor (whether or not owned by them) in connection with the execution of the Contract.
34.8.4.4	Workers' Compensation: In accordance with the statutory requirements under Applicable Laws. The minimum insurance cover for personal injury or death insurance for the Contractor's employees is as per the law and common practice in Bangladesh.
34.9	Laws and Regulations : The contractor agrees and acknowledges that :
34.9.1	Contractor shall and shall ensure their respective employees, servants, consultants and agents abide by the all Applicable Law, (i) relating to the performance of the Work and (ii) by all rules and regulation of those Governmental Authorities who have control or jurisdiction over the Site or the countries where the Contractor may reside or perform work, directly or indirectly under this Contract (including the timely payment of any or all fees, assessments or other governmental charges and registrations with relevant agencies or other Governmental Authorities required in connection therewith) and (iii) with the terms and conditions of any Authorizations.
34.9.2	Contractor represents that it is fully aware of all the Applicable Laws, terms and conditions of any Authorizations, business practices, plant and project Site rules and regulations which must be complied with when performing the Work.
34.9.3	Contractor shall furnish to BHEL, Customer and Engineer, promptly upon request, such information concerning contract and their respective employees, consultants, servants and agents as BHEL or Customer or Engineer may be required to furnish to any applicable Governmental Authority.
34.10	SIGN BOARDS
	The Contractor shall provide one project/Work profile sign board for each site of the size not exceeding 1 m x 2 m, and maintain them in good condition. All information on the signboards will be written in English and Bengali. The signboards will be

	<p>positioned on a steel frame as directed by the BHEL or Customer or Engineer. The Contractor shall submit proposals for the materials of the signboards, the text layout (in English and Bengali) on an approved yellow background and installation of the signboards on Site to BHEL for approval. Each sign board shall show:</p> <ol style="list-style-type: none"> the name of the Work the name of the Contractor all other details as required by the BHEL or Customer or Engineer <p>The Contractor shall maintain the sign boards and remove them on completion of the Works or when instructed by the Engineer</p>
34.11	Deleted.
34.12	Change in Laws and Regulation: Any law, regulations ordinance, order or by laws having the force of law is enacted, promulgated, abrogated, or changed in Bangladesh, which shall be deemed to include any change in interspersion of application by the Competent Authority.
34.13	While bidder's scope include deployment of all resources, like T&P, materials, consumables, manpower including supervision etc for proper completion of the subject job and no sub-contracting for execution of the job is allowed by BHEL, depending on project's requirement and on prior acceptance of BHEL, bidder may associate agencies for deployment of skilled/ un-skilled manpower only for site execution. Bidder should arrange all resources, like T&P, materials, consumables, supervision etc directly for the subject job.
34.14	Drawings issued, if any, are for tender purpose only. No additional financial implication will be entertained by BHEL at a later date on account of any alteration to this.
34.15	Successful bidder shall provide temporary barricade all around the working area to avoid any untoward incident, as per guideline of customer.
34.16	Successful bidder shall strictly comply with the HSE guidelines of BHEL & customer and follow the Access Control System regarding security aspect of the project.
34.17	Any other non-conformity noticed w.r.t. customer's guidelines, but not listed in the tender, will also be fined. Decision of BHEL in this regard is final & binding on successful bidder. For this purpose, it is prudent that bidder visit site prior to offer submission and get acquainted with local environment, customer's guideline, etc. No claim successful bidder, whatsoever, at a later date will be entertained by BHEL. The amount will be deducted from bills of the successful bidder The amount collected on the above will be utilized for giving award to the employees of various agencies working at site who could avoid accidents by following safety rules and for improving the safety at site. Such award will be decided by the committee consisting of employees of agencies working within the project and be awarded in presence of BHEL representative.
34.18	Successful bidder shall submit indemnity bond after receipt of LOI towards indemnifying BHEL of non-fulfillment of any statutory payments to authorities as per prescribed format in line with customer's format.
34.19	The successful bidder shall make arrangement at their own cost for necessary access to the work site from common access road.
34.20	The security and safety laws/ guidelines as applicable from time to time shall have to be strictly followed by the successful bidder. For this purpose, it is prudent that bidder visit site prior to offer submission and get acquainted with local environment, customer's guideline, etc. No claim successful bidder, whatsoever, at a later date will be entertained by BHEL.
34.21	For materials supplied by the successful bidder for the project, entry gate pass duly signed & stamped, as per guidelines of the project, to be submitted positively for

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	record purpose.
34.22	No announcements, press releases, handouts or photographs for publication etc. relating to this agreement/ purchase-order/ work-order or any part of the Supply/Work shall be issued or released without BHEL's prior written approval.
34.23	Duly filled & Signed, BHEL Evaluation Report (Customer Approval Format) as per attached format to be submitted by the bidders along with their offer.
34.24	EXIM Bank undertaking as per attached format to be furnished by the bidder along with their offer.
34.25	All other term & conditions of this specification shall be governed by the pertinent provisions of GCC and other volumes of this tender, as applicable.



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SUB- CONTRACTORS FOR 2X660MW MAITREE SUPER THERMAL POWER PROJECT

DOCUMENT NO; HSEP:14-MAITREE: VENDOR DATE:05.05.16

**Pradip
Ghosh**

Digitally signed by
Pradip Ghosh
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HSE DEPARTMENT

Plot No. 9/1, Block-DJ, Sector-II, Salt Lake, Kolkata – 700 091

Phone no. 033-23398049, Web : www.jantermanter.com



**HEALTH, SAFETY AND ENVIRONMENT
PLAN FOR SITE SUB-CONTRACTORS
(MAITREE PROJECT)**

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POWER SECTOR-EASTERN REGION

SPECIAL NOTES

- ❖ **This document supersedes section-IX of SCC or any such HSE related document in the tender**

 - ❖ This document is a living document and subject to changes as many times as desired by BHEL and customer, BIFCL and project consultant Fichtner GmbH. Any cost implication shall be absorbed by the contractor.
 - ❖ This project is a highly eco-sensitive project. There will be regular assessment of impact of the site activities on ecology. The contractors shall be obligated to take corrective actions, if any, as advised by BHEL/ Customer/ any Statutory body.
 - ❖ The contractor shall ensure that only persons with required competence and sound health are engaged at the site. No deviation shall be allowed. The person and the contractor shall be in possession of relevant documents in support of competence and health condition for producing before BHEL for verification, whenever demanded.
 - ❖ It may take minimum 2 days for finishing health check-up and induction training before a gate-pass/ ID is issued. In a day, maximum 30 persons can be given induction training. Mobilization shall be planned accordingly
 - ❖ Method statement and Job Safety Analysis shall be carried out for all hazardous jobs and critical lifts
 - ❖ As the site is located in an area which is prone to adverse weather condition, the contractors shall have infrastructure for fast evacuation of people
 - ❖ Contractor for Boiler-1, Chimney-1 and Cooling Tower-1 shall provide one double-mounted siren at a height covering a dia of about 2KM for alerting site workers in case of emergency.
 - ❖ The following basic instruments shall be available with contractors HSE team if their job involves:
 - Height work: Binoculars
 - Confined space work: Oxy-meter
 - Night work: Lux meter, Torch light
 - Checking of ELCBs: ELCB tester
 - Checking of earthing: Megger
- Apart from these, DB meter, Alcohol Breath analyzer, and other HSE promotional items shall be made available by the contractors as and when demanded by BHEL.
- ❖ Well-equipped sick room shall be set up and ambulance shall be made available by specific contractors as provided for in the work order of certain packages. However, the operational expenses can be shared by those contractors who will avail services of these facilities.



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1.0 PURPOSE

- 1.1 The purpose of this HSE Plan is to provide for the systematic identification, evaluation, prevention and control of general workplace hazards, specific job hazards, potential hazards and environmental impacts that may arise from foreseeable conditions during installation and servicing of industrial projects and power plants.
- 1.2 This document shall be followed by BHEL's subcontractors at all installation and servicing sites. In case customer specific documents are to be implemented, this document will be followed in conjunction with customer specific documents.
- 1.3 Although every effort has been made to make the procedures and guidelines in line with statutory requirements, in case of any discrepancy relevant statutory guidelines or EHSS contract requirements must be followed of which the most stringent shall apply
- 1.4 In case the customer has any specific requirement, the same is to be fulfilled.
- 1.5 We will promote and maintain a safe, healthy and environmentally compliant workplace for all employees, contractors, visitors and any others that may be affected by construction activities, and strive for a "GOAL of ZERO REPORTABLE INCIDENTS" on the project.

2.0 SCOPE

The document is applicable for installation and commissioning of 2x660MW SETS as per the relevant contractual obligations, and provides the minimum HSE requirements to be followed at the project site and labour colony. As an item of note, this HSE Plan is considered a living document and will be revised as/if necessary to ensure that contractual and regulatory compliance requirements are met during the performance of work on the project

3.0 OBJECTIVES

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

- Ensure the Health and Safety of all persons at work site is not adversely affected by the work.
- Ensure protection of environment of the work site.
- Comply at all times with the relevant statutory and contractual HSE requirements.
- Provide trained, experienced and competent personnel. Ensure medically fit personnel only are engaged at work.
- Provide and maintain plant, places and systems of work that are safe and without risk to health and the environment.
- Provide all personnel with adequate information, instruction, training and supervision.
- Effectively control, co-ordinate and monitor the activities of all personnel on the Project sites including subcontractors in respects of HSE.
- Establish effective communication on HSE matters with all relevant parties involved in the Project works.
- Ensure that all work planning takes into account all persons that may be affected by the work.
- Ensure fitness testing of all T&Ps/Lifting appliances like cranes, chain pulley blocks etc. are to be certified by competent 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.



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- Capture the data of all incidents including near misses, process deviation etc. Investigate and analyze the same to find out the root cause.
- Ensure timely implementation of correction, corrective action and preventive action.

3.1 Goals and Targets -

- To achieve "Zero Fatal Incident at Site"
- 100% compliance of all legal/statutory requirements related to EHS.
- 100% Health, Safety and Environmental Induction training attendance for all employees and 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 & preventive actions.
- A monthly review shall be scheduled and conducted to assess HSE program compliance and to close any recognized gaps to improve safety management and incident prevention.

4.0 BHEL POWER SECTOR HEALTH, SAFETY & ENVIRONMENT POLICY

Power Sector HSE Policy

We, at BHEL Power Sector, reaffirm our belief that the Health and Safety of our stakeholders and conservation of Environment is of utmost importance and takes precedence in all our business decisions. In pursuit of this belief and commitment, we strive to:

- ✓ Ensure total compliance with applicable legislation, regulations and other requirements concerning Occupational Health, Safety and Environment.
- ✓ Ensure continual improvement in the Occupational Health, Safety and Environment Management System performance.
- ✓ Enhance Occupational Health, Safety and Environment awareness amongst employees, customers and suppliers by proactive communication and training.
- ✓ Review periodically and improve Occupational Health, Safety and Environment Management System to ensure its continuing suitability, adequacy and effectiveness in a continuously changing business environment.
- ✓ Develop a culture of safety through active leadership and provide appropriate training at all levels to enable employees to fulfill their Health, Safety and Environmental obligations.
- ✓ Incorporate appropriate Occupational Health, Safety and Environmental criteria into business decisions for selection of plant, technology and services as well as appointment of key personnel.
- ✓ Ensure availability at all times of appropriate resources to fully implement the Occupational Health, Safety and Environmental policy of the company.

This policy will be communicated to all employees and made available to interested parties.

Sd/-

Director (Power)



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5.0 TERMS AND DEFINITIONS

5.1 DEFINITIONS

5.1.1 INCIDENT

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

5.1.2 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".

5.1.3 MAN-HOUR WORKED

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

5.1.4 FIRST AID CASES

First Aid includes:

- Visit to a physician or a licensed health care professional solely for observation or counselling
- Conduct of diagnostic procedures like X rays, blood test including the prescription medications used solely for diagnostic purposes (e.g. eye drops to dilate eyes)
- Using a non-prescription medicine at non-prescription strength (for medication available in both prescription and non-prescription form as recommendation by a physician or other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for record keeping purposes);
- Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment);
- Cleaning, flushing or soaking wounds on the surface of the skin;
- Using wound coverings such as bandages, Band-Aids TM, gauze pads, etc.; or using butterfly bandages or Steri-StripsTM (other wound closing devices such as sutures, staples, etc., are considered medical treatment);
- Using hot or cold therapy;
- Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for record-keeping purposes);
- Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).
- Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister;
- Using eye patches;
- Removing foreign bodies from the eye using only irrigation or a cotton swab;
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means;
- Using finger guards;



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- Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes); or
- Drinking fluids for relief of heat stress.

No other treatments are considered first aid.

5.1.5 INJURY OTHER THAN FIRST-AID: (As per Chapter VII, Rule 69 of Bangladesh Labour Rules, 2015)

Notice to be given of any accident. □ When any accident occurs in an establishment causing loss of life or bodily injury, or an accidental explosion, ignition, outbreak of fire or irruption of water or fumes occurs, the employer shall give notice of the occurrence to the Inspector within following 3 (three) working days [:]

Provided that the factory authority shall, immediately after the occurrence of such incident, inform the matter to the Government, Fire Service, Directorate of Inspection of Factories and Establishments, Police Station, and if required, the nearby hospital or government-private medical service establishment, through telephone, mobile phone, SMS or fax, in order to take immediate necessary action to minimize potential damages or bring the situation under control.]

Fatal incident and Serious Incident:

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

In this case the injured person is likely to be disable for more than 20 days to perform his duty, it will be treated as Serious Incident. In these cases, the intimation will be made as described above.

Minor Incident: (As per Chapter VII , Rule 70 of Bangladesh Labour Rules, 2015)

Where an accident mentioned above causes bodily injury resulting the compulsory absence from work of the person injured for a period exceeding 48 (forty-eight) hours, but not exceeding 20days. The management will inform the concerned statutory authority within 7 days in form-27 under rule 69/1/(A), (B) and (C) of Bangladesh Labour Rules, 2015.

6.0 HSE ORGANISATION

Number of HSE officers:

The subcontractor must deploy one HSE officer for every 500 workers or part thereof in each package. If there are more than one HSE officer, one shall be designated as head/HSE. No Of HSE stewards shall be one for every 100 workers deployed

Deployment: The subcontractor should deploy sufficient HSE officers and HSE-steward/supervisor, as per requirement given above, since initial stage and add more in proportion to the added strength in work force. Any delay in deployment of HSE Officer will attract a penalty of BNR.40,000/- per man month for the delayed period.

6.1 QUALIFICATION FOR HSE PERSONNEL

Sl.no	Designation	Minimum Qualification	Experience
1	Safety officer (Construction Agency)	Degree or Diploma in Engineering with diploma in Industrial Safety with construction safety as one of the subjects. If Degree/Diploma in safety is from India, it must be recognized by AICTE/SCTE&VT. NEBOSH IGC /IOSH diploma also acceptable	Minimum two years for degree holder and five years for diploma holder in the field of Construction of power plant/ major industries



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6.2 RESPONSIBILITIES

6.2.1 SITE IN -CHARGE OF SUBCONTRACTOR

- Shall engage qualified safety officer(s) as per clause 6.1
- Shall adhere to the rules and regulations mentioned in this code, practice very strictly in his area of work in consultation with his concerned engineer and the safety coordinator.
- Shall screen all workmen for health and competence requirement before engaging for the job and periodically thereafter as required.
- Shall not engage any employee below 18 years.
- Shall arrange for all necessary PPEs like safety helmets, belts, full body harness, shoes, face shield, hand gloves etc. before starting the job. Shall ensure that no working men/women carry excessive weight more than stipulated in Factory Rule Regulation R57.
- Shall ensure that all T&Ps engaged are tested for fitness and have valid certificates from competent authorities.
- Shall ensure that provisions stipulated in contract Labour Regulation Act 1970, Chapter V C.9, canteen, rest rooms/washing facilities to contracted employees at site.
- Shall adhere to the instructions laid down in Operation Control Procedures (OCPs) available with the site management.
- Shall ensure that person working above 2.0 meter should use Safety Harness tied to a life line/stable structure.
- Shall ensure that materials are not thrown from height. Cautions to be exercised to prevent fall of material from height.
- Shall report all incidents (Fatal/Major/Minor/Near Miss) to the Site engineer /HSE officer of BHEL.
- Shall ensure that Horseplay is strictly forbidden.
- Shall ensure that adequate illumination is arranged during night work.
- Shall ensure that all personnel working under subcontractor are working safely and do not create any Hazard to self and to others.
- Shall ensure display of adequate signage/posters on HSE.
- Shall ensure that mobile phone is not used by workers while working.
- Shall ensure conductance of HSE audit, 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 adequate valid fire extinguishers are provided at the work site.
- Shall ensure availability of sufficient number of toilets /restrooms and adequate drinking water at work site and labour colony.
- Shall ensure adequate emergency preparedness.
- Shall be member of site HSE committee and attend all meetings of the committee



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6.2.2 HEALTH, SAFETY AND ENVIRONMENT OFFICER OF SUBCONTRACTOR

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

7.0 PLANNING BY SUBCONTRACTOR

7.1 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 per Rule 60, 75 and schedule 3 of Bangladesh Labor Rules](#). 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 item shall be withdrawn from the work area. [The fitness of T&Ps shall be monitored by site HSE quarterly and alert/ reminder issued to the concerned agency and BHEL package in-charge.](#)
- The machinery and equipment to be embraced for this purpose shall include but not limited to the following:
 - Mobile cranes.



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- Side Booms.
 - Grinding machine.
 - Drilling machine.
 - Air compressors.
 - Welding machine.
 - Generator sets.
 - Dump Trucks.
 - Excavators.
 - Dozers
 - Grit Blasting Equipment.
 - Hand and power tools.
- Subcontractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the subcontractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.

7.2 MOBILISATION OF MANPOWER BY SUBCONTRACTOR

- 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 (pre-employment). Post-employment medical check-up shall be done for persons engaged in hazardous jobs at a regular interval as per legislations.
- Ensure that the regulatory requirements of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
- Appropriate accommodation to be arranged for all workmen in hygienic condition.

7.3 PROVISION OF PPEs

- Personnel Protective Equipment (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured. PPE details shall be maintained as per Form-23
- The following matrix recommends usage of minimum PPEs against the respective job.

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



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8	Painting	Plastic gloves, Respirators (particularly for spray painting)
9	Radiography	As per BARC guidelines

The PPEs and other related safety equipments shall conform to the relevant indian or equivalent European or American standards as below:

BS EN 397:2012	Industrial Safety Helmets.
BS EN 60903:2003	Insulating material gloves for electrical purposes.
BS EN 374-3: 2003	Protective Gloves- Chemical Penetration
BS EN 388:2003	Protective Gloves- Mechanical Risks
BS EN 407: 2004	Protective Gloves- heat and fire
BS EN 420:2003	Gloves- general requirement
BS EN-20345	Industrial safety footwear
BS EN 166:2002	Eye protectors.
BS EN 352-1 & 2:2002	Ear Muff & Ear Plug
BS EN 175:1997	Eye & Face protection during welding
BS EN 361:2002	Fall Arrest Full Body Harness
BS EN 360:2002	Retractable type fall arresters
BS EN 795:2012	Lifeline System
BS EN 358;1999	Work Resistant Harness
BS EN 813:2008	Seat harness
BS EN 1498+ others	Rescue Harness+ other items of a rescue kit
BS EN 353:2002	Detachable fall arrester
BS EN 149: 2001	Filtering Half masks tp protect against particles
BS EN 471:2003	High Visibility Clothing

The 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.

Colour scheme for Helmets:

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



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

7.4 ARRANGEMENT OF INFRASTRUCTURE

7.4.1 DRINKING WATER

- Adequate drinking water shall be provided and maintained at suitable places at different elevations.
- Chilled water shall be made available from 1st April to 30th Sep of the year
- Container should be labeled as “ Drinking Water”
- Cleaning of the storage tank shall be ensured at least once in 1 month indicating date of cleaning and next due date. Mild cleaning detergents as used for cleaning vessels shall be applied and scrubbers (3M or equivalent) shall be used for removing scales and deposits on the inside surface. The tank shall be thoroughly cleaned with potable water only before it is refilled.
- Employees should use their own cup for collecting water-no cup shall be shared
- Potability of water should be tested as per standard at least once in every quarter as per Rule 50(5) of Bangladesh Labour Rules, 2015.
- Apart from above, those who are engaged in work producing significant heat , shall be served saline water or Sarbat at the rate of 2litres perday
- Storage of drinking water shall be min 6M away from any toilet and washroom

7.4.2 WASHING FACILITIES (As per Chapter VIII, Rule 86 of Bangladesh Labour Rules, 2015)

- 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 Bangla

7.4.3 LATRINES AND URINALS (As per Chapter V, Rule 51, Schedule II of Bangladesh Labour Rules, 2015)

- Latrines and urinals shall be provided in every work place based on strength of workmen at the rate of one toilet seat and one urinal for every 50 female workmen and that for every 60 male workmen
- Urinals shall also be provided at different elevations.
- They shall be adequately illuminated and shall be maintained in a clean and hygienic condition at all times, by appointing designated person.
- Separate facilities shall be provided for the use of male and female worker if any.
- Hand-wash facility shall be provided



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7.4.4 PROVISION OF SHELTER DURING REST

Proper Shed & Shelter shall be provided for rest during break::

7.4.5 MEDICAL FACILITIES (Sharing with other sub-contractors at site is permitted)

7.4.5.1 Sick Room (As per rule 77) (As stipulated in the contract)

- A Sick room shall be ensured/identified at site with basic facilities as per subrule 77(5) for handling medical emergencies. The sick room can be run independently or jointly developed on proportionate sharing basis with permission from BHEL. It shall be equipped with one rigid stretcher, one foldable stretcher, one rescue basket stretcher, a wheel chair, at least 2 beds with separator and all basic facilities that a doctor needs for basic health check-up and quick referral including those listed in sub-rule 77(5) of Bangladesh Labour Rules,2015
- A qualified medical professional, not less than a Degree in Medical Science (Allopathy) as recognized in Bangladesh , shall be deployed at the sick room along with sufficient support staff
- Medical waste shall be disposed as per prevailing legislation
- Ambulance, **as stipulated in the contract**, shall be made available at the site along with a trained driver and shall be equipped with at least an Oxygen cylinder along with dispensation system, first-aid box, a portable ABC type fire extinguisher.

7.4.5.2 FIRST AIDER

- Must have a competence certificate in First-aid issued by Bangladesh Red Cross Society/ Bangladesh St Johns Ambulance/ any other agency which is recognised by the Govt of Bangladesh
- Ensure availability of **one** Qualified First-aider throughout the working hours for every 150 workmen engaged as per clause 89 of Bangladesh Labour Law
- 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.

7.4.5.3 FIRST AID BOX (as per rule 76(2) of Bangladesh Labour Rules.2015))

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



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7.4.5.4 HEALTH CHECK UP

The persons engaged at the site shall undergo mandatory health checkup from a qualified doctor as per the **format no. HSEP:13-F03 and Health Record 31-A** before induction. The persons engaged in the following works shall undergo health checkup at least once in a year:

- a. Height workers
- b. Drivers/crane operators/riggers
- c. Confined space workers
- d. Shot/sand blaster
- e. Welding and Gas cutting personnel

7.4.6 PROVISION OF CANTEEN FACILITY

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

7.4.7 PROVISION OF ACCOMODATION/LABOUR COLONY

- The subcontractor shall arrange for the accommodation of workmen at nearby houses or by making a labour colony.
- 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.
- Potable water shall be tested once in six months as per IS10500.
- MSDS of LPG shall be put up prominently. This shall be included in the induction training as well.
- The labour colony shall be appropriately secure so that only authorized persons have access to it.
- 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.
- No. of occupants in room rooms to be as per the standards practice.
- Awareness training shall be organized for the workers regarding fire safety, safe use of LPG, Health & Hygiene, and electrical safety etc. on monthly basis.
- Adequate drainage and approach roads to be done.
- Perimeter fencing, security and main gate entrance shall be established and maintained.
- Monthly inspection to be done to ensure the compliance and for opportunity of improvement.
- Workers shall not be transported in open vehicles i.e. trailers, truck beds etc within project boundaries which includes the labor colony.

7.4.8 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



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7.4.9 PEST CONTROL

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

7.4.10 GENERAL DISCIPLINE:

Workmen under influence of liquor or drug or any other intoxication shall not be permitted to work and sent out of the work area. Workmen shall not be permitted to smoke in work area. None shall be permitted to carry any arms or firearms. The workmen shall report to work on time and follow supervisor's instruction. Use of cell phone particularly in hazardous jobs shall be discouraged like height work, crane operation etc. Horseplay, willful violation of rules shall be dealt with suitable disciplinary action including suspension and termination. They 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 like throwing out of the gate for the day and so on. If any such employee returns to work, he shall be put through induction training once again.

7.4.11 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.

7.4.12 ILLUMINATION (to be reviewed)

- Adequate and suitable light shall be provided at all work places & their approaches including passage ways as per IS: 3646 (Part-II) or as per Bangladesh standard. Some recommended values are given below:

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



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

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

8.0 HSE TRAINING & AWARENESS (Trainer, venue and infrastructure shall be decided by site HSE team headed by BHEL site HSE head). Cost shall be borne by respective contractor alone or on sharing basis on case-to-case basis.

8.1 HSE INDUCTION TRAINING

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

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

- Briefing of the Project details.
- Safety objectives and targets.
- Site HSE rules.
- Site HSE hazards and aspects.
- First aid facility.
- Emergency Contact No.
- Incident reporting.
- Fire prevention and emergency response.
- Rules to be followed in the labour colony (if applicable)
- Proper safety wear & gear must be issued to all the workers being registered for the induction (i.e., Shoes/Helmets/Goggles/Leg guard/Apron etc.)
- They must arrive fully dressed in safety wear & gear to attend the induction.
- Any one failing to conform to this safety wear & gear requirement shall not qualify to attend.
- On completing attending subcontractor's in-house HSE induction, each employee shall sign an induction training form (format no. HSEP:14-F03) to declare that he had understood the content and shall abide to follow and comply with safe work practices. They may only then be qualified to be issued with a personal I.D. card, for access to the work site.

8.2 HSE TOOLBOX TALK

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



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- Tool box talk to be conducted at least once a week for the specific work.

8.2.1 PRE JOB BRIEFING

- A separate documented daily pre job briefing must be conducted at the actual job/work site location with the supervisor and work crew, to cover working environment/conditions, safe work practices for the activities to be carried out, required PPE and review of the work package, JSA and permit requirements. Each crew member and the supervisor will sign-off on the pre job briefing form, and form will be submitted to the HSE department at the end of each shift

8.3 TRAINING ON HEIGHT WORK

Training on height work (3m 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.
- Body Harnesses of at least a five-point configuration shall be used in all fall arrest systems. The harness Deering 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)-color coding
- Medical fitness requirements.
- 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 to be issued. This is applicable for those who are supposed to work or inspecting in BTG area, etc.

8.4 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.



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- 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 & EHS officer. A pass sticker of qualified person to be marked on their ID Card/Gate Pass.

8.4.1 HSE Induction for Visitors: No visitors are allowed to visit the construction site without safety induction, mandatory PPEs, and designated escort.

8.4.2 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.

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

8.5.1 Display of HSE posters and banners

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

8.5.2 Display of HSE signage as per [Safety signages will be as per BS 5378 safety signs & Colors and BS 5499 graphical symbols & signs](#)

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

8.5.3 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

9.0 HSE COMMUNICATION

9.1 INCIDENT INVESTIGATION, REPORTING AND RECORDS:

Every incident including near-misses or injury of any kind and at any level of severity shall be immediately reported by the contractor's workmen in their work area to the safety officer/ HSE coordinator, site engineer or RCM. 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 CUSTOMER

In the case of serious injury requiring hospitalization or fatality, communication shall be made to customer through telecom immediately with submission of incident report within 24 hrs and detail investigation report may be forwarded in INCIDENT INVESTIGATION REPORT FORMAT within seven days.

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.



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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.

26.1 Incident Investigation Procedure:

The purpose of the investigation procedure is to find out root cause of accidents / incidents & not to find out faults, so as to avoid recurrences, in future and share lessons learned.

RCM shall constitute a committee of at-least 2 site engineers within 24 hours of such incidents. The investigation shall aim at finding out the basic unsafe acts / conditions that have caused the incidents. Immediately after all appropriate emergency measures, first aid and damage containment measures have been taken, every effort shall be made by the committee to:

- Preserve physical evidence
- Take photographs
- Take statement from incident victim(s) and eyewitnesses and anyone who may have knowledge of possible cause(s) of incidents

The committee shall also recommend corrective measures to prevent recurrence of similar incidents

25.2 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.

26.3 Incident Investigation Report:

The investigation committee on completion of the all investigations shall prepare and submit the report to the RCM. The report shall also include corrective measures with assigned responsibility to be taken at site to prevent similar incidents in future. The RCM shall forward the copy of the investigation report to BHEL

9.2 HSE EVENT REPORTING

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

10.0 OPERATIONAL CONTROL

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



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at the Power Sector Regional HQ, or available in downloadable format in the website, which may be referred by subcontractor, if they so desire.

LIST OF OCPs

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

10.1 HSE ACTIVITIES

While planning for any activity the following documents shall be referred for infrastructural requirements to establish control measures: Only specific portion of the following documents may be shared as reference at discretion of BHEL.

- 1) HSE Procedure for Register of OHS Hazards and Risks
- 2) HSE Procedure for Register of Environmental Aspects and Impacts
- 3) HSE Procedure for Register of Regulations
- 4) Operational Control Procedures
- 5) HSE Procedure for Emergency Preparedness and Response Plan
- 6) Contract documents

10.2 WORK PERMIT SYSTEM

- The following activities shall come under Work Permit System
- a The following activities shall come under Work Permit System
 - a. Height working
 - b. Hot work in general and at height including handling of hazardous substance viz, Acetylene, Oxygen and LPG
 - c. Confined space



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- d. Radiography
- e. Hazardous Energy Control (lockout/tagout)
- f. Excavation and Trenching
- g. Heavy lifting exceeding 50Metric Tonne
- h. Handling of Hazardous Substances- Diesel, Caustic Soda, Citric Acid/EDTA, Thinner, Battery Acid, Oil-based paint, Lubricants, Transformer oil.

Refer Annexure 05 for Work permit formats.

- Permit applicant shall apply for general work permit and other permits as referenced above of particular work activity at particular location before starting of the work with Method Statement and HIRA/Job Hazard Analysis.
- 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.

10.3 SAFETY DURING WORK EXECUTION

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

10.3.1 Power supply & upkeep of installation -

- Only persons licensed to Govt of State shall maintain and operate power installations.
- All distribution boxes shall be locked and the key controlled by site management of concerned contractor.
- Electrical appliance shall have proper earthing and for appliances equal to & more than 415V shall have two separate earthing (as per IS-3043-1987)
- All electrical supply shall be provided through ELCB of 30mA sensitivity.
- The working condition and sensitivity of ELCB shall be checked periodically.
- All fuses and fuse wires shall be of standard size and rating.
- All power supplies through cables shall be underground or overhead with height > 3mtrs.

The following guidelines are to be considered the absolute minimum requirements to be supplemented by requirements of all applicable codes and standards for such work; Wiring and Branch Circuits Must be protected by a proper amperage over-current device such as a HRC fuse or circuit breaker. Such installations must be located so as to prevent physical damage to the wire conductors & panels.

- Portable electric lights used in wet or potentially wet locations must be either low voltage type (24 volts or less) or protected by a GFI (ground fault interrupter).
- Must be visually checked before each use and periodically while in use to assure their original integrity is maintained. Cords with cuts, breaks, deep abrasions, etc. shall be taken out of service immediately. Repairs to extension cords shall only be performed by qualified/ licensed electricians.
- Must not be allowed to lie in wet or potentially wet areas.
- Every electric line or cable of unknown origin that is discovered or exposed during a digging, drilling, probing, or similar operation is to be considered as energized and life threatening. The senior company employee on the site will ensure that all necessary safety precautions are taken in order to isolate the line from all workers and the public. Such precautions may include halting the operation if appropriate. The senior company employee on the site is to then contact the proper authorities to have the line identified and either confirmed to be abandoned and/or made safe for continuing the work.



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- Any and all underground lines that are discovered or become severed must be considered energized on both sides, and be treated accordingly.
- In general, equipment or machinery being moved or transported must maintain minimum clearances of 25 ft to all power lines.
- TAG IN/ TAG OUT must be in force in Switch Room and all Distribution Boxes for live power line. The authorized person's name and contact no shall be displayed
- Ensure "double insulated" three - core cables and three pin connectors are used and are properly ground "all insulated" types, all electrical tools and appliances must be manufactured for industrial use.
- All connections shall be electrically and mechanically sound and properly insulated. Taped joints are not permitted. Connections to socket outlets must be made with proper plugs.
- Splices in electrical cords are not permitted. Repairs must be made at the socket connection and retain the same mechanical and dielectric condition of the original connection.
- Damaged or defective electric tools, equipment and extension cords, etc must not be used and shall be tagged out of service, removed from the work area and taken back to stores.
- Only licensed electricians are authorized to repair and work on electrical equipment. Tampering with electric tools or equipment by others could result in termination.
- Temporary electric cabling should be elevated 2.2 meters above the floor/ground or covered for protection. It must be kept clear of walkways and other locations where it may be exposed to damage or create a tripping hazard.
- Energized wiring in junction boxes, circuit breaker panels and similar places must be covered and locked at all times.
- Areas with live high voltage wires or terminals must be barricaded against entry and warning signs posted Danger – High Voltage and Authorized Personnel Only.
- Personnel should never work on energized equipment, deenergizing (lockout/tagout) the equipment is always the first requirement.
- The lockout and tagout procedure will be used when testing or working on, or around, energized installation.
- Working around energized equipment should never be done alone. A second electrician must always be available for assistance.
- If lockout/tagout of the work is infeasible (must be demonstrated), work on energized electrical circuits must be approved by the Site In-charge. All safety precautions necessary must be taken, PPE use must be evaluated per the exposure and used, i.e high/low voltage gloves, insulated shoes, overcoats/aprins, faceshields, and other protective equipment like insulated tools, blankets, mats, etc. must be used.
- The welding machines earth leads shall be properly fixed without loose contacts. The earth cable only has to be used. No steel members shall be used as earth leads.
- Electrical crews must be qualified for the equipment and tools they work on, including being trained in Cardio-Pulmonary Resuscitation (CPR) methods and First Aid for rendering help in the event of electric shock.

10.3.2 Qualified and Unqualified Workers (Electrical Works):

Basic electrical safety knowledge is a major concern. It is critical that only qualified workers be allowed to perform this work. Therefore only those persons that are both qualified and authorized may install, fabricate, repair, test, calibrate or modify electrical or electronic wiring, devices, parts, systems or equipment.

Qualified Person:

One who is trained and wiremen licensed to Govt as per Rule 58(9) of Bangladesh Labor Rules and familiar with the construction, operation and safety hazards of the equipment upon which they are permitted to work.



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- Qualified persons are intended to be only those who are well acquainted/experienced with and thoroughly conversant in the electric equipment and electrical hazards involved with work being performed.
- Only qualified persons may be permitted to work on or near exposed energized parts. Such persons are required to have been trained in three specific areas:
 - Qualified persons must be capable of working safely on energized circuits;
 - Must be familiar with the proper use of special precautionary techniques and procedures based on equipment and exposure; and
 - Must be familiar with required personal protective equipment, insulating and shielding materials, and insulated tools.
- Qualified persons are expected to be able to evaluate unknown situations and adjust their activities in such a way that only safe work practices are used. Such behavior is the responsibility of the qualified person.
- It is possible and likely for an individual to be 'qualified' with regard to certain equipment in the work place, and unqualified on other equipment they must note their limitation and stop work if not qualified on what equipment they were to work on.
- An employee who is undergoing on-the-job training, who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training, and who is under the direct supervision of a qualified person is considered to be a qualified person for the performance of those duties. The process must be documented as proof.

11.0 Lifting Operations:

All the cranes and lifting tools & tackles shall be inspected on daily basis and as well as formal monthly by expert and as per the law third party for annual certification. These shall be tested and certificates of fitness shall be obtained from 3rd party govt approved competent agency before deploying at site and later periodically (As per Rule 60 and 75, Schedule 3 of Bangladesh Labour Rules). 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 operators cabin of all the lifting equipment. The record shall be maintained in Form-24

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

11.1 Personnel Lifts (Man-Basket): (To be treated as a T&P item)

A Personnel Man-Basket permit shall be completed prior to lifting any people, along with a rigging plan. Man-basket shall be used where access through ladders or scaffolding is not feasible. Man-baskets shall be designed and engineered by a manufacturer (job made man-baskets are not allowed, unless designed and tested by a certified engineer), and built robust with MS Angles and flats or plates or channels only. 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 load 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 to the man-basket main lifting point and attached to the crane above the ball or block. While lifting man-basket, the crane shall maintain a uniform speed of lift without any swing. Once man-basket reaches the destination, the lift brakes shall be locked as long as the basket remains at that point. The same care shall be taken in its descent. As for hanging man-basket, the same shall be hung off a rigid structure with help U-shaped handle welded to man-basket. This shall be tested once in a year by a competent person.



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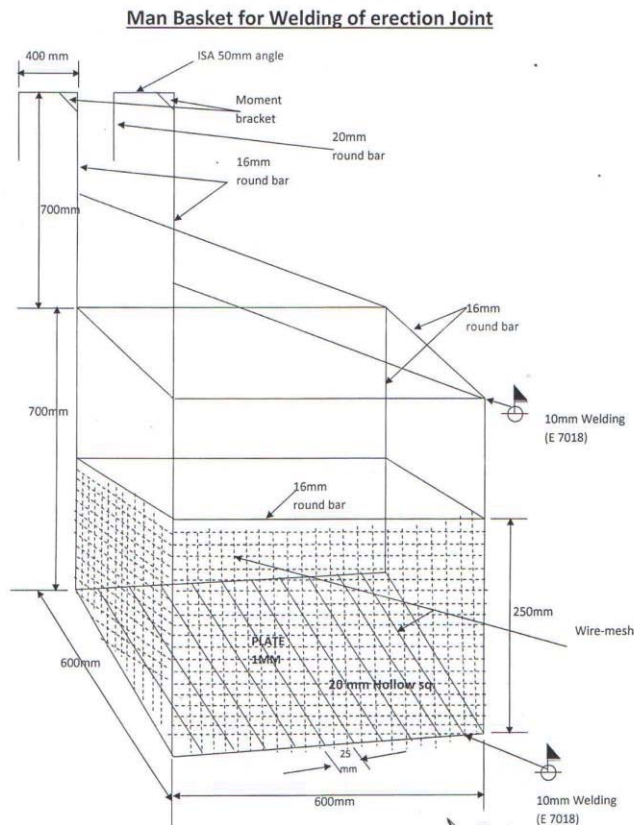
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11.2 CRANES AND HOISTING EQUIPMENTS:

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 anyone or any vehicle or equipment from being struck by the crane or hoisting equipment, or its load(s).

- No part of the lifting equipment or its load shall be within the distance as specified in the Indian Electricity Act from an energised power line
- Cranes shall have annual certified third party inspection and be inspected before use by the operator. Any defects shall be corrected before use. Logs of 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.



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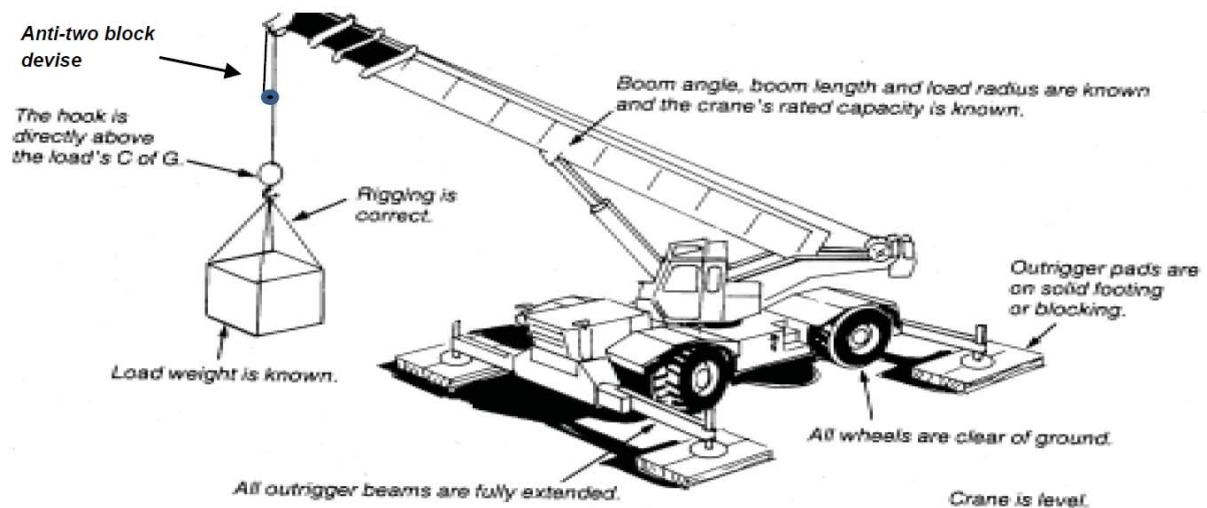
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- Communicate with person(s) directly responsible for accomplishing the work and / or work area to establish requirements/responsibilities and make certain that all preparatory work is complete.
- Mats/Pads must be used on all lifting equipment, equipped with outriggers.
- Pick and carry must have the load secured to the rig in front.
- Proper crane setup:



11..2.1 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.

11.2.2 The following are rules for safe rigging:

- Use loops, thimbles and corner pads to prevent damage to slings when used around corners or on cutting edges.
- Never allow wire rope to lie on the ground for any length of time or on rusty steel or near solvents, chemicals or corrosive substances.
- Slings must not be pulled from between or under loads with load resting on the sling.
- Keep all rope away from flame cutting or welding operations.
- Never use rope as sling material.
- Never wrap a wire rope completely around a hook.
- Do not bend wire rope near any attached fitting.



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- The sling must be selected to suite the most heavily loaded leg rather than the total weight when using multi-legged sling to lift loads in which one end is heavier than the other.
- When using 3 and 4 legged sling configurations, any two legs must be capable of supporting the entire load.
- Where possible, wire rope choker hitches must include a shackle with the eye around the shackle pin to prevent breaking wires of the choke. The choker hitch must be “snugged down” prior to lifting, not after tension is applied.
- Unless authorized by the hook manufacturer when more than two rope eyes are placed over a hook, install a shackle, pin resting in the hook, and place the rope eyes in the bowl of the shackle.
- Properly rig all loads to prevent dislodgment of any part.
- Use guide ropes or tag lines to prevent the rotation or uncontrolled motion of the load when necessary.
- Loads must be safely landed and properly blocked before being unhooked and unslung. Tag lines must not be used in situations that jeopardize the safety of the lift.
- Lifting beams must be plainly marked with their weight and designed working load and must only be used in the manner for which they were designed.
- The hoist rope or chain must never be wrapped around the load. The load must be attached to the hook by slings or other rigging devices that are adequate for the load being lifted.
- Multiple part lines must not be twisted around each other.
- The hook must be brought over the center of gravity of load before the lift is started.
- If there has been a slack rope condition, determine that the rope is properly seated on the drum and in the sheaves prior to lifting.
- Keep hands away from pinch points as the slack is being taken up.
- Leather gloves are recommended when handling wire rope.
- Avoid impact loading caused by sudden jerking when lifting or lowering. Lift the load gradually until the slack is eliminated.
- Never ride on a load that is suspended.
- Avoid allowing the load to be carried over the heads of any personnel.
- Never work under a suspended load until the load has been adequately supported from the floor and all conditions have been approved by the supervisor in charge of the operation.
- Never leave a load suspended unless emergency evacuation is required.
- Never make temporary repairs to sling.
- The capacity of a sling is determined by its angle, construction, type of hitch and size.
- Never lift loads with one leg of a multi-leg sling until the unused legs are made secure.
- Never point load a hook unless it is especially designed and rated for such use.
- Make certain that the load is broken free before lifting and that all legs are taking the load.
- When using two or more slings on a load make certain all slings are made from the same materials.
- Lower the loads on to adequate blocking to prevent damage to the slings.
- Materials and equipment being hoisted must be loaded and secured to prevent any movement which could create a hazard in transit.
- The weight of the hook, load block and any material handling devices must be included when determining crane capacity.
- Operator must have clear sight of loads being picked up or put down by crane. Tag lines will be used to control the loads. Loads must not be touched by hand while placing/ moving.



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11.2.3 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.

11.2.3.1 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.

11.2.4 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:
- Evidence of heat damage.
- End attachments that are cracked, deformed worn.
- Corrosion of the rope or end attachments.

11.2.5 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



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11.2.6 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.

11.2.7 Crane operators must follow the followings:

- Pass an annual Operator's Physical examination
- Carry a valid experience certificate from the previous employers

11.2.8 Colour Coding Procedure

- Inspections and tests shall be documented by means of color coding which shall verify that inspections or testing are current and that all receptacles, portable Power tools, Lifting Tools & Tackles have been inspected and tested as required. The color codes used on the project shall be:

GREEN	BLUE	YELLOW	RED
January February March	April May June	July August September	October November December

-
-
- The cycle of colors shall be Quarterly. The color code tape / Sticker shall be clearly visible to designate the period for which the inspections and tests were conducted.
- Following the initial inspection the equipment must be color-coded quarterly as per color-coding instructions that will be issued by the CONTRACTOR.
- Fire extinguisher with the current month color-coding inspection sticker must be provided and secured in the platform.
- All slings shall be regularly inspected in accordance with the requirement of the project for frequent and periodic inspections and removed from the job site if they fail to meet the minimum requirements of the project.
- The CONTRACTOR'S SFO shall ensure that all PPE is inspected prior to its issue. He is to ensure all SUBCONTRACTOR personnel are using safe and proper PPE equipment. Regular inspections on the PPE shall be carried out and personnel not adhering to those inspections shall be removed immediately from the SITE.
- A five (10) day interval period shall be given into each monthly color code change. During this five (10) day period either color shall be acceptable.



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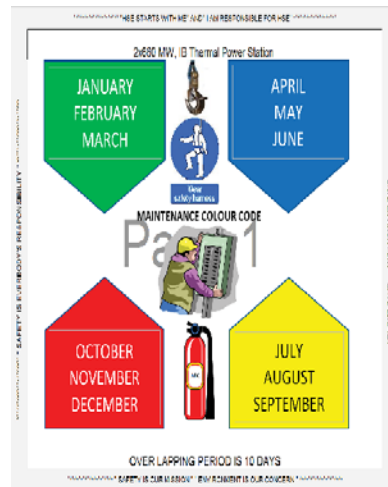
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12.0 Fire prevention, protection & preparedness -

The Fire Prevention, Protection and Preparedness Program is an integral part of the overall HSE Program. Effort and consideration must be given to safety, life and potential for delays in construction schedules and plant startup, as well as protection of property on a given project.

The purpose of which 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, Prevention Preparedness Programme, Site conditions and available fire protection equipment. It is very imperative that the Sub-contractors along with BHEL to establish 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 Contractor /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:
- The record of Fire safety training and Fire drill shall be maintained in Form-22 and 22(A)



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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 (CO ₂)	✗ No	✓ Yes	✗ No	✓ Yes	✓ Yes

- 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 near by and have unobstructed access.

13.0 RADIOGRAPHY: Wherever the process requires examination by radiography,

- BHEL /contractor shall use approved radiography contractors 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 contractor 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-contractor.
- 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.

14.0 Confined Space Entry:

A confined space must have an opening of minimum dimension of 40.65cm X 30.65cm if shape is rectangular or oval and dia of 40.65cm if shape is round.



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A hazard assessment must be completed prior to any entry into a confined space. The hazard assessment must identify the sequence of work to be performed in the confined space, the specific hazards known or anticipated, and the control measures to be implemented to eliminate or reduce each of the hazards to an acceptable level. No entry must be permitted until the hazard assessment has been reviewed and discussed by all persons engaged in the activity. Personnel who enter confined spaces must be trained per role e.g. entrant (worker), confined space supervisor & attendant, and must be informed of known or potential hazards associated with the confined spaces to be entered. Number of persons entering shall be kept at minimum. All confined spaces must be inventoried at site and kept on file. Confined spaces must be posted at the entrance with similar type wording "DANAGER - Do Not Enter – Confined Space - Permit Required".



Once a hazard assessment is completed the Contractors/Subcontractors requirements are:

- All confined space activities must be reviewed with the Contractor's Safety Manager prior to commencement of the work. Confined space permits are required as part of the entry process.
- Prior to entering the confined space, the area must be completely controlled to prevent the entry of any unauthorized individual, hazardous substances, or materials, which would threaten the safety of the entrants and the stability of the space. All energy sources, including stored or residual energy, must be isolated and/or blanked, and locked out.
- 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.
- The confined space must be monitored prior to one entering the identified area. Then periodic atmospheric testing must take place throughout the entry, especially after breaks or work interruptions during the entry. Continuous monitoring is preferable, and may be necessary in certain situations. Monitoring results must be documented on the entry permit with the initials of the individual conducting the testing.
- Contractors/Subcontractors must complete a Confined Space Permit before permitting workers to enter the space. This document must be reviewed and approved via a signature by the entry supervisor. The content of the completed permit must be reviewed with the entrants before entering the space and posted at the confined space entrance.
- 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
- The confined space must have an attendant 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



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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.
- Any space 5' or more in depth must have a mechanical retrieval system. This system must be designed for the retrieval of human, and must not be used for equipment purposes. Workers inside the space must wear full body harnesses, and must be connected to the retrieval system.
- Rescue procedures must be established prior to any entry. The local fire department must be contracted prior to entry if they will be the primary source of rescue.
- All individuals involved in the confined space activities must be trained, including hands-on experience with the safety equipment involved. Documentation of the required training must be available prior to the start of any confined space work activities.
- 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

15.0 Welding and Gas Cutting Operations

- When possible, items to be welded, cut, heated, etc. shall be moved to a safe location free of combustible or flammable material. If this is not possible, then all combustibles/flammables that can be removed from the area shall be removed within a 35 foot circumference and a positive means of confining arcs and sparks generated by the process shall be taken and additional person(s) shall be stationed as fire watch for the area(s) still exposed, along with obtaining the Hot Work Permit as applicable.
- Appropriate fire-fighting equipment is to be available in close proximity of any welding and gas cutting operations at all times.
- Drums, tanks, and similar containers that have contained flammable or toxic material shall not be welded, cut, or heated until they have been made safe by water filling, thorough cleansing, or similar accepted practices. The container shall also be ventilated during the welding, cutting, or heating process.
- Proper ventilation is required for any welding or torch operations performed in a confined space.
- Any welding or gas cutting operations performed on metals of toxic compounds or coating such as zinc, stainless steel, lead, cadmium, chromium, and beryllium shall be properly ventilated and/or proper respiratory protection shall be worn by any person that could be exposed to fumes, vapors, and gasses created by the welding and gas cutting processes.
- Wherever it is practical, all arc welding operations shall be shielded to prevent direct light rays or sparks from contacting persons in the vicinity or from reaching areas normally used to travel through or into the vicinity. Where this is not practical, persons who shall be in the area are to use proper eye and skin protection. Other persons who are not participating in the welding or gas cutting operations are not to be allowed into the hazard zone.
- Welders and other employees who are exposed to arc welding radiation shall wear suitable clothing and protective apparel to prevent burns and other types of ultraviolet radiation damage to the skin.
- Arc welding machines shall be shut down when being moved or when they are not in continuous use.
- Electrode holders left unattended shall have electrodes removed and shall not be left where they might contact



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employees or conducting objects.

- Arc welding power supply cable shall be of proper rating and material, e.g. copper.
- Welders shall guard against allowing materials adjacent to or behind them to reflect radiation back toward them or towards others in the area. Reflected radiation can cause skin burns and eye flash burns.
- Compressed gas cylinders shall always be secured from tipping or falling, whether in use, in storage or in transit. The cylinders shall always be secured upright, except during times when actually being hoisted or carried.
- Valve caps shall be in place when cylinders are not in use. Valve caps shall never be used for lifting the cylinder vertically.
- Regulators shall be removed when cylinders are not in use or are in transit, unless the cylinder is firmly secured on a special carrier designed for this purpose.
- Cylinders being transported by a powered vehicle shall be secured in an upright position. Gas cylinders are not allowed to be used in man-basket when occupied.
- Cylinders containing oxygen or fuel gasses shall not be taken into confined spaces.
- Oxygen cylinders shall be stored a minimum of (6) meters from fuel gas cylinders or shall have an approved firewall between them.
- Torches shall only be lit by approved strikers; never with matches, cigarette lighters, or hot work.
- While carrying out job at height, the sparks or molten slag shall be prevented from falling down by putting a fire-resistant (non-asbestos) sheet or even MS Sheet. If such can not be provided, the passage of falling sparks or molten slag shall be barricaded till ground floor and any cable/ tubes/ any other objects interfering in the passage shall either be removed or covered with Fire-resistant sheet or M S Sheet.

16.0 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.
- All cylinders shall be kept at a safe distance from welding or cutting operations or shielded from safe.
- 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.



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17.0 WORK AT HEIGHT: All work at height above 3meter above ground level without complete platforms, handrails and other related fall protection shall require a work permit in the prescribed form. This shall require approval by the competent authority. The HSE officer of sub-contractors and subsequently BHEL shall follow the checklist religiously by physically verifying the condition of the work area before recommending for approval. Whenever a fall hazard or other exposure exists for working at heights more than 3m, the nature and scope of work will be evaluated for conditions and environmental factors before selecting the appropriate fall protection system (active, passive or a combination of measures, as appropriate). A personnel fall protection system must include:

- The only permissible personal fall arrest system is an industry approved safety harness. Employees can use positioning belts with two-D ring attachment points as long as they are used in conjunction with a safety harness. Safety harnesses must be secured to an overhead object of substantial capacity capable of supporting five thousand pounds. In order to accomplish this and ensure 100% protection, the worker may need to use two lanyards. The primary lanyard is never unhooked until the secondary lanyard is secure.
- The type of work and the environment conditions determine lanyard and lifeline selection. If welding, chemical cleaning that may damage lanyards, connectors or lifelines, sandblasting, etc., either protect the components or use more appropriate type of system. Lanyards and lifelines must incorporate, or be used with, an appropriate deceleration (shock absorbing) device. Deceleration devices include rope grabs, rip-stitch lanyards, specially woven lanyards, tearing, or deforming lanyards, automatic self-retracting lifelines and lanyards which dissipate or limit the energy imposed on the employee during fall arrest. Once in use, the system's effectiveness is to be monitored. In some cases, a program for cleaning and maintaining the system may be necessary. Lanyard and lifelines must use locking snap hooks only and under no circumstances must two lanyard snap hooks be connected.

Minimum Requirements:

Prior to the start of work at elevation, the HSE Manager involved with the work must meet with the work supervisor to review the scope of work, and must review all the possible fall hazards and effective safety responses. The evaluation/analysis must be documented and kept on file and on site by the HSE Manager.

The procedures for the safety response to identified fall hazards developed and rescue plans by must be reviewed with all individuals exposed to the hazards.

The HSE Manager must establish an inspection process of fall protection systems. Some equipment requires documented inspections by its manufacture on a regular schedule. This equipment must have evidence of the inspection and re-certification process on it. This information must be reviewed before the equipment is actually used. Individuals must visually inspect the fall protection equipment before each use. Failure to complete this inspection process could result in serious injury or death.

Immediately remove from service any fall protection equipment that is identified as defective, damaged, or has been subjected to an impact. Damaged fall protective equipment must be destroyed to prevent re-use and not be discarded into trash containers, as the worn or damaged equipment could be unintentionally re-used.

Aerial lifting devices, excluding scissors lifts require the use of full body harnesses and lanyards in any elevated position.

All lifelines in general are to be made of min 8mm dia steel rope and tied to columns with 3 clamps at each end. Wherever columns are not available to tie the lifelines, the vertical posts are to be provided after carrying out drop-



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load test initially.

18.0 SCAFFOLDS: (As per IS 3696 or any international standard)

The safe and efficient erection, use, dismantling, and storage of scaffolds, ladders and elevated work platforms are considered important objectives in maintaining a safe work environment. This procedure provides the guidelines for erection, use, dismantlement, and storage of scaffolding and elevated work platforms.

There is no such thing as a temporary scaffold. All scaffolds must be erected and maintained to conformed standard. The Scaffold Tagging defines satisfactory, incomplete or defective scaffolds.

Management must ensure or have each worker who performs work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards.

All employees must be competent for the type of scaffolding work they are undertaking and should have received appropriate training relevant to the system they are working on.

- All scaffolds shall be erected / dismantled by scaffolding crew under direct supervision of **competent scaffolding supervisors**.
- All scaffolds shall be capable of supporting 4 times maximum intended load and erected on sound, rigid footing, capable of carrying the maximum intended load without settling or displacement. Bamboo scaffolding is not permitted for use on site.
- Guard rails and toe boards shall be installed on all open sides and ends of platforms more than (2) meters above ground or floor

Scaffold planks must be at least 5 cm x 25 cm (2" x 10") full thickness lumber scaffold grade or better.

- Scaffold planks shall not span distances greater than 2.5 meters (8 feet).

Scaffold planks shall extend over end supports not less than 6 inches nor more than 12 inches and be secured to the scaffold. Scaffolding and accessories with defective parts shall be immediately repaired or replaced.

- All scaffolding must be a minimum of two planks wide. No one may work from a single plank.
- Scaffold planks must be inspected before use. Planks that have been damaged must be removed from the site.
- Access ladders must be provided for each scaffold. Climbing the end frames is prohibited unless the design incorporates an approved ladder.
- Adequate mudsills or other rigid footing capable of withstanding the maximum intended load must be provided.
- Scaffolds more the 6 meters (20 feet) in height must be tied to the building or structure at intervals which do not exceed 4 meters (13 feet) vertically and 6 meters (20 feet) horizontally.
- Do not overload scaffolds. Material should be brought up as needed. Scaffolding must not be loaded in



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excess of its rated capacity.

- Barrels, boxes, kegs, blocks or similar unstable object must never be used as work platforms or to support scaffold.
- Where persons must work under or pass under a scaffold then a 18 gauge wire mesh screen must be installed between the toe board and guard rail.
- Employees exposed to overhead hazards while working on a scaffold will be protected by 5 cm (2") thick planks.
- Wooden/bamboo ladders shall not be allowed at any cost. Ladder's rungs shall be fitted /welded properly. Before every use the rungs should be checked for safe use.
- The platform should have permanent hand rail and mid rail with Toe board without fail.
- All platforms are to be tightly planked for the full width of the scaffold, except as may be necessary for entrance openings. Platforms shall be secured in place.
- On suspension scaffolds designed for a working load of 500 pounds, no more than two workers are permitted to work on the scaffold simultaneously. On suspension scaffolds with a working load of 750 pounds, no more than three workers are permitted on the scaffold simultaneously. Each employee on the scaffold shall use an approved safety harness attached to an independent lifeline. The lifeline is to be securely attached to substantial members of the structure (not the scaffold itself) or to securely rigged lines, which shall safely suspend a worker in event of a fall.

Suspension Scaffold

- Suspended scaffolds are platforms suspended by ropes, or other non-rigid means, from an overhead structure.
- Requirements for use are to be preapproved by HSE Head, under a specific Permit to Work.

Rolling Scaffolds

- The height of rolling scaffolds shall not exceed three times the minimum base dimension.
- The minimum base dimension of rolling scaffold will be 1.25 meters (4 feet).
- Adequate help must be provided when moving a rolling scaffold.
- Secure or remove all loose materials, equipment and tools before moving a rolling scaffold.
- No one is permitted to ride a rolling scaffold when it is being moved. Castor brakes must be locked - on when the scaffold is not being moved.

Typical Scaffold Designs

Tube & Coupler Scaffold –



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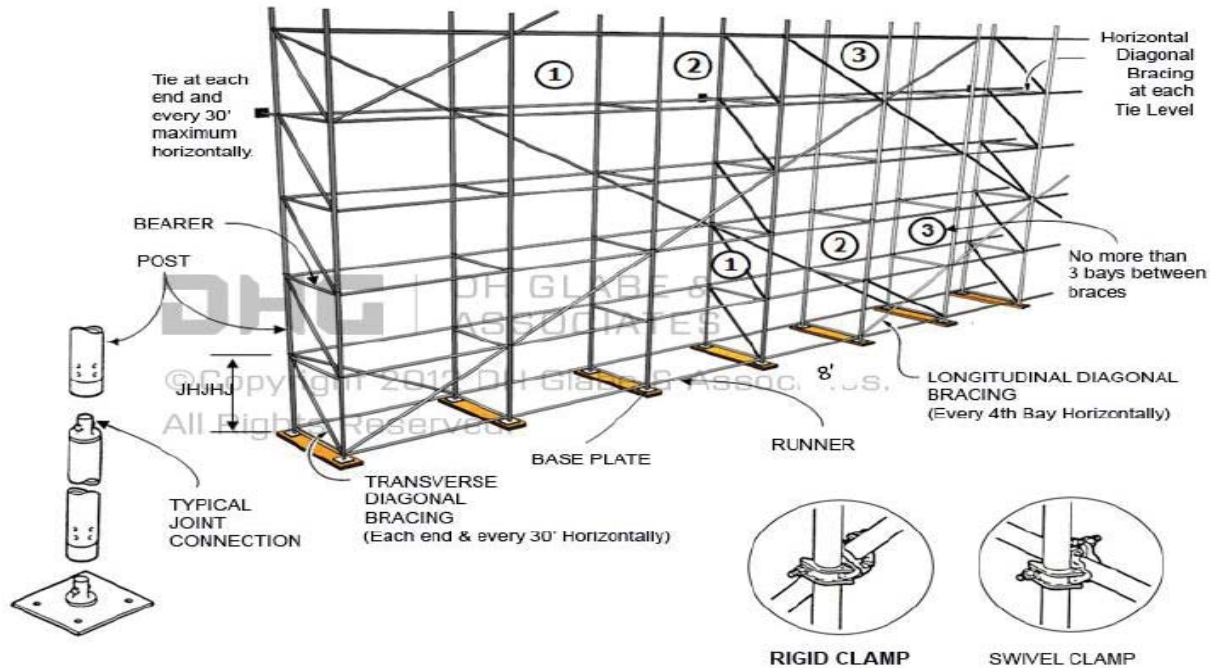
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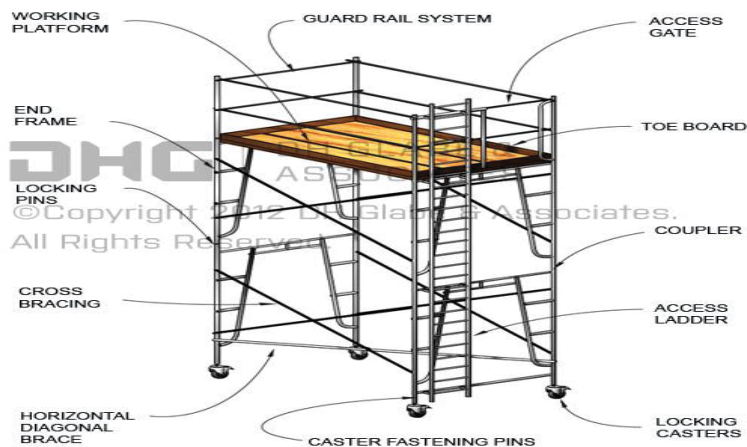
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Rolling Scaffold –



Scaffold Tagging:

Scaffolds being erected, modified or dismantled must be tagged as suitable for use. The scaffolds can only be accessed by those involved with the process.

- GREEN scaffold tag- shall be fixed when scaffold is complete and safe for use, signed and dated by the scaffolding competent person daily.



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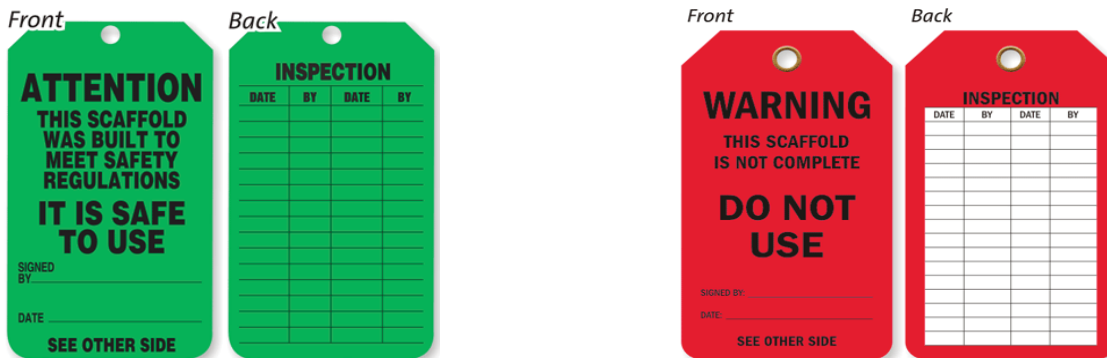
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- RED scaffold tag – to be fixed if scaffold is in some way defective and cannot be used or is still under erection.

Examples of scaffold tags:



18.1 SAFE USE OF LADDERS.

- ❖ Fall protection is required when working on a ladder above 2 meters and when climbing above nearby guardrails.
- ❖ Ladders must be inspected prior to use and by a competent person quarterly, with documentation.
- ❖ Use portable ladders for height up to 4 M only
- ❖ Provide fixed ladders for height above 4 M
- ❖ Place the ladder at an angle of 75 degrees (approx) from the horizontal (1:4)
- ❖ Extend ladder at least 1 M above the top landing
- ❖ Secure top and bottom of the ladder firmly to prevent displacement- anti skid lining at the bottom
- ❖ Ensure that the width of the ladder is not less than 300 mm and distance between rungs is not more than 300 mm
- ❖ Provide landings of minimum size 600 x 600 mm at intervals not more than 6 M for fixed ladders. Check the ladders daily for any defects
- ❖ Ensure that the areas around base and top of the ladder are clear. Getting on and off the ladder is more hazardous than using it. Use a mudsill if the ladder is to rest on soft, loose or rough soil
- ❖ Do not use ladders of conducting material near power lines, and only use ladders near powerline or other energize system with exposed parts if they are confirmed locked-out and de-energized.



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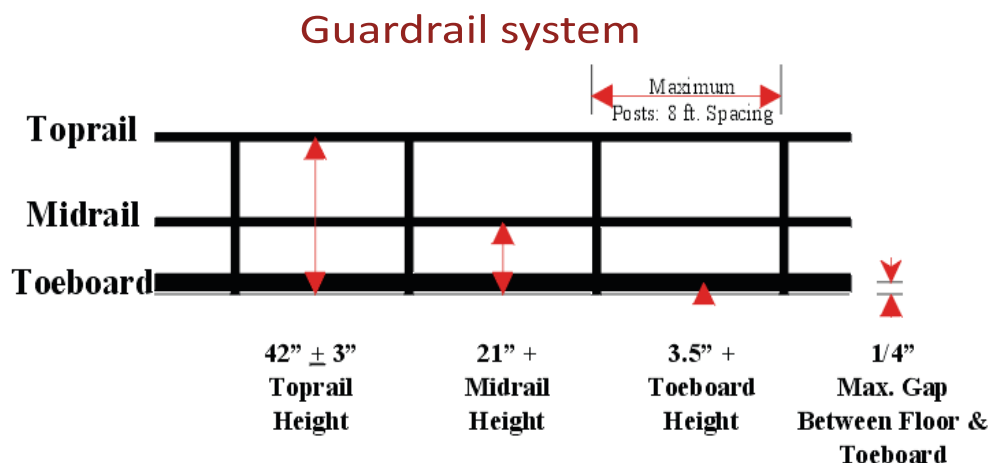
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- ❖ Stand no higher than the fourth rung from the top for carrying out any job standing on a ladder.
- ❖ Never reach out from a ladder to perform work where your belt buckle protrude past the ladder rung.
- ❖ Always face the ladder while climbing up or down
- ❖ Maintain three point contact while climbing up or down a ladder i.e. two hands and one foot or two feet and one hand on the ladder at all the times.
- ❖ Avoid climbing up or down a ladder while carrying anything in hands. Lift tools, equipment and materials with a rope.
- ❖ Work from portable and extension ladders near guardrail where fall expose exist over the guardrail regardless of height, and above 2.0 mtr. heights from the working/walking surface will require the use of personal fall arrest equipment.

18.2 Precautions against the fall of materials and persons and collapse of structures

- ❖ Adequate precautions should be taken such as the provision of fencing, or barriers to protect any person who might be injured by the fall of materials, or tools or equipment being raised or lowered. Cradle may be used for lifting materials - however this shall be made of MS angles and flats only and duly certified by the HSE officer. Operators may also use designed containers for lifting small tools.
- ❖ Guardrails (including scaffolding) erected over/adjacent working areas must have the guardrails screened (opening < 0.5), to prevent material from falling outside the platform/decking.
- ❖ Guardrails must be able to withstand a 200 pound force exerted in any one direction.
- ❖ Where necessary to prevent danger, guys, stays or supports should be used or other effective precautions should be taken to prevent the collapse of structures or parts of structures that are being erected, maintained, repaired, dismantled or demolished.
- ❖ All openings through which workers are liable to fall should be kept effectively covered or fenced and indicated in the most appropriate manner.
- ❖ As far as practicable, guard-rails and toe-boards in accordance with Indian laws and regulations as depicted below:





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- ❖ Guardrails shall be provided to protect workers from falling from elevated work places. The rails are generally made of MS pipes of suitable dia. Rebar shall not be used for any handrails, ladder or cover purpose. Wherever the guard-rails and toe-boards cannot be provided:

- (a) adequate safety nets or safety sheets shall be erected and maintained; or
- (b) adequate safety harnesses shall be provided and used and or
- (c) adequate fall arrestor shall be provided and used.

As mentioned under PPE clause, all these PPEs shall be defect free and regularly inspected for any defect. The full body safety harness shall have double lanyard only with max 1.8m length.

The monkey ladders shall have sufficient fall arrestors. Adequate lifelines of 8mm steel wire rope shall be provided across the work area.

The HSE officer shall recommend appropriate PPEs after analysing hazards and risks involved.

18.3 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 standard.
- ❖ Safety nets must be installed with sufficient clearance to prevent contact with the surface or structures under them
- ❖ 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 a competent 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.
- ❖ When the employer can demonstrate that it is unreasonable to perform the drop-test described above, the employer or a designated competent person shall certify that the net and net installation have sufficient clearance and impact absorption by preparing a certification record prior to the net being used as a fall protection system. The certification must include:
 - Identification of the net and net installation.
 - Date that it was determined that the net and net installation were in compliance.
 - Signature of the person making the determination and certification.



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19.0 SAFETY IN JETTY CONSTRUCTION:

A jetty is to be constructed close to the power plant site over a river. The construction activity involves deployment of cranes and other lifting appliances – a few may be mounted on vessels.

Prior to taking up job at the identified space, a HIRA shall be prepared and corrective measures shall be prepared by an expert group. This shall be shared with the subcontractor/gang to be deployed for the job through meeting/TBM as well as proper documentations.

- The safety rules as described in clause 12.0 shall be followed for all safety appliances. However, the operators shall be certified specifically for operating the lifting appliances mounted on the vessels by the owner of the vessels or the lifting supervisor of the agency.
- The lifting appliances on vessels shall be fixed and securely anchored
- Lifting appliances/ mobile plant shall be kept away from dangerous locations such as openings, edges close to water.
- The operation zone shall be clearly demarcated and properly fenced off.

19.1 SAFE USE OF LIFE JACKETS AND BUOYANCY AIDS:

- Lifejackets/buoyancy aids should be provided to and worn by workers with risk of falling into water.
- Lifejackets/buoyancy aids should conform to BS EN ISO 12402-1, 2, 3 or 4, or other equivalent international standards according to working conditions
- Lifejackets should be thoroughly checked by the user before each use.



Efficient state:
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Maintenance Record



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- A lifebuoy with sufficient lifeline (not less than 30 meters) shall be provided and the locations of the lifebuoys shall be at less than 50 metre intervals along the edges of places where work is being carried out overside or in exposed position on vessels where there is a reasonably foreseeable risk of falling or being washed overboard. To avoid any delays to rescue operations, lifebuoys shall be tightly tied to the posts.



- The lifejacket/ buoyancy aid shall preferably be provided with a self-activating light (for night work) in order to aid locating the wearer and facilitating rescue.
- The lifejackets /buoyancy aids shall be inspected and checked periodically by a competent person.



- The life jackets/ buoyancy aids shall be properly maintained in a good serviceable condition according to the manufacturer's instructions.
- All inflatable life jackets shall be serviced by an authorized person/agent at least once a year.

19.2 WORKING AT HEIGHT

- Suitable guard-rails and toe-boards shall be installed at edges. Openings shall be properly covered where persons are liable to fall from height, to land surfaces or into water.
- Suitable working platforms, with suitable guard-rails and toe-boards, shall be provided for work at height. Safe means of access and egress shall be provided for the working platform.
- Safety harnesses with continuous and effective anchorage system shall be provided when it is impracticable to provide a suitable working platform, access and egress and safe place of work.
- Access and egress shall be sufficiently illuminated and free from any obstructions, openings, projections in order to avoid any slip, trip and fall.

20.0 NIGHT SHIFT OPERATION:

Night shift operation shall be avoided to the extent possible, so shall be any complicated or heavy job. However, prior administrative approval shall be obtained from BHEL for such operation. The following shall be ensured:

- i. Adequate illumination along access, work area and egress



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- ii. Supervision
- iii. Issue of strict instruction to workmen not to stray away from the work area and earmarked approach
- iv. Non-deployment of women workforce
- v. Non-deployment of fatigued workforce
- vi. Vacating the area immediately on completion of the job
- vii. informing first-aid facility and ambulance in advance

21.0 CONTROL OF MOVEMENTS AND USE OF HAZARDOUS SUBSTANCES AND CHEMICALS:

- ❖ The hazardous substances and chemicals shall be stored in a cool, well ventilated, dry and covered space with restricted entry only
- ❖ The loading, unloading, issue and use of these materials shall be strictly in accordance with the Material Safety Data Sheet (MSDS) and under strict supervision. Every supply shall accompany a MSDS as per standard purchase order clause.
- ❖ The site HSE team shall maintain MSDS of all these items and the same shall be shared with the stores or the user as and when required.
- ❖ Each container shall be labeled.
- ❖ The stores shall check the expiry date of perishable chemicals while receiving and store in such a fashion so as to follow First-in-first-out queue.
- ❖ There shall be enough space for movement of material and people in the stores.
- ❖ Containment shall be provided so as to arrest spillage from spreading.
- ❖ There shall be sufficient fire extinguishers and sand buckets in the stores and at point of use. In case of any spillage, dry sand shall be put on the spill and soaked sand shall be disposed as per the procedure for hazardous waste.
- ❖ There shall be provision of water preferably flowing one and a face shower at stores and point of use
- ❖ The persons handling these items shall strictly wear appropriate PPEs like leather gloves, apron, shield etc

22.0 CHEMICAL CLEANING: The chemicals have to be handled as instructed in MSDS. Only authorized person(s) shall be engaged for this job under strict supervision. The waste chemicals shall be drained out to a suitable storage provision and disposed off as per the relevant procedure. The area shall be barricaded while carrying out cleaning operation so as to prevent any unauthorized entry. Once the operation is completed, the surplus material along with the containers shall be returned to stores or scrap yard, as the case may be. The users shall use all appropriate PPEs and shall have water and sand for handling any incidental spillage or splash etc. The area shall be left completely clean before removing barricades.

22.1 PAINTING

Requirements provide a detailed procedure to be implemented by all concerned employees and sub-contractors involved in painting activities.

Significant Environmental Hazards:

- Chemical hazard due to inhalation of lead fumes (lead containing paint)
- Chemical hazard due to inhalation of VOC's from painting operations
- VOC's from painting and coating operation
- Disposal of paints and coats drums

Control Procedure for Painting:

- Chemical products used in painting and coating operation shall have proper MSDS sheet in place. Whenever any doubt arise with respect to handling and safety point of view it should be accessed to all concerned.
- Toxic substances and hazards relate the toxic chemicals shall be indentified.
- Proper PPE shall be used including plastic gloves appropriate overall etc.,
- Arrangement for cleaning of spillage shall be ensured



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- In case of nauseating feeling by any one immediate action shall be taken
- Only trained workers shall be allowed and proper training should be imparted to the works.
- Exposure limits of the toxic substances shall be checked before starting the work and nobody shall be allowed to carry the work beyond the permissible limit.
- Ventilation or exhaust facility shall be provided at place where painting and coating operations are carried out.
- Overalls shall be supplied by the contractors/subcontractors to the workmen and adequate facilities shall be provided to enable the painters to wash at the cessation of work.
- Smoking, open flames or sources of ignition shall not be allowed in places where paints and other flammable substances are stored.
- A caution board in national /regional language "smoking strictly prohibited" shall be displayed in the vicinity.
- Suitable fire extinguishers/sand buckets shall be kept available at places where flammable paints are stored, handled or used.
- In case of indoor painting or painting in confined spaces, exhaust ventilating shall be provided. If adequate ventilation is not provided a proper respirator shall be provided and used by persons who are trained and fit tested.
- The VOC's from painting and coating operations shall not exceed the permissible level of CPCB/ SPCB norms. The paints and coats must be selected as per the guidelines.
- Workers shall thoroughly wash their hands and feet before leaving the work.

23.0 SAFETY IN THE USE OF HAND TOOLS AND POWER-OPERATED TOOLS

23.1 General provisions

- All hands and power tools and similar equipment, shall be maintained in safe condition.
- When power operated tools are designed to accommodate guards, they shall be equipped
- with such guards, when in use;
- Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains and other reciprocating, rotating or moving parts of the equipment shall be similarly guarded;
- Personnel using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dusts, fumes, mists, vapours, or gases shall be provided with the particular personal protective equipment necessary to protect them from the hazards;
- All hand-held powered platen sanders, grinders, grinders with wheels of 5 cm or less, routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaws with blade shanks of 0.5 cm wide or less shall be equipped with only a positive on-off control.
- All hand-held powered drills, tappers, fastener drivers, horizontal, vertical or angle grinders with wheels greater than 5 cm in diameter, disc sanders, belt sanders, reciprocating saws, saber saws and other operating powered tools shall be equipped with a momentary contact on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

23.2 Hand Tools

- The contractor shall not issue or permit the use of unsafe hand tools;
- Wrenches including adjustable pipe end and socket wrenches shall not be used when saws are sprung to the point that slippage occurs;
- Impact tools such as drift pins, wedges and chisels shall be kept free of mushroomed heads;
- The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight on the tools.

23.3 Power operated tools

- Electric power operated tools shall be either of the approved double-insulated type or shall be grounded;
- The use of electric cords for hoisting or lowering loads shall not be permitted;



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- iii. Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming incidentally disconnected;
- iv. Safety clips or retainers shall be securely installed or maintained on pneumatic impact (percussion) tools to prevent attachments from being incidentally expelled;
- v. All pneumatically riveting machine staplers and other similar equipment provided with automatic fastener feed, which operate at more than 7 kg/cm² pressure at the tool a safety device on the muzzle to prevent the tool from ejecting the fasteners unless the muzzle is in contact with the work surface;
- vi. Compressed air shall not be used for cleaning purposes except when the pressure is reduced to less than 2 kg/cm² and that too with effective chip guarding. The 2 kg/cm² pressure requirement does not apply to concrete form, mill scale and similar cleaning purposes;
- vii. The manufacturer's safe operating for hoses, pipes, valves, filters and other fittings shall not be exceeded;
- viii. Only personnel who has been trained in the operation of the particular tool shall be allowed to operate power-actuated tools;
- ix. The tool shall be tested each day before loading to see that the safety devices are in proper working condition. The method of testing shall be accordance with the manufacturer's recommended procedure;
- x. Any tool found not in proper working order, or that which develops a defect during use, shall be immediately removed from service and not used until properly repaired;
- xi. Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any other person. Hands shall be kept clear of the open barrel end;
- xii. Loaded tools shall not be left unattended;
- xiii. Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tiles, surface hardened steel, glass block, live rock, face brick or hollow tiles;
- xiv. Driving into materials that can be easily penetrated shall be avoided unless backed by a
- xv. substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side;
- xvi. No fastener shall be driven into a palled area caused by an unsatisfactory fastening;
- xvii. Only non-sparking tools shall be used in an explosive or flammable atmosphere;
- xviii. All tools shall be used with the correct shield, guard or attachment as recommended by thee manufacturer.

23.4 Abrasive wheels and tools

- i. All grinding machines shall be supplied with sufficient power to maintain the spindle speed at safe levels under all conditions of normal operation;
- ii. Grinding machines shall be equipped with suitable safety guards;
- iii. The maximum angular exposure of the grinding wheel periphery and sides shall not be more than 900, except that when the work requires contact with the wheel below the horizontal plane of the spindle, the angular exposure shall not exceed 1200. In either case, the exposure shall begin not more than 8.650 above the horizontal plane of the spindle. Safety guards shall be strong enough to withstand the bursting of the wheel;
- iv. Floor and bench-mounted grinders shall be work-rests, which shall be rigidly supported and readily adjustable. Such work-rests shall be kept at a distance not to exceed 5 mm from the surface of the wheel;
- v. Cup type wheels used for external grinding shall be protected by either revolving cup guard or a band type guard;
- vi. When safety guards are required, they shall be mounted as to maintain proper alignment with the wheel and the guard and the guard and its fastening shall be adequate strength to retain the fragments of the wheel in case of incidental breakage. The maximum angular exposure of the grinding wheel periphery and sides shall not exceed 1800;
- vii. Portable abrasive wheel used for internal grinding shall be provided with suitable safety flanges;
- viii. When safety flanges are required, they shall be used only with wheels designed to fit the
- ix. flanges. Only safety flanges, of a type and design and properly assembled so as to ensure that the pieces of the wheel will be retained in case of incidental breakage, shall be used;



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- x. All abrasive wheels shall be closely inspected and ring tested before mounting to ensure that they are free from cracks or defects;
- xi. Grinding wheels shall fit freely on the spindle and shall not be forced on. The spindle nut shall be tightened only enough to hold the wheel in place;
- xii. All employees using abrasive wheels shall be protected by suitable eye protection equipment.

23.5 Woodworking tools

- i. All fixed power driven woodworking tools shall be provided with a disconnect switch that can either be locked or tagged in the **off-position**;
- ii. The operating speed shall be attached or otherwise permanently marked on all circular saws over 0.5 m in diameter or operating at over 3000 peripheral rpm. Any saw so marked shall not be operated at a speed other than that marked on the blade. When a marked saw is retensioned for a different speed, the marking shall be corrected to show the new speed;
- iii. Automatic feeding devices shall be installed on machines wherever the nature of the work will permit. Feeder attachments shall have the feed rolls or other moving parts covered or guarded so as to protect the operator from hazardous points;
- iv. All portable power driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.

23.6 Defective tools to be tagged out for maintenance, as **DEFECTIVE, DO NOT USE**, and sent to tool/store room for repair or to be discarded.

24.0 START UP, COMMISSIONING AND TESTING:

There are various activities involved prior to commissioning- the major ones are -Hydraulic Test, Steam Blowing, Charging of transformers, Boiler Light Up, Rolling and Synchronisation and Full loading of unit.

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.

25.0 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.



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26.0 EXCAVATION

Wherever there is open excavation in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations. All safety precautions shall be taken for foundation and other excavation marks as per IS-3764. Any excavation above 2m shall be considered as hazardous job.

27.0 ENVIRONMENTAL CONTROL

Environment protection has always been given prime importance by BHEL. Environmental damage is a major concern of the principal contractor 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 MSDS.

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

All contractors shall be responsible for the cleanliness of their own areas and must not pollute the ground, air and water.

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

27.1 Water Supply and Wastewater Discharge Requirement

- Source of water is provided by client from the existing system.
- Wastage of water to be controlled by monitoring the required water for construction & domestic use and actual consumed.
- No contaminated water to be discharged in the storm water drain confirming the standard parameters before discharge. Proper approval to be taken if applicable as per [Bangladesh Environmental Standards](#)

27.2 Storm water runoff Management

- Expansion of existing plant, no existing drainage systems will be disturbed and damaged.
- No construction waste water to be discharged in the existing storm water drain or newly construction storm water drains.

27.3 Noise Mitigation

High noise is harmful to the human health and it can cause impairment if exposed for long duration at regular intervals, and also cause disruption in nearby communities.

- Noise monitoring shall be carried out in all construction locations periodically.
- Use of silent DG is allowed at site during construction.
- Low noise generation equipment's to be preferred
- Acoustic enclosure to be used in case noise level is high for particular equipment or system.
- Work areas where noise levels exceed the 85db shall be posted as hearing protection required.
- Use of PPEs / ear plug/ear muff for personnel entering into high noise area.
- Activities generation High noise will be planned in day shift.



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Noise Level Chart (As per Bangladesh Environmental Standards)

Parameter	Night Noise level dBA	Daytime Noise Level dBA
At 1-meter from each piece of equipment	85	85
At Property boundary	70	70

27.4 Air pollution Control

- Water sprinkling on road for suppression of fugitive dust to be done regularly.
- Startup and commissioning activities to be planned for compliance with contract, regulatory and permit requirements..(As per Bangladesh Environmental Standards)
- Required monitoring to be done in the respective work location as applicable.

27.5 Land and Water Resource Protection

- Only prior approved land by CUSTOMERL to be used during construction work.
- Contract clauses to be followed
- All hazardous substances will be stored with proper containment facilities to avoid any release into the water system, causing land/water contamination.

28.0 HOUSEKEEPING

- Keeping the work area clean/ free from debris, removed scaffoldings, scraps, insulation/sheeting wastage /cut pieces, temporary structures, packing woods etc. will be in the scope of the subcontractor. Such cleanings has to be done by 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
 - ❖ The paint and thinner and other chemical containers (filled, partly used and empty) shall be carefully stored, used and tracked. All empty containers shall be removed after getting punctured/lid removed and deformed to the scrap yard. The partial used one shall either be returned to store or carefully kept at a corner much away from any hot work or source of fire.



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29.0 WASTE MANAGEMENT

There are operations on construction projects that may create hazardous waste, which would require handling, storage, transferring, and transporting. Therefore, hazardous waste guidelines apply for Hazardous Waste Planning:

29.1 Minimum Requirements:

- Contractors must designate a Material Manager who is responsible for checking delivered materials as potential hazardous waste and informing the Contractor's Safety Manager.
- Contractors who create, may be expected to create or could accidentally create a material that could be classified to be hazardous waste must provide Disposal number (or equivalent) and other pertinent information on file.
- All hazardous waste or waste which could be considered hazardous waste, as determined by the methodology and definitions from environmental regulators must be stored and collected in special areas and properly disposed of by the Contractor.
- No waste haulers, disposers, recyclers, or scavengers will be allowed on the site without the permission of the owner. It will be the responsibility of the Contractor to provide copies of all licenses, permits, and authorizations to the.
- No waste may be removed from the site by any person without the authorization of the Contractor. No waste may be brought onto the site and disposed of using the Contractor's systems or facilities.
- Burning of waste, if not used for generating energy, shall be generally prohibited

29.2 General Requirements

- For non-hazardous waste disposal. Receptacles e.g., dumpsters, etc. must be placed around the site for collection of waste materials. No material is to be abandoned on the site.
- Dumpsters will be inspected frequently, and any potentially hazardous material or waste will be removed from the dumpster and placed in the appropriate storage area at the expense of the responsible Contractor.

29.3 Definitions

- Solid Waste - Any garbage, refuse, sludge, or any other waste material which is not an "excluded waste."
 - The following solid wastes are not hazardous wastes unless otherwise designated as such by local authorities:
 - Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels
 - Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.
- Other Waste Material - Any solid, liquid, semi-solid, or contained gaseous material, resulting from industrial, commercial, mining or agricultural operations which are discarded. This is usually an incidental by-product of the operation. Discarded material must be treated as follows:
 - Disposed of, and not used, reused, reclaimed, or recycled
 - Burned or incinerated, except where the material is being burned as a fuel for the purpose of recovering usable energy
 - Physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed of.



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- Excluded Waste - Materials that are not solid wastes. The following materials are not solid wastes for the purpose of this part:
 - Domestic sewage ("Domestic sewage" means untreated sanitary wastes that pass through a sewer system.)
 - Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment
 - Industrial wastewater discharges that are point source discharges.

29.4 Treatment - Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste to neutralize such waste, to recover energy or material resources from the waste, or to render such waste non-hazardous.

29.5 Improper Disposal - The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into the environment.

29.6 Temporary Storage - The holding of a hazardous waste for a period less than 90 days, at the end of which the hazardous waste is properly disposed of.

29.7 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.

29.8 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.

29.9 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.

29.10 DISPOSAL

- Sufficient containers and scrap disposal area should be allocated.
- All scrap bin and containers should be conveniently located.



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- Provide self-closing containers for flammable/spontaneously combustible material.
- Keep drainage channels free from choking.
- Make schedule for collection and disposal of waste.

29.11 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.

30.0 WORK VEHICLES (Limited to contractual provision)

Work vehicle shall be as safe stable efficient and roadworthy as private vehicles on public roads. Site management shall ensure that drivers are minimum 18 years of age, physically fit, suitably qualified and trained for the equipment they are operating. 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.
- Equipped with backup alarms.
- 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

30.1 TRANSPORTATION OF PERSONNEL AND MATERIALS BY VEHICLES

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

31.0 EMERGENCY PREPAREDNESS AND RESPONSE Preferably to be maintained jointly by all stake-holders in the project) (A separate document titled “Emergency Preparedness and Response Plan bearing document no HSEP:EPRP:MAITREE is to be read along with this plan)Emergency preparedness and response plan requirements are to protect worker life and health, and to safeguard property used and stored on the project. This plan



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is prepared in anticipation of an emergency to prevent losses to any Incident. This plan describes how the organization identifies, respond to and review emergency situations.

This plan covers fire, medical and other environmental incidents. It aims at controlling the emergency and generally mitigating the adverse effects of a major Incident. This plan is applicable to all activities carried at all BHEL project sites. Determination of hazard potential and identification and assessment of hazards is the first part in emergency planning. This requires systematic study of the site / plant to identify emergencies that can occur.

31.1 Definition:

A major emergency can be defined as an Incident that has potential to cause serious injury or loss of life. It may cause extensive property damage and adversely affect the environment as a whole.

31.2 Emergency scenarios and General Guidelines:

Various scenarios that are anticipated to cause emergency at BGRESL site are discussed in brief along with guidelines.

- **Personal injuries:**

In spite of putting best efforts some technical failure or human error may lead to personal injury at site.

Guidelines are given below when personnel injuries happen:

- Contact medical center over phone/cell/radio;
- Contact security control room over phone/cell/radio;
- Contact HR/Admin department over phone/cell/radio;
- Tell your location nature of injury or near miss incident;
- Inform site safety department;
- Provide First Aid treatment if properly trained person is available, otherwise take the injured person to Medical center if practical; or
- Stay with the injured person until medical assistant arrives.

- **In case of fire:**

- Shout "fire fire";
- Inform the persons nearby. Contact Fire Center and give your location and other details as warranted and act very calmly and swiftly. Then contact security and safety department once in a safe location;
- Try to put out the fire by using available portable fire extinguisher if trained and fire is in incipient stage only, otherwise let firefighting personnel tend to it;
- Do not make any attempt to collect your belonging;
- Get out and away from the area immediately and walk do not run. Follow shortest escape route and assemble at assembly point; and
- Under no circumstance put your precious life at risk.

- Mishaps involving failures of crane, structures, equipment and vehicular incidents, etc., can also lead to an Emergency situation on construction sites. Guidelines for actions to be taken in case of such situations are as:

- Inform immediate authority and also inform security and safety departments.
- Try to assist in rescue personnel involved only if safe to do so;
- Cordon off the area to prevent entry of personnel in affected area;
- Security shall ensure movement in affected area in coordination with Section/Site In-charge.



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- Fire/Security service departments responding to affected area to contain and control the situation;
- All other personnel not involved in mitigation operation shall be directed to assembly point; and
- Contractor/ sub-contractor management shall ensure that their workmen are away from emergency site, not gathering around location of emergency.

- Toxic leakage from nearby live units can also lead to emergency situation at construction site. Guidelines for actions to be taken are as:
 - Inform immediate authority and also inform security and safety departments;
 - Evacuate all the personnel from the area immediately depending upon the wind direction to safest assembly point;
 - Call for help from fire and medical by phone/Cell/radio;
 - Arrange transport for any victims to medical Centre; and
 - Do not panic, act swiftly, do not run and proceed as per advice of emergency services.

- Bomb threat, sabotage, riot etc., also may lead to emergency situation at construction site. Such situation shall be dealt by HR/Admin and security department with the advice of Site In-charge.
 - Notification to the owner and authorizes to follow immediately.

- Natural calamities like earthquake, cyclone, and flood like situation can also lead to emergency situation at construction site. Site In-charge will act with required diligent and directive received from Concerned State Government, Corporate office and Owner.

- High Angle rescue -
 - First arrival. The first arriving HSE Officer should assume command after arriving on the scene;
 - HSE Officer should secure a witness as soon as possible after arriving on scene. This will help in identifying the problem and locating the victim;
 - Locate the victim to determine nature of injuries if any and report to Medical for response as needed.
 - Administer first aid to the victim as necessary;
 - Resuce team to use proper rescue kit / equipment to reach the victim;
 - Personnel manbasket or arial lift may be used to reach the vitim if applicable;
 - Assess the hazards. HSE Officer to identify all potential hazards and assist rescuers.
 - The HSE Officer will be responsible for securing those hazards or making all members aware of those hazards.
 - HSE Officer shall be made aware of the specific emergency action plans once the emergency response team arrives.
 - The HSE Officer shall also be responsible for assuring that all safety procedures are adhered to.

31.3 Communication system

An important key to effective emergency response is an effective communication system. At BHEL, site telephone, mobile and radios will be used for communication during emergency.

- Whosoever is observing any emergency shall inform about emergency to:
 - HR/Admin department
 - HSE-Head /Officers /
 - Medical and Security department
 - Fire department,



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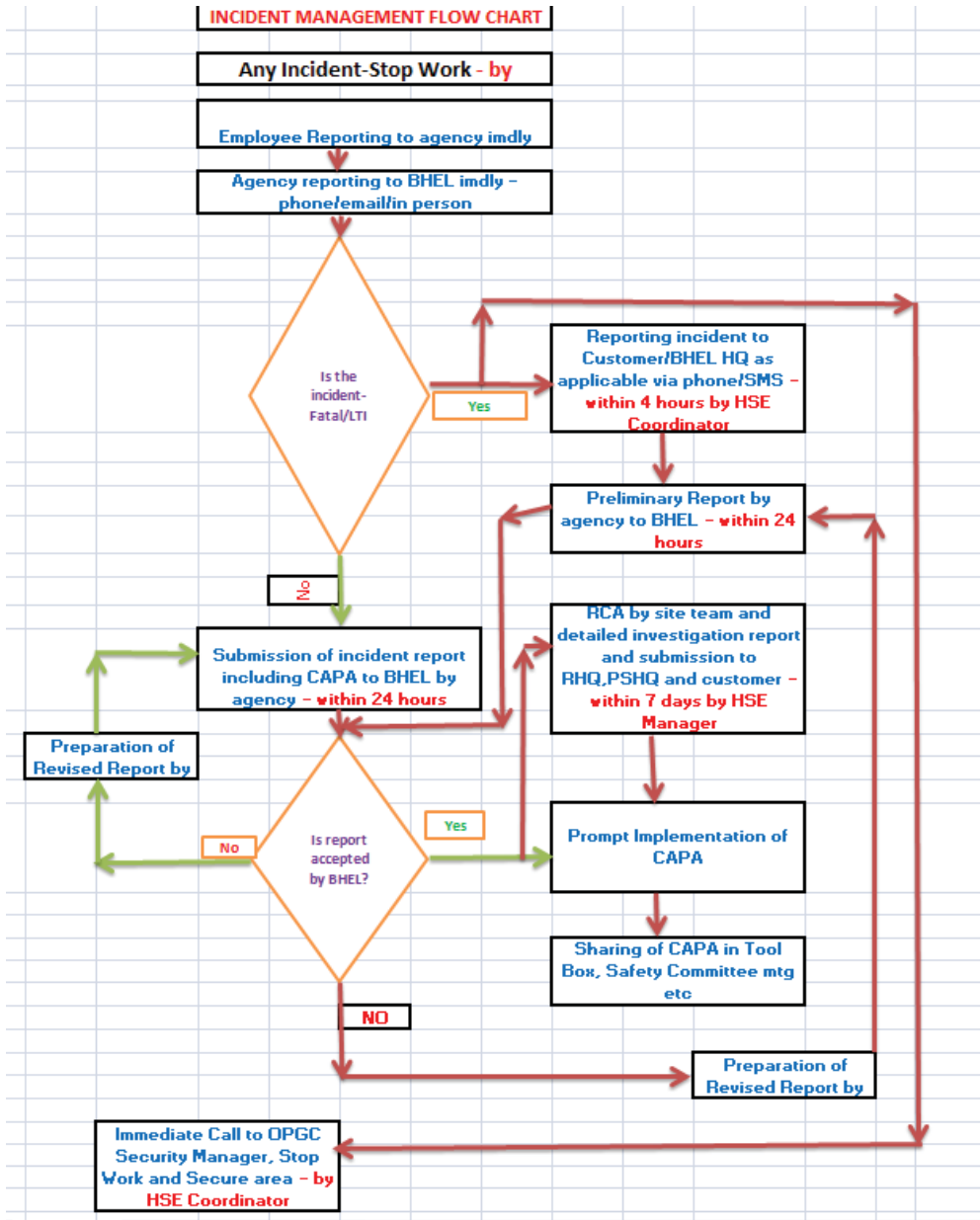
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o BHEL Site/Section In-charge

- BHEL Section In-charge will confirm the information with emergency services and also inform the Regional Manager as well as sub-contractors Site In-charge.

31.4 Communication matrix shall be as:





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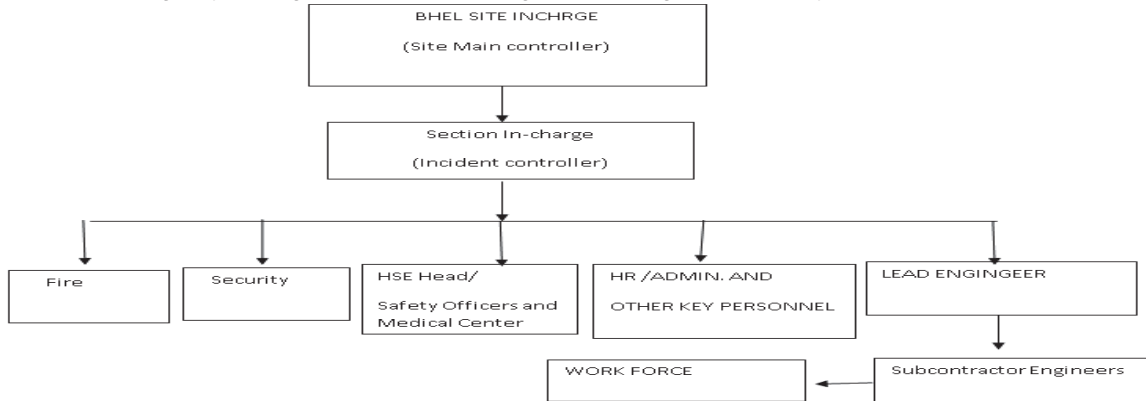
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31.5 Emergency Organization -

An emergency organization establishment is based on nature of emergency at BHEL site. The matrix for the Emergency Management Team showing the reporting of various key members is as:



31.6 List of Key Personnel -

Sl. No.	Name	Designation	Telephone Number	Mobile number

31.7 Emergency Control Center -

For the coordination with emergency situations at BHEL site Site In-charge office shall operate as an Emergency Control Room. Site Main Controller (Site In-charge) will coordinate from this Emergency Control Room. Control Room shall be equipped with all necessary communication devises necessary to manage particular emergencies.

31.8 Emergency Drills -

The site HSE Manager and Emergency and Rescue Teams must participate in regular emergency drills of various types. The intervals between such drills must not exceed three months. The records of the drills must be prepared and kept on site for review by the Owner and site Management. The records must be reviewed during regularly scheduled project HSE Committee meetings.

- After each drill, a formal, documented debriefing must be conducted to discuss areas of improvement and an Action Plan developed with Responsible Person and Anticipated Completion Dates describing improvements to be implemented.



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31.9 Roles & Responsibility -

Responsibility of Site In-charge (Site Main Controller):

- Immediately on receiving message regarding emergency will proceed to their cabin and fill their role as Main Controller and activate the Emergency Control Room and Emergency Management Team.
- Take strategic and technical decisions in line with the incident scenario to mitigate the cause of emergency.
- Provide leadership and guidance to the Emergency Management Team.
- As soon an emergency call is received they shall inform respective Section In-charge.
- Call for available resources Fire, Medical, Security as needed based on emergency situation.
- Stay in contact with Section In-charge for coordination efforts of resources and evacuation of personnel.
- Ensure head count is conducted and received.
- Notify Owner representative of situation and plan.

Responsibility of Section In-charge (Area Controller):

- If not at the location, once notified of an emergency will proceed to the area and act as an incident controller if safe or as appropriate based on the nature of emergency.
- Will be overall in-charge of the area situation in consultation with emergency responding offices and mobilized resources in coordination with Main Controller.
- Will assess the situation and take necessary action to control the emergency and give necessary instruction to site personnel as necessary and appropriate.
- Will evaluate if fire emergency and attempt to extinguish if safe and in incipient stage and assist injured as applicable.
- Shall instruct the sub-contractors and ensure that all non-essential employees are moved to safe assembly point and organize head count.
- Ensure safe exvacuation of site personnel to safe assembly point in coordination with Main Controller.
- Shall keep in contact with Main Controller keep them informed about site situation and seek directives for mitigation of emergency.
- Communicate with shift Fire Officer of fire condition and rescue measures.
- Communicate with shift Security Officer assist in barricading the affected area.
- Communicate with shift Medical for transporting of casualties, if any.

Fire officer /shift Fire in charge:

- Respond to the emergency call with fire crew in first turn out. Report to Incident controller at site of emergency.
- Decide line of control action in consultation with Section In-charge/Incident Controller for firefighting and other control actions including evacuation of trapped personnel.
- Deploy auxiliary fire squad for assisting fire crew.
- Ensure safety of the crew members
- Keep in constant contact with Emergency Control Room and Team.

Security officer / In charge:



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- Instruct and deploy security personnel at security posts/gates and around the affected area.
- Communicate with the auxiliary fire squad at emergency site immediately on receiving emergency call to ensure their mobilization.
- Cordon off the affected area and guide traffic /emergency vehicles and manage crowd control by dispersing unnecessary persons from the area.
- Ensure vigilance at security posts /gates and be in contact with area manager and other members connected with firefighting or rescue operation.
- Mobilize for evacuation of personnel to safe locations/assemble point.

Medical Center:

- Upon receiving notification of an emergency, anticipate the casualties and prepare accordingly as per medical response plan. Inform Medical Staff and nearest Hospital in advance.
- Dispatch ambulance to incident site along with necessary staff.
- Provide medical treatment/first aid as necessary.

HR/Admin and HSE Teams:

- Coordinate with Main Controller and all other Emergency Management Team members and Government agencies as per requirement.
- Identify appropriate Assembly Points at project site, provide directions and marked areas clearly.
- Assist with arrangement of necessary PPE and use of.
- Support the Emergency Management Team as directed and/or necessary based on situation.

31.10 General Requirements:

- Emergency preparedness and response capability of site shall be developed as per Emergency Preparedness and Response plan issued by Regional HQ
- Availability of adequate number of first aiders and fire warden shall be ensured with BHEL and its sub-contractors
- Assembly point shall be earmarked and access to the same from different location shall be shown in consultation with the owner
- 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 center shall be developed at site with trained medical personnel and ambulance
- Emergency contact numbers (format given in EPRP) of the site shall be displayed at prominent locations.
- Tie up with fire brigade shall be done in case customer is not having fire station.
- Tie up with hospital shall be done in case customer is not having hospital.
- Emergency Organization group shall be formed at site.
- Mock drill shall be conducted on different emergencies periodically (every three months) to find out gaps in emergency preparedness and taking necessary corrective action



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31.11 WEATHER SEVERITY PLAN

A. OBJECTIVE AND SCOPE:

considering the over all monsoon and wind speed in the area the emergencies like cyclone and flood shall be considered from safety point of view during project work.

Warning/alerts issued by Bangladesh Meteorological department shall be acted upon by appropriate measures. These alerts are mostly conveyed to District Administration which in turn passes on to the owner of the project i.e. BIFPCL in this case. BIFPCL shall convey such alert to contractors. and coordinate appropriate response. Such alert is transmitted over Radio and TV channels also. However, contractors shall also remain alert to w3eather conditions and share with BHEL and fellow contractors any input received. Contractors shall actively participate in the Emergency Response activities

This safety plan provides procedure to be followed during emergency due to flood and cyclone for the period of entire project work with respect:

- To give clear guidance as to the actions that must be implemented.
- To inform employees what to do in an Emergency Scenario.
- To establish an emergency response and communications procedure.

B. RESPONSIBILITIES

RCM or his assignee shall coordinate with various departments in charge and supervisors, who will execute the alert procedures in their assigned areas. The coordination shall be in line with directives received from the Client/consultants.

C. CYCLONE

In the event of CYCLONE, alert warning is in three parts. The alert will be issued by BHEL Site Manager.

The actions required during cyclone/Rough Weather:

- Check and assist subcontractors in cleanup. Pick up all loose and unused material of respective supervisor's area
- Check tie-down arrangement is proper for all temporary structure, cranes and tall objects etc.
- Tie to secure all gas cylinders to avoid displacement and unsafe conditions which could be due to wind pressure.
- Secure portable electricity generating sets and other equipments, pumps, hoses etc.
- Make preparation for removal of water logging.
- Take review of work activity and make preparation for removal of equipments and material from all areas.
- Isolate/Turn off all electrical power from the main panel/switches. Secure and anchor panels properly.
- Recheck anchorage/tie of all temporary structures/sheds, tall objects, cranes, rigs, scaffolds etc to avoid toppling due to wind force.
- Cranes boom shall be either locked or lowered the booms as reasonably & practicably and rigs to safe position for the safety point of view.
- Group up all trash barrels, wooden pallets, forms; wooden decks etc. and anchor properly.
- Welding machines, air compressors, and such equipments are to be grouped together and secured to the stable objects. Welding leads, electrical cables, hoses are to be rolled up and secured properly.
- Set on site vehicles on high ground in the site area with brakes set firmly.
- Anchor all tanks, vessels, gas cylinders that may be moved by high wind and water.



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- Evacuate job site.

D. PERSONNEL EVACUATION:

Personnel Evacuation will be required if predicted wind speed and storm surge heights are beyond acceptable limits as per the guidelines of BHEL management.

Special cyclone shelter shall be arranged in consultation with BHEL management. This shelter shall be equipped with first aid kit and emergency kit containing torch, sufficient batteries, jackets, emergency treatment manual. The map of escape routes and other site specific instructions of emergency situations shall be prominently displayed in the shelter.

Once the warning received from Client/Consultant, the emergency response team shall evacuate and transport all personnel involved in the project to the cyclone shelter.

Cyclone may followed by the calm "EYE" be aware of it. If the wind suddenly drops, don't assume the cyclone is over. Violent wind may resume from the opposite side direction. Wait for the official "All clear Signal".

After the cyclone do not go outside until officially communicated about safe situation outside. Use recommended routs for returning. Do not panic or rush while returning.

Checking of gas leaks and wellbeing of electrical appliances is essential before leaving the site.

Listen to local radio for official warning and advice. The site manager shall also obtain updates from client/consultants/metrological departments and communicate to the personnel on project site.

E. MONSOON:

During monsoon following precautions needs to be considered.

- **Excavation:** Inspect all excavations and protect from collapsing or subsidence. Clear all excavated material.
- **Storm water drains:** Check all storm water drains ahead of monsoon for any blockage etc. Identify way for draining out water collected in the site. If required, temporary drains should be prepared for draining out accumulated water in site. The sufficient number of dewatering pumps should be available for the purpose and logged water shall be pumped to nearest drain by dewatering pumps.
- **Access Routes:** Identify access routes to the site in case of flood. Sand should be available to spread over slippery surface.
- **Electrical Supply:** Beforehand check earthing of electrical panels and electrical cables for joints, cracks, insulation failure etc. Keep additional stock of electrical cables and plug tops for replacement of damaged one or to energize dewatering pumps. Do not keep electrical cables/welding cables on the ground but route them above head level. Do not use welding / DB sheds as shelters. All electrical equipment shall be equipped with ELCBs/RCCBs.
- **Power Cable route demarking:** cable rout shall be demarked by either by temporary or permanent.
- **Scaffolding:** Check all scaffolds for stability after heavy rain/storm.



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- **Work restrictions:** Do not perform any height work, electrical work and rigging activities during rain. Lower the crane boom to avoid striking of lightning.
- **Vehicular movement:** Instruct the vehicle operators about following safety precautions during monsoon in daily tool box meeting, Slippery surface and road conditions, Speed limit, Wind shield wiper, Fog light, break condition is proper, break light is in proper condition & functioning. Not to take vehicle in loose soil.
 - **Lightening protection:** Boiler structure shall be facilitated with thunder protecting equipment.
 - **Workmen shed construction:** workmen rest shed shall be constructed in robust way. RCC pillar shall be used instead of brick pillar. It shall be facilitated with lightning arrestor as per site resource. However if the rest room is nearby high mast light. Lighting arrestor may or may not be provided.
 - **Field Training Programme on Lightening/Thunder: Dos or Dos not.**

F. SAFETY PRECAUTIONS FOR SNAKE MENACE:

Preventive Measures –

- ③ Remove vegetations around the site
- ③ Pour Carbolic acid around site boundaries in regular intervals to keep away poisonous snakes. . In summer and rainy season, frequency will be once a month and in other seasons, it will be once a quarter. It may be noted that as the location of the project is on a sand bed, there is almost no wild growths. Hence, Snake menace may not of significant severity and scale.

Precautions to avoid snake bite –

- ③ Avoid stepping out in the dark, especially during monsoon without safety shoes and torch.
- ③ Before wearing shoes, check inside the shoes for any snake/insect hiding inside. Similarly before lifting any material with hand lying on ground for long time, look for snake/insect handling inside. Wear leather hand gloves. Always check inside gunny bags, cartons, boxes before putting your hand in side or lifting them.
- ③ Be aware of your surroundings at all time. Never sit or step over obstacles without looking carefully. Never go near bushes for natural calls.
- ③ Don't chase snakes as they become aggressive. Never try to hit a snake or try to catch it, where there is one, there are likely others.
- ③ Never handle a snake, even if you think it is dead.

Symptoms of Snake Bite –

- ③ A pair of punctured mark, severe pain, Redness & swelling around bitten area
- ③ Victim gets nausea, vomiting sensation, sweating, disturbed breathing and increased salivation.

Actions required in case of snake bite –

- ③ Reassure the victim
- ③ Immobilize the bitten body part without compression.
- ③ Get the patient to hospital as fast as safely possible



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- ③ Tell the doctor any of the symptoms appearing on the way to the hospital.

Snakebite Emergency: DO's and DON'Ts

Do's:

- ③ Avoid yourself and victim from the risk of second bite.
- ③ Remove tight clothing, shoes, watch or ring near bitten area before swelling starts. Calm the victim. Tell victim that virtually all snakebites are successfully treated. Panic can increase the danger to the victim by inducing rapid heartbeat.
- ③ Clean / disinfect bite area thoroughly, apply hard direct pressure with gauze pad over bite area, soak gauze pad with Betadine if possible before application and strap pad tightly in place with adhesive tape
- ③ Wrap affected extremity with 2" – 3" elastic bandaging as tightly as one would for sprain, keep the affected extremity positioned at or as close to heart level as possible and immobilize affected extremity; use a splint if possible.
- ③ Get medical attention as soon as possible
- ③ Ensure the availability of anti venom serum in the hospital.

Don'ts:

- ③ Do not bleed the wound, cut or increase bite marks or put ice on the bite
- ③ Do not eat or drink anything and engage in strenuous physical activity
- ③ Do not apply oral suction to bite
- ③ Do not take alcoholic beverage or any self medication
- ③ Do not apply cold / hot packs or burn wound
- ③ Do not delay seeking medical attention
- ③ Do not remove dressings/elastic wrap until at hospital

G. EMERGENCY CONTACT LIST:

Following emergency contact numbers shall be available / displayed at site and updated regularly.

Emergency Contact Numbers

(Contact numbers to be filled by Site Management)

Client	
	Project Manager
	Plant Safety Manager
	OPGC Fire Services
	Medical and Ambulance Services
	ADMIN-OPGC
	Security- OPGC



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BHEL		
	RCM	
	Safety Manager	
	HSE COORDINATOR	
	HR-ADMIN	
SUB-CONTRACTOR		
	RCM	
	Project Manager	
	Safety Manager	
	Ambulance	
	HR-ADMIN	
Emergency Services		
	Near Hospital	
	Near Fire Station	
	Ambulance Service	
	Police Station	

32.0 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.

32.1 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:



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- 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.

32.2 INSPECTION OF PPE

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

32.3 INSPECTION OF T&Ps

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

32.4 INSPECTION OF CRANES AND WINCHES

- Cranes and winches shall be inspected by the operator through a daily checklist for its safe condition (as provided by the equipment manufacturer) before first use of the day.
- Cranes and Winches shall be inspected by HSE officer once in a month as per format no. HSEP:14-F09 for healthiness, maintenance and validity of third party inspection.
- The date of third party inspection and next due date shall be painted on cranes and winches.
- The operators/drivers shall be authorized by sub-contractor based on their competency and experience and shall carry the I-card.

32.5 INSPECTION ON HEIGHT WORKING

- Inspection on height working shall be conducted daily by supervisors before start of work to ensure safe working condition including provision of
 - Fall arrestor
 - Lifelines
 - Safety nets
 - Fencing and barricading
 - Warning signage
 - Covering of opening
 - Proper scaffolding with access and egress.
 - Illumination
- Inspection on height working shall be conducted once in a week by HSE officer as per format no. HSEP:14-F10



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- Medical fitness of height worker shall be ensured.
- Height working shall not be allowed during adverse weather.

32.6 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. HSEP:14-F11.
- Use of fire blanket to be ensured to avoid falling of splatters during welding or gas cutting operation at height.
- Availability of fire extinguisher at vicinity shall be ensured.

32.7 INSPECTION ON ELECTRICAL INSTALLATION / APPLIANCES

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

32.8 INSPECTION OF ELEVATOR

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

33.0 HSE PERFORMANCE EVALUATION:

HSE performance of the subcontractor shall be monitored as per the following parameters: (For each contract-wise package). PERIODICITY: RA Bill period

Sl. No.	Parameters of measurement	Ref Clauses	Weightage	Actual
1	Availability of safety officers at site – absence up to 15% permissible. Score proportionately gets reduced with higher rate of absence. Availability to be reckoned from start date of manpower mobilisation	7.0,7.1	10	
2	Attendance by the safety officer and site CM (as applicable) in the meeting convened by BHEL	7.2.1 and 7.2.2	5	
3	Level of compliance w.r.t decisions taken in previous meetings/audit/inspection/as reported.	32.0,35.0,36.0	5	
4	Timely submission of monthly report on safety in the prescribed format		3	
5	Timely reporting any incident including near-miss to BHEL /Customer/statutory authority(if required) and submission of investigation report of all LTIs/ Major Property Loss incident and HSE events	10.0	10	



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6	Degree of PPE compliance, Fall protection arrangements and safety net coverage	8.3, 19.2,19.3	15	
7	Level of compliance w.r.t safety rules	11.0 to 26.0	25	
8	Availability of proper first-aid facility , ambulance, hygienic labour colony and other adequate labor welfare initiatives, conducting of health check-up as per BOCW requirements	8.4	6	
9	Conducting induction training ,skill training, tool box meeting, mock-drills, HSE Promotion, Emergency Preparedness and Response. Participation in BHEL training also counted	9.0, 31.0	6	
10	Level of House-keeping, Environmental Control	27.0, 28.0, 29.0	10	
11	Level of general illumination	8.4.11	5	
A	TOTAL Obtained		100	

Penalty score:

- i. For each fatality: -10
- ii. For each Major Incident: -07

NET TOTAL score will be arrived after deducting penalty score from Total score.

33.1 HSE PENALTIES/ REWARDS (Performance Related)

- 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 safety record of the subcontractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the subcontractor may be considered by BHEL after completion of the job.

33.2 PENALTIES AGAINST SPECIFIC NON-COMPLIANCE WITH HSE RULES/ INCIDENTS: (To be operated in addition to any other deduction on unsatisfactory HSE performance under relevant clause in the contract)

S. No	Nature of Non - Compliance	Penalty in Rs.	Remarks
1.	Not wearing safety helmet/ safety shoes/ welding shield	250	Per lapse/ Person/ day
2.	Not wearing double lanyard full body harness while working at height (> 2 metres)or not anchoring to lifeline/ not providing fall arrestor/ safety net Using defective or non-standard or uninspected scaffolding/ scaffolding not properly supported Using defective ladders/ drums for work at height	1000	Per Person/ lapse/day or per lapse/day
3.	Not wearing gloves/ goggle/earplug/nose mask/ apron	250	Per lapse/ Person/ day
4.	Not using 24 V supply for lighting in confined spaces	500	Per occasion



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5.	Improper earthing of welding & Other electrical machines and DBs/ no ELCB/ no rubber mat/ not properly covered/ person without valid wireman license/ no Tag in-Tag out	500	Per lapse/ Machine
6.	Electrical plug not used for connection/ loose insertion	200	Per connection
7.	Using damaged slings or not slinging properly/ damaged hooks/ slings without any identification mark/	1000	Per event Per T&P
8.	Use of lifting equipments including cage or man-basket without having valid Test certificate / without SLI display	5000	Per equipment
9.	Using frayed/ broken welding cables / not using double insulation electrical cable	500	Per machine
10.	Non removal of scrap from work areas and shift to scrap yard/ not providing bins/ improper house keeping	1000	Per location
11.	Lifting cylinders without cage or rolling of cylinders	500	Per occasion
12.	Gas cutting without flash back arrestor at both ends	200	Per machine
13.	Gas cutting at height without sheet below/ barricade at level below (Spark falling from height)	500	Per event
14.	Not having valid driving license for the type of vehicle/ T&P/operator identification card/ rash driving or operation/ not having safety devices like reverse horn & light/ overload switch	500	Per driver / operator
15.	Not providing proper barricades / signage/ unauthorized excavation or barricading	500	Per location per day
16.	Not keeping filled gas cylinders vertically/ mix-up of cylinders/ using broken or damaged manifold/ using domestic LPG cylinder	500	Per occasion
17.	Activity carried out without valid safety work permit	1000	Per occasion
18.	Not carrying out mandatory health check up/ not maintaining First aid box/ centre properly	1000	Per occasion
19.	Non reporting of incident in time / completion of CAPA in time	1000	Per occasion
20.	Non-display of emergency numbers/ non-availability of sufficient fire-extinguishers/ insufficient display of safety posters/ insufficient initiative for safety promotion like TBM	1000	Per occasion



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- If principal customer or statutory and regulatory bodies impose penalty on ground of statutory non-compliance or non-compliance of HSE rules by the subcontractor or any incident of any nature including fatality or permanent disability, the same shall be passed on to the subcontractor with appropriate overhead
- The penalty amount shall be recovered from subcontractors from the RA Bill, otherwise Final bill.
- The list of non-compliances is not exhaustive. The site CM has liberty to impose a penalty for any other non-compliance and incidents of any nature including fatality and permanent disability.

340 OTHER REQUIREMENTS

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



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35.0 HSE AUDIT/INSPECTION

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

36.0 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 CAPA
 - HSE training
 - Health check-up camp
 - HSE planning for the erection and commissioning and installation activities in the coming month
 - HSE reward and promotional activities
- The meeting shall be chaired by Construction Manager, convened by HSE coordinator and attended by all HOS, Site In charge of Subcontractors and HSE officer of Subcontractors. MOM on the discussion will be circulated to the concerned for implementation.

37.0 FORMATS USED (Details available in Annexure-04) (subject to revisions any time during the contract)

SL. No.	Format Name	Format No.	Rev No.
01	Inspection of First Aid Box	HSEP:14-F01:MAITREE	00
02	Health Check Up	FORM-26	00
03	HSE Induction Training	HSEP:14-F03	00
04	Tool Box Talk	HSEP:14-F04	00
05	MONTHLY HSE REPORT AND HSE INDICES	HSEP:14-F05	00
06	Inspection of PPE	HSEP:14-F06	00



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07	Inspection of T&Ps	HSEP:14-F07	00
08	Status of T&Ps	FORM-24	00
09	Inspection of Cranes and Winches	HSEP:14-F09	00
10	Inspection on Height Working	HSEP:14-F10	00
11	Inspection on Welding & Gas Cutting	HSEP:14-F11	00
12	Inspection on Electrical Installation	HSEP:14-F12	00
13	Inspection on Elevator	HSEP:14-F13	00
14	Hse Performance and Penalty	HSEP:14-F14	00
15	incident / property damage /fire incident report	HSEP:14-F15	00
16	Crane operators Identification cum Authorization	HSEP:14-F16	
17	List of T&P	FORM-24	00
18	WORK PERMIT- EXCAVATION (DEEP)	HSEP:14-F18	00
19	WORK PERMIT- RADIATION	HSEP:14-F19	00
20	WORK PERMIT- CONFINED SPACE	HSEP:14-F20	00
21	WORK PERMIT- WORK-AT-HEIGHT (ABOVE 1.8M)	HSEP:14-F21	00



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36.0 ANNEXURES

ANNEXURE 01

As per Rule 76(2):

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

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

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

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



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ANNEXURE 02

HSE AUDIT/INSPECTION CHECKLIST CUM COMPLIANCE REPORT

PROJECT: _____

SUBCONTRACTOR: _____

DATE : _____

OWNER : _____

INSPECTION BY: _____

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

Item	Y e s	N o	Remarks	Action
HOUSEKEEPING				
Waste containers provided and used				
Passageways and walkways clear				
General neatness of working area				
Other				
PERSONNEL PROTECTIVE EQUIPMENTS				
Goggles; shields				
Face protection				
Hearing protection				
Respiratory masks etc.				
Safety belts				
Other				
EXCAVATIONS / OPENINGS				
Openings properly covered or barricaded				
Excavations shored				
Excavations barricaded				
Overnight lighting provided				
Other				
WELDING, CUTTING				
Gas cylinders chained upright				
Cable and hoses not obstructing				
Fire extinguisher (s) accessible				
Others				
SCAFFOLDING				
Fully decked platforms				
Guard and intermediate rails in place				
Toe boards in place				
Adequate shoring				
Adequate access				
Others				
LADDER				
Extension side rails 1 m above				
Top of landing				
Properly secured				
Angle $\pm 70^\circ$ from horizontal				



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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				



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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.				



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Date:

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EXCAVATION WORK PERMIT

Sl No:

- I. Name of the work:
- II. Name of Contractor:
- III. Exact location of work and item for excavation:
- IV. Duration of work: From _____ to _____
- V. Type of excavation: Manual/ by Excavator
- VI. Dimension of excavation:

The following items have been checked and compliance shall be ensured during the currency of the permit:

item	Done
1. Checked for underground pipe/power cable	
2. Proper illumination provided (for night work)	
3. Plan/drawing available and checked (sloping, shoring provided). Safety of any adjacent structure taken care of.	
4. Access/Egress ensured (in case of manual)	
5. Equipment operator skill checked	



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6. Area cordoned off, signage put up

7. Appropriate PPEs provided

The following persons are permitted to work for the duration mentioned herein:

Date		No of persons allowed	Time Duration	
From	To		From	To

List of persons to be maintained by contractor separately

Sign of Initiator (Sub-contractor)

Sign of Recommender

Sign of Approver

Work completed/stopped/area cleared at _____ on ____

The permit stands closed on _____

Sign of BHEL HSE team



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RADIATION WORK PERMIT

Sl No:

- I. Name of the work:
- II. Name of Contractor:
- III. Exact location of work and item for radiography:
- IV. Duration of work: From _____ to _____
- V. Name of Radiography agency and its authorised supervisor:

The following items have been checked and compliance shall be ensured during the currency of the permit:

item	Done
1. Safety regulations as per BARC/AERB ensured while source in use/transit/stores	
2. Proper illumination provided	
3. Area cordoned off	
4. Appropriate PPEs provided	



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The following persons are permitted to work for the duration mentioned herein:

Date		No of persons allowed	Time Duration	
From	To		From	To

List of persons to be maintained by contractor separately

Sign of Initiator (Sub-contractor)

Sign of Recommender

Sign of Approver

Work completed/stopped/area cleared at _____ on ____

The permit stands closed on _____

Sign of BHEL HSE team



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CONFINED SPACE WORK PERMIT

Sl No:

I. Name of the work:

II. Name of Contractor:

III. Exact location of work:

1. Condition check of target space:

Condition	Y/N	NR
8. Isolated from air/ water/ steam/ gas/ power/radiation source		
9. Thoroughly cleaned/washed		
10. Adequately cooled		
11. Proper illumination provided		
12. Manways open & ventilated		

2. Protection measures:

Measure	Y/N	NR
1. Handlamp is of 24V		
2. Operators wearing recommended PPEs- gloves/ clothing/ear plug/ muff/ safety harness/lifeline/ goggles /face shield		



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3. Operators wearing special devices –
dust/gas/airline mask, communication equipment,
personal gas alarm

4. Attendant with SCBA/Air mask

5. Rescue equipment/ team deployed

6. Fire fighting equipment close-by

The following persons are permitted to enter the confined space to work for the duration mentioned herein:

Date(s)	No of persons allowed	Name of persons allowed	Duration	
			From	To

Sign of Initiator (Sub-contractor)

Sign of Recommender

Sign of Approver

Work completed/stopped/area cleared at _____ on _____

The permit stands closed on _____

Sign of BHEL HSE team



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WORK-AT-HEIGHT PERMIT

Sl No:

- I. **Name of the work:**
- II. **Name of Contractor:**
- III. **Exact location of work:**

Sl.	Description of the point to be checked	Pl tick (✓) if it is OK
1.	Whether the manpower of the Gang engaged is having adequate number and skill required for the said activity?	
2.	Whether Supervisor has been engaged for this activity?	
3.	Whether following PPEs have been provided to all workers? Full body Harness, Safety Shoe, Helmet	
4.	Whether Lifelines tied with solid anchorage above 1 M level from the job?	
5.	Whether Tool-Box meeting carried out and Hazard related to the said job and safety precaution to be taken told to workers?	
6.	Whether Fall arrestor fixed where staircase is not available for access to job?	
7.	Whether Scaffold/Platform/Place for job is strong enough, has easy access and is safe for the job? Is the Space sufficient for doing work? Whether Safety Net has been fixed?	
8.	Whether all Lifting T&Ps and Tackles have valid Fitness Certificates? Whether Lubrication is Ok? Whether these are free from any defect when visually checked before use?	
9.	Pl ensure that none of the workers of the Gang has Vertigo or High or Very Low Blood Pressure. (Health register to be referred)	



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The following persons are permitted to work for the duration mentioned herein:

Date		No of persons allowed	Time Duration	
From	To		From	To

List of persons to be maintained by contractor separately

Sign of Initiator (Sub-contractor)

Sign of Recommender

Sign of Approver

Work completed/stopped/area cleared at _____ on ____

The permit stands closed on _____

Sign of BHEL HSE team



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**Bharat Heavy Electricals Limited
Power Sector Eastern Region**

INCIDENT (PERSONAL INJURY / PROPERTY DAMAGE) REPORT

(This report is to be sent within 24 hours directly to GM/Q &S/PS-HQ, , Noida with copy to MR(HSE)/PSE in respect of all incidents in addition to immediate Fax / Telegraphic intimation of fatalities and major damages including fires.)

1	NAME OF SITE		3	ACTIVITY AREA	
2	SCOPE OF WORK		4	NAME OF CONTRACTOR	
			5	NAME & DESIGNATION OF BHEL ACTIVITY I/C	
6	DATE & TIME OF INCIDENT		7	DATE RESUMED	
8	NO. OF WORK-DAYS LOST BY VICTIM (If duty not resumed, give estimated figure)				
9	NO. OF MANHOURS LOST BY OTHERS				
10	PERSONAL DETAILS OF INJURED AND / OR DETAILS OF MATERIALS / EQUIPMENT / PROPERTY DAMAGED				
	NAME		NAME OF MATERIAL / EQUIPMENT / PROPERTY		
	PERIOD OF EMPLOYMENT				
	AGE	YRS	SEX	MALE/ FEMALE	ESTIMATED COST
	MARITAL STATUS		SINGLE / MARRIED		ACTUAL COST
	OCCUPATION		NATURE OF DAMAGE		
	PART OF BODY INJURED				
	NATURE OF INJURY				
	AGENCY (OBJECT / EQUIPMENT / SUBSTANCE) MOST RESPONSIBLE FOR CAUSING INCIDENT / INJURY / DAMAGE				
12	PERSON (NAME & DESIGNATION) WITH MOST CONTROL OVER AGENCY (OBJECT / EQUIPMENT / SUBSTANCE) CAUSING INCIDENT INJURY / DAMAGE				
13	DESCRIBE CLEARLY HOW THE INCIDENT OCCURRED AND IF THE VICTIM WAS WEARING THE APPROPRIATE PPEs. (USE ADD SHEET, IF REQUIRED).				



**HEALTH, SAFETY AND ENVIRONMENT
PLAN FOR SITE SUB-CONTRACTORS
(MAITREE PROJECT)**

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POWER SECTOR-EASTERN REGION

ANALYSIS

14	WHAT ACTS AND / OR CONDITIONS CONTRIBUTED MOST DIRECTLY TO THIS INCIDENT	
15	WHAT ARE THE BASIC REASON FOR THE EXISTENCE OF THESE ACTS AND / OR CONDITION ?	
16	WHAT CORRECTIVE ACTIONS HAVE BEEN TAKEN TO PREVENT INCIDENT RECURRENCE ?	
	DATE :	SIGNATURE OF SITE HSE COORDINATOR
17	COMMENTS OF HEAD / SOX	
	DATE:	SIGNATURE OF HEAD/SOX



**HEALTH, SAFETY AND ENVIRONMENT
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POWER SECTOR-EASTERN REGION



**BHARAT HEAVY ELECTRICALS LIMITED HSEP:13-F10
POWER SECTOR: EASTERN REGION**

INVESTIGATION REPORT FROM PROJECT SITE :

INCIDENT(FATAL/SERIOUS INJURY/PROPERTY DAMAGE/FIRE)

DATE :

Instructions

This report is to be sent within seven days to GM/Q&S/PS-HQ and RHQ Safety Department, in respect of incident requiring investigation by a committee.

Report date	Incident Date	Incident Time	Incident Type	
Name of Site :				
Scope of work :				
Name & Designation of BHEL Package I/C				
Name of Contractor :				
Incident Location :				
Victim(s) Information				
Name	Designation	Age	Sex	Address



**HEALTH, SAFETY AND ENVIRONMENT
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Witness Information

Name

Address

1 Describe, how the incident took place (Attach separate sheets, diagrams, and photographs, if possible.)

2 Description of Injury (Attach medical report as applicable)

3 Describe property and equipment damaged in the incident and extent of damage.

4 Describe any personal protective equipment used and other safety equipment that were in place.

5 Describe any perceived actual or possible safety violations in the area of incident.



**HEALTH, SAFETY AND ENVIRONMENT
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POWER SECTOR-EASTERN REGION

6 Describe events and conditions immediately before the incident.

7 Are these conditions still in existence?

8 Were any unsafe actions performed by the victim or by others or were any safety rules violated that caused/ contributed to the incident.

9 Describe steps taken to secure the area.



**HEALTH, SAFETY AND ENVIRONMENT
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POWER SECTOR-EASTERN REGION

10 Describe measures to be taken to prevent similar recurrences.

11 Any other information

Prepared by

Name

Designation

Signature

Date

Submitted to:

- 1 Construction Manager
- 2 RHQ: Safety Department
- 3 GM/Q&S/PS-HQ



**HEALTH, SAFETY AND ENVIRONMENT
PLAN FOR SITE SUB-CONTRACTORS
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POWER SECTOR-EASTERN REGION

RECORD OF REVISION

CLAUSE No.	Rev No.	Brief of Revision	Date
All	00	New plan introduced	05.04.17

TENDER NO: PSER:SCT:KLN-Q1973:19

VOLUME -III

PRICE SCHEDULE-REV-00

FOR

Providing services for development of safety culture and effective implementation of Health, Safety & Environment (HSE) at 2x660 MW Maitree STPP, Rampal, Bangladesh.

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVT. OF INDIA UNDERTAKING)

POWER SECTOR – EASTERN REGION

PLOT NO. – 9 / 1, DJ – BLOCK,

SECTOR – II, KARUNAMOYEE,

SALT LAKE CITY,

KOLKATA – 700091.

VOLUME-III PRICE SCHEDULE, REV-0	
Providing services for Development of Safety Culture and Effective Implementation of Health, Safety & Environment (HSE) at 2X660 MW Units, Maitree Super Thermal Power Project, Rampal, Bangladesh.	
Tender no : PSER:SCT:KLN-Q1973:19.	
PREAMBLE	
1	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully before filling in rates for various items. Clauses under this preamble shall be read in conjunction with Volume-IB, ID, IE , Volume – IF and other tender sections as applicable and shall have precedence over any contrary statement mentioned any where in this document.
2	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions. Drawings enclosed with the tender are only preliminary and for tender purposes and giving some idea of the work involved. The work is to be executed as per drawings & documents, which shall be furnished during execution.
3	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes(except service tax), transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the complete tender document and this schedule.
5	The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains, within fifteen percent ($\pm 15\%$) of the awarded price as per LOI .
6	Prior written approval of BHEL shall be sought by the contractor in case quantity variation of any item crosses +50% (plus fifty percent) limit during execution and approval to be obtained before execution of further quantity for this item.
7	In case Sealed /Paper Price Bids are opened for finalisation of the tender, for any Item Rate/BOQ based contract, possibility of variation of quantity/ addition/deletion of items can not be ruled out. Under such circumstances, after execution of work, if it is observed that standing as L-1 is changed based on actual quantity executed, the bidder shall give suitable rebate to maintain your standing as L-1. Since this aspect can be assessed at the end of execution, necessary adjustment will be effected at the end of execution in final bill.This condition shall not be applicable where the tender is finalised through Reverse Auction.
8	BHEL reserve the right to rationalize the rates, quoted by L-1 bidder against unit rate items and/ or other optional items with respect to item-wise lowest rates (amongst the participating bidders), before placement of order.
9	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing , clearing of old structures and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same.However, if separate rate for such item is available in the rate schedule, the same shall be considered.
10	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.
11	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted as per BHEL approved payment schedule/billing break-up.
12	The tender shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
13	No splitting of the job is envisaged. Decision of BHEL in this regard shall be final and binding to the bidders.

VOLUME-III PRICE SCHEDULE, REV-0	
Providing services for Development of Safety Culture and Effective Implementation of Health, Safety & Environment (HSE) at 2X660 MW Units, Maitree Super Thermal Power Project, Rampal, Bangladesh.	
Tender no : PSER:SCT:KLN-Q1973:19.	
PREAMBLE	
14	Bidders are not allowed to alter the Price Schedule format including item description, quantity etc. and the offer is liable for rejection if the bidders submit their prices in Price Schedules modified by them. BHEL reserves the right to reject the offers of bidders who submit offers in Price Formats which are modified/ altered by them. Also putting any comments instead of rates/price in the designated column of the rate schedule shall make the offer liable for rejection.
15	Bidders to note that for Civil &/Structural packages, against a particular item against a ST No. appearing in more than one schedule of the BOQ, same rate must be quoted in all schedules for that particular items with same descriptions. If by error, different rates are quoted in different schedules for same ST No. (i.e. item with same description), then the higher of the rates shall be considered for evaluation but awarding shall be done with the lower rate, if the bidder becomes L-1."
16	For Lumpsum Service Contract : The items/components indicated in the tender is indicative and may vary to any extent. No compensation shall be payable in case of any variation in the items/components listed in the bill of quantities if the executed weight remains within the variation limit. However, in case of deletion of any item or addition of new items over and above the items listed or variation of existing quantity beyond variation limit specified, adjustment (i.e. Payment or recovery as the case may be) shall be done on pro-rata basis based on the Rate per MT worked out from the quoted lump-sum Price and the total weight of components listed /indicated in price schedule plus 15% weight variation limit.
17	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
18	In case of tender for Civil and/or Structural works, if the Non-schedule items are not quoted by the bidder, it will be treated at par with rate of corresponding item of CPI/CPWD/PWD/ Bangladesh schedules schedule as prescribed in the tender/BOQ cum Rate Schedule.
19	No interest, whatsoever, shall be payable by BHEL on the security deposit, any bank guarantee submitted or any amount due to successful bidder/contractor.
20	Size and weights of various items are mentioned in the attached BOQ cum rate/price schedule for reference purpose only & these shall not be taken into consideration for quoting/calculating amount in the rate schedule. These shall be utilised as per relevant sections of tender. Bidders shall quote for each item in the rate column, taking unit as mentioned in the quantity column. Rates shall be filled in both figures and words. Amount shall be calculated based upon these rates multiplied by the mentioned quantity for the respective items.
21	Bidder's Grand Total price will be shall be considered for evaluation unless stated otherwise.
22	In case of BOP packages, if Bidder does not quote/indicate the price for freight chages against indicated rate schedule, the same shall be considered as 2% of basic price and adjusted with the total quoated price against each item keeping the total quoted price unaltered.

**VOLUME-III
PRICE SCHEDULE, REV-0**

**Providing services for Development of Safety Culture and Effective Implementation of Health, Safety & Environment (HSE) at 2X660 MW Units,
Maitree Super Thermal Power Project, Rampal, Bangladesh.**

Tender no : PSER:SCT:KLN-Q1973:19.

SCH-1 TOTAL PRICE

SL. NO.	DESCRIPTION OF WORK	TOTAL AMOUNT (INR)
1.0	Total price for providing services of effective implementation of Health Safety & Environment (HSE) at 2x660MW Maitree STPP, Bangladesh as per the scope detailed in the tender Document:	

NOTE:

1.0	Bidder to note that Evaluation & Awarding will be done on the above total price.
2.0	Break-up of above price shall be as per weightage mentioned against respective items in Sch-2 of this Price schedule.
3.0	Any item as per scope of work if not included in the price quoted above and shown separately will not be taken into cognizance and the offer shall be liable for rejection.
4.0	Taxes & Duties shall be as per terms and conditions of the tender.

VOLUME-III					
PRICE SCHEDULE, REV-0					
Providing services for Development of Safety Culture and Effective Implementation of Health, Safety & Environment (HSE) at 2X660 MW Units, Maitree Super Thermal Power Project, Rampal, Bangladesh.					
Tender no : PSER:SCT:KLN-Q1973:19.					
SCH-2 TOTAL PRICE BREAK -UP					
SL. NO.	DESCRIPTION OF WORK	NO. OF PERSONS	QTY	UOM	WEIGHTAGE
1.0	Providing services of effective implementation of Health Safety & Environment (HSE) at 2x660MW Maitree STPP, Bangladesh as per the scope detailed in the tender Document:				
1.1	HSE Expert/Manager	1 No.	12	Man-Month	0.13273249
1.2	HSE Trainer for Supervisors & Engineers	1 No.	12	Man-Month	0.10815240
1.3	HSE Trainer for workers	1 No.	12	Man-Month	0.09832036
1.4	Sr. HSE Officers	2 Nos.	24	Man-Month	0.22122080
1.5	HSE Officer	1 No.	12	Man-Month	0.09832036
1.6	Environment/Fire Safety Officer	1 No.	12	Man-Month	0.10815240
1.7	Scaffolding Expert	1 No.	12	Man-Month	0.10323638
1.8	Rigging Expert	1 No.	12	Man-Month	0.10323638
2.0	Conducting HSE Audit and submission of detail report with findings and recommendations	1 Team	2	Nos.	0.02662843
3.0	TOTAL				1.00000000
NOTE:					
1.0	Any item as per scope of work if not included in the price quoted above and shown separately will not be taken into cognizance and the offer shall be liable for rejection.				