



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

Ref: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4)

Date 11/04/2019

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> only, 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. 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:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019
ii	Broad Scope of job	"PROVIDING OF READY MIX CONCRETE (RMC) FOR 1X660 MW, UNIT-5, SAGARDIGHI TPS PROJECT, WBPDC, WEST BENGAL".
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>General conditions of contract (Supply)</i> Applicable.
B	Volume-IB	<i>General conditions of contract (Service)</i> Not Applicable.
C	Volume-IC & ID	<i>Special conditions of contract (Supply & Service-Common)</i> Not Applicable.
D	Volume-IC	<i>Special conditions of contract (Supply)</i> Applicable.
E	Volume-ID	<i>Special conditions of contract (Service)</i> Not Applicable.
F	Volume-IE	<i>Forms & Procedures</i> Applicable.
G	HSEP:14, Rev-00	<i>HSE Plan</i> Applicable.
H	Volume-IF	<i>Technical Conditions of Contract / Scope of Work (TCC)</i> Applicable.
I	Volume-III	<i>Price Schedule (Absolute value) – Rev-0</i> Applicable.
iv	ISSUE OF TENDER DOCUMENTS	a) Online through e-procurement platform at https://bhel.abcprocure.com . Offers are invited in two-parts only. b) In BHEL website (www.bhel.com & CPP Portal) : For tender view purpose only. Start date of the tender : 11/04/2019 a) Applicable b) Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 22/04/2019, Time: 15:00 Hrs. IST The bidder should respond by submitting their offer online in our e-Procurement platform at https://bhel.abcprocure.com only. Offers are invited in two-parts only. Hard copy bid or bids through email/fax shall not be accepted. Applicable.

vi	OPENING OF TENDER	Date: 22/04/2019, Time: 16:00 Hrs. IST Note(s): (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.	Applicable.
vii	EMD AMOUNT	Not Applicable	Not Applicable
viii	COST OF TENDER	Not Applicable	Not Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 15/04/2019, Time: 15:00 Hrs. IST Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable.
x	SCHEDULE OF PRE BID DISCUSSION (PBD)	Date: 16/04/2019, Time: 11:00 Hrs. IST Place: BHEL-PSER, HQ-Kolkata Bharat Heavy Electricals Limited Power Sector Eastern Region Plot- DJ 9/1, Sector-2, Salt Lake City, Kolkata-700091, West Bengal, India.	Applicable
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	IEM DETAILS: Refer Clause No 40.0 below	Applicable
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 only. Bidders to keep themselves updated with all such information.	Shall be intimated to bidder

- 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.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders as detailed below:
This is an E-tender floated online through our E-Procurement Site <https://bhel.abcprocure.com>. The bidder should respond by submitting their offer online only in our e-Procurement platform at <https://bhel.abcprocure.com>. Offers are invited in two-parts only. No Hard copy bid or bids through email/ fax shall be accepted. Bids are invited in two parts & shall be submitted as described below:

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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

फैक्स/Fax : +91 33 23211960

फोन/Phone : बोर्ड/EPABX : +91 33 23398000, Dir: +91 33 23211690

DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING

Sl. No.	Description	Remarks
PART-I A	(TECHNO COMMERCIAL BID)	
	CONTAINING THE FOLLOWING:-	
i.	Covering letter/Offer forwarding letter of Tenderer. (To be attached in relevant Attachment section)	
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format. (To be attached in relevant Attachment section) Note: 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 attached in relevant attachment section of the e –procurement portal . 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 attached in relevant attachment section 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. (To be attached in relevant Attachment section)	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT (To be attached in relevant Attachment section)	
vii.	Notice inviting Tender (NIT) (To be attached in relevant Attachment section)	
viii.	Volume – IF : Technical Conditions of Contract / Scope of Work (TCC) (To be attached in relevant Attachment section)	
ix.	Volume – IC : Special conditions of contract (Supply) (To be attached in relevant Attachment section)	
x.	Volume – IA : General conditions of contract (Supply) (To be attached in relevant Attachment section)	
xi.	Volume – IE : Annexures, Formats, etc. (To be attached in relevant Attachment section)	
xii.	Volume–III – (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item. (To be attached in Unpriced Bid Attachment section)	
xiii.	Any other details preferred by bidder with proper indexing. (To be attached in relevant Attachment section)	

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PART-I B	COST OF TENDER	
	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)	1. Not Applicable 2. Not Applicable

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	Volume III – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures) Any other document uploaded in the price bid, apart from above tender format, shall not be taken into cognizance for evaluation of offer.	

SPECIAL NOTE:

- A) Your offer & documents submitted along with offer shall be digitally signed & stamped in each page by your authorized representative. No overwriting/ correction in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.
- 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.
- 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. Offers with deviation are liable for rejection.
- 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, as applicable). However, BHEL may communicate rejection to the unsuccessful bidder after award of work and acceptance by the successful bidder.
- 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. No additional claim shall be entertained by BHEL in future, on account of non-acquaintance of above.
- 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.abcprocure.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.

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- 11.0 In case of absence of any queries from bidder(s), their quoted price will be PRESUMED to be final and complete with reference to the tender documents (including Tender change notes (TCNs), clarifications, corrigendum issued by BHEL, if any). Bidders are requested to study the tender documents in detail and prepare their queries/clarifications accordingly. All such queries / clarifications shall be cleared/replied by BHEL. Such clarification letters, corrigendum and/or Tender change notes (TCNs), if issued by BHEL, shall form part of tender document.
- 12.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer else BHEL's interpretation shall prevail & binding on you.
- 13.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender along with TCNs including PBD, if any.
- 14.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **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.**
- 15.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as 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. BHEL's decision in this regard shall be final & binding.
- 16.0 While BHEL reserve the right to open the price bid of the offers in camera, the date & time to open the PRICE BID, tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, **price bid (Volume-III) uploaded in E-Procurement Site <https://bhel.abcprocure.com> will be opened.**
- 17.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 18.0 **Bidders are required to submit their BEST price as per tender Price Schedule format in e-procurement portal/platform in the form & manner as mentioned in tender.**
- 19.0 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.

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 L1 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.

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If it is found that L1 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).

- 20.0 However, if Reverse Auction process is not adopted or Reverse Auction is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the 'PRICE BID' and price impacts (if any), already submitted in e-procurement portal/platform, submitted by the bidder shall be opened for deciding the successful bidder, as per BHEL's standard practice. BHEL's decision in this regard will be final and binding on bidder.
- 21.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 22.0 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.
- 23.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 24.0 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.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 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.

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.

- 27.0 Corrigendum/ corrigendum/ extension/ addendum, if any, pertaining to this tender will be published in the web sites CPP Portal, www.bhel.com, <https://bhel.abcprocure.com> etc. or will be issued directly to you, as applicable.
- 28.0 Unsolicited discounts received after opening of techno commercial bid shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the L-1 party, then the awarded price shall be after considering the discount.
- 29.0 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).
- 30.0 It may please be noted that applicable Guidelines/Rules in respect of Suspension of business dealings, 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 applicable "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.
- 31.0 Bidders are requested to note that the accepted / agreed tender terms (technical, commercial or on Reverse Auction) in their original offer can not be altered / withdrawn by their own during the processing of tender.
- 32.0 The Bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice.
- 33.0 Suspension of Business dealings with Suppliers/ Contractors: BHEL reserves the right to take action against contractors who fail to perform or indulge in malpractices, by suspending business dealings with them as detailed in Annexure-F.
- 34.0 "For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15/06/2017 & 28/05/2018 and subsequent Orders issued by respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable".
- 35.0
- Cost of Tender: Not Applicable
 - Earnest Money Deposit (EMD): Not Applicable
 - Security Deposit (SD): Not Applicable
 - Performance Bank Guarantee (PBG): Not Applicable
 - Performance Bond: Not Applicable
 - Additional Security Deposit: Not Applicable

- 36.0 "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) /Udyog Aadhar Memorandum(UAM) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure-B 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	Women 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.

- 37.0 Annexure-B – Terms & conditions of Reverse Auction is enclosed herewith.
- 38.0 Annexure-E – State wise GST Registration nos. is enclosed herewith.
- 39.0 Duly filled & signed Annexure- CPP/I to be submitted by bidders along with their techno-commercial offer.
- 40.0 **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
1.	Shri D.R.S Chaudhary, IAS (Retd.)	E-1/164, Arera Colony, Bhopal 462016 (M.P.)	dilip.chaudhary@icloud.com
2.	Mrs. Pravin Tripathi, IA & AS (Retd.)	D-243, Anupam Gardens, Lane IB, Neb Sarai, New Delhi - 110068	pravin.tripathi@gmail.com

- (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.

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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	Mr. Ujjwal Howlader	Mr. Avijit Pan
Dept.	Purchase Dept., BHEL PSER, Kolkata	Purchase 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 8222	033-2339 8224
Email	ujjwalh@bhel.in	avijitpan@bhel.in
FAX	033-2321 1960	033-2321 1960

41.0 Rights of BHEL:

41.1 To withdraw any portion of work and/or to restrict / alter the quantum of work as indicated in the contract during the progress of work 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 the date of completion due to other emergency reasons / BHEL's obligation to its customer.

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

- i) Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of work does not appear to be executable within balance available (#) period considering its performance of execution.
- ii) Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.
- iii) Non-completion of work by the Contractor within scheduled completion period as per Contract or as extended from time to time, for the reasons attributable to the contractor.
- iv) Termination of Contract on account of any other reason (s) attributable to Contractor.
- v) Assignment, transfer, subletting of Contract without BHEL's written permission.
- vi) Non-compliance to any contractual condition or any other default attributable to Contractor.

(#) In-case inputs from BHEL/Customer are likely to be delayed or are actually delayed, this delay may also be taken into account while considering balance period available for execution of Contract.

Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

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

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

H = Overhead Factor to be taken as 5

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

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

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

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

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

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

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

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

LD against delay in executed work shall be calculated in line with LD clause as per GCC/SCC/TCC/Special note/any other annexure of tender document (in compliance with order of precedence), for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of "LD against delay in executed work in case of termination of contract" is given below.

- i) Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii) Let the value of executed work till the time of termination of contract = X
- iii) Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
- iv) Delay in executed work attributable to contractor i.e. $T2 = [1 - (X/Y)] \times T1$
- v) LD shall be calculated in line with LD clause [as per GCC/SCC/TCC/Special note/any other annexure of tender document (in compliance with order of precedence)] of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

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

Following sequence shall be applicable for recoveries from contractor:

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

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

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42.0 **ARBITRATION & CONCILIATION:**

42.1 **ARBITRATION:**

42.1.1 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 2.14.2 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 42.1.1 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.

42.1.2 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.

42.1.3 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.

42.1.4 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.

42.2 **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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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 : "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com). The Procedure 2.3: "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com) together with its Formats (as available in www.bhel.com) 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 : "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com) from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure 2.3 : "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com) with effect from the date as intimated by BHEL to it.

42.3 **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.

- 43.0 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.

44.0 **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:

- a) Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b) Notice Inviting Tender (NIT)
- c) Price Bid/Schedule – Volume-III
- d) Technical Conditions of Contract / Scope of Work (TCC) – Volume-IF
- e) Special conditions of contract (Supply) – Volume- IC & HSE Plan: HSEP:14, Rev-00
- f) General conditions of contract (Supply) – Volume- IA
- g) Forms and Procedures – Volume-IE

for BHARAT HEAVY ELECTRICALS LTD.

Sr. Engineer (Purchase)

Agency	Contact details	
BHEL, PSER, Kolkata	Address	BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR – EASTERN REGION 2ND FLOOR, BLOCK-DJ, PLOT- 9/1, SECTOR, SALT LAKE CITY, KOLKATA – 700 091
	Phone no.	033-23398223, 23398220, 23211690
	FAX no.	033-23211960
	E-mail ID	biplab.pal@bhel.in , avijitpan@bhel.in , sukhen@bhel.in
M/s E-PROCUREMENT TECHNOLOGIES LIMITED	<p>For E-PROCUREMENT ASSISTANCE & TRAINING, M/s E-PROCUREMENT TECHNOLOGIES LIMITED HELPDESK PERSONS AS PER FOLLOWING: -</p> <p>1) Mr. Swapnil Hamilton, Support Executive, Ph: +91 (79)68136849, e-mail ID: swapnil.h@eptl.in</p> <p>2) Ms. Himanshi Kumari, Support Executive, Ph: +91 (79)68136809, e-mail ID: himanshi.k@eptl.in</p> <p>3) Mr. Ankur Bhatt, Support Executive, Ph: +91 (79)68136823, e-mail ID: ankur.bhatt@eptl.in</p> <p>4) Mr. Prashant Rajyaguru, Asst. Manager - Implementation & Support, Ph: +91 (79)68136872 / 08160087732 / 09016859416, e-mail ID: prashant@eptl.in</p>	

Enclosure:

01. Annexure-1: Pre-Qualification Criteria.
02. Annexure-2: Format for No Deviation Certificate.
03. Annexure-3: Format for seeking clarification.
04. Annexure-4: Check List.
05. Annexure-A: Suspension of Business dealings with Suppliers/ Contractors.
06. Annexure-B: Terms & conditions of Reverse Auction.
07. Annexure-C: CA certificate Format.
08. Annexure-E: State wise GST Registration nos.
09. Annexure-CPP-GST/I: State wise GST Registration nos.
10. Integrity Pact Agreement Format (Separate).
11. Other Tender documents as per this NIT.

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ANNEXURE – 1**PRE QUALIFICATION CRITERIA**

JOB	“PROVIDING OF READY MIX CONCRETE (RMC) FOR 1X660 MW, UNIT-5, SAGARDIGHI TPS PROJECT, WBPDC, WEST BENGAL”.
TENDER NO	PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

SL NO	CRITERIA
1.0	FINANCIAL CRITERIA
(A)	BIDDER SHOULD HAVE AVERAGE MINIMUM ANNUAL FINANCIAL TURNOVER RS. 27.39 Cr. DURING LAST 3 (THREE) YEARS, ENDING ON 31.03.2018 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. AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY FOR LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31.03.2018 NEED TO BE SUBMITTED IN SUPPORT OF ABOVE.
(C)	IN CASE AUDITED BALANCE SHEET AND PROFIT & 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	<p>a) BIDDER SHOULD HAVE SUPPLIED / EXECUTED WORK YEARLY BY PROVIDING BATCHING PLANT INCLUDING AGGREGATES AND CEMENT WITH QUANTITY OF READY MIX CONCRETE VOLUME 50000 CUM OR ABOVE FOR AT LEAST IN THREE YEARS WITHIN LAST SEVEN YEARS OF DATE OF BID SUBMISSION COMPRISING OF ANY NO OF PROJECTS. OR</p> <p>b) BIDDER SHOULD HAVE EXPERIENCE OF SUPPLYING / EXECUTION OF READY MIX CONCRETE WORK OF VARIOUS GRADE BY PROVIDING BATCHING PLANT INCLUDING AGGREGATES AND CEMENT WITH ANNUALIZED QUANTITY OF AT LEAST 43200 CUM WITHIN A COMMON PERIOD OF TWELVE CONSECUTIVE MONTHS IN CUMULATIVE OF TWO RUNNING / COMPLETED CONTRACTS WITHIN LAST SEVEN YEARS OF DATE OF BID SUBMISSION. OR</p> <p>c) BIDDER SHOULD HAVE EXPERIENCE OF SUPPLYING / EXECUTION OF READY MIX CONCRETE WORK OF VARIOUS GRADE BY PROVIDING BATCHING PLANT INCLUDING AGGREGATES AND CEMENT WITH ANNUALIZED RCC QUANTITIES OF AT LEAST 28800 CUM WITHIN A PERIOD OF TWELVE CONSECUTIVE MONTHS IN ONE RUNNING / COMPLETED CONTRACT WITHIN LAST SEVEN YEARS OF DATE OF BID SUBMISSION. OR</p> <p>d) BIDDER HAVING EXPERIENCE IN ALL THE FOLLOWING DURING LAST 7 YEARS CAN ALSO PARTICIPATE IN THE TENDER:</p> <p>i) HAVING INTEGRATED CEMENT PLANT WITH CLINKERING FACILITY AND ANNUAL CEMENT PRODUCTION CAPACITY OF MINIMUM 3.0 LACS MT.</p> <p>ii) HAVING BATCHING PLANT/PLANTS OF COMBINED CAPACITY OF 100 CUM/HR.</p> <p>iii) HAVING EXPERIENCE IN SUPPLY OF READY MIX CONCRETE.</p> <p>SUPPORTING DOCUMENTS NEED TO BE SUBMITTED IN SUPPORT OF ABOVE.</p>
2.2	BIDDER SHOULD HAVE VALID PAN. RELEVANT SUPPORTING DOCUMENT SHALL BE SUBMITTED

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GENERAL

A	CONSORTIUM / JV BIDDING IS NOT ALLOWED.
B	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.
C	IN CASE THE JOB IS UNDER EXECUTION/ ONGOING JOB, THE VALUE OF EXECUTED PORTION OF THE JOB SHALL BE AT LEAST CORRESPOND TO THE RESPECTIVE VALUES SPECIFIED ABOVE EVEN IF THE CONTRACT HAS NOT BEEN COMPLETED OR CLOSED.
D	THE BIDDER SHOULD HAVE ACHIEVED THE CRITERIA SPECIFIED IN THE PRE-QUALIFICATION CRITERIA, EVEN IF THE CONTRACT HAS NOT BEEN COMPLETED OR CLOSED.
E	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.
NOTE:	
1.0	CONSIDERATION OF OFFER WILL BE SUBJECT TO CUSTOMER'S APPROVAL OF BIDDER.

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ANNEXURE - 2

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

To,
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 OF READY MIX CONCRETE (RMC) FOR 1X660 MW, UNIT-5, SAGARDIGHI TPS PROJECT, WBPDC, WEST BENGAL”.	
REF	1.0	TENDER NO. PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019
	2.0	ALL OTHER PERTINENT ISSUES TILL DATE.

Dear Sir/Madam,

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)

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ANNEXURE - 3

FORMAT FOR SEEKING CLARIFICATION

JOB	“PROVIDING OF READY MIX CONCRETE (RMC) FOR 1X660 MW, UNIT-5, SAGARDIGHI TPS PROJECT, WBPDC, WEST BENGAL”.
TENDER NO.	PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

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
21	Annexure-D – Exim bank Undertaking.	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)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय) POWER SECTOR EASTERN REGION, DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091 फैक्स/Fax : +91 33 23211960 फोन/Phone : बोर्ड/EPABX : +91 33 23398000, Dir: +91 33 23211690
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ANNEXURE-A

1.0	<u>Suspension of Business dealings with Suppliers/ Contractors</u>
1.1	BHEL reserves the right to take action against Suppliers/ Contractors who fail to perform or indulge in malpractices, by suspending business dealings with them.
1.2	<p>Suspension of business dealings with Suppliers/ Contractors could be in the form of following: --</p> <p>a) Hold within the unit for specific item(s)/ material category(ies)/ type of work(s) for one year.</p> <p>b) Hold within the unit for all item(s)/ material category(ies)/ type of work(s) for two years</p> <p>c) Banning across BHEL for all items/ material category(ies)/ type of work(s) for three years.</p> <p>The Supplier may be either put on hold or banned, as detailed hereinafter on the basis of one or more of the category wise reasons as enumerated hereunder.</p>
1.3 1.3.1	<p>Hold within the unit for a specific item(s)/ material category(ies)/ type of work(s) shall be imposed in the following cases, if</p> <p>i) In the last three consecutive supplies of a specific material category, average quality rating, as provided in the supplier performance rating (SPR) as per SEARP, falls below 80% of the quality weightage. This is irrespective of supplies against PO(s) having single/ multiple delivery schedules.</p> <p>Note: Not applicable in cases for erection works of Power Sector Regions, where separate guidelines for evaluation of capacity of bidders is being followed.</p> <p>ii) Two consecutive delays, for reasons of delay attributed to the Supplier, in execution of the contracts where delay occurred is such that</p> <p>a) prescribed maximum LD time limits of the contracts is exceeded or</p> <p>b) delay period has equaled/ exceeded half the original delivery period specified in the contracts whichever among the above is earlier.</p> <p>iii)</p> <p>a) Overall SPR (Supplier Performance Rating) in that particular Unit in line with SEARP falls below 60% of the specific material category.</p> <p>b) Bids of contractors (in PS-MSX portal) shall not be considered (if average score of last six months falls 60% or below as per guidelines for evaluation of capacity of bidders formula).</p>

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1.3.2	<p>Hold within the unit for all item(s)/material category(ies)/ type of work(s) shall be put in the following cases, if</p> <p>i) Supplier tampers with tendering procedure affecting ordering process.</p> <p>ii) Supplier has misused BHEL documents/ drawings/ technical information or has breached the confidentiality agreement with BHEL.</p> <p>iii) after placement of order, Supplier fails to execute the contract.</p> <p>iv) within warranty period as per contract, Supplier continues to supply low/ less/ non-performing equipment/ services, repetitive failures, remains non-responsive.</p> <p>v) Wherever risk purchase clause (amounting to more than 5% of contract value) has been invoked.</p>
1.4	<p>Banning across BHEL shall be imposed in following cases, if</p>
1.4.1	<p>i) After price bid opening but before placement of order, Supplier withdraws his offer or varies it in any manner within the validity period.</p> <p>ii) "Supplier is found to be responsible for submitting fake/ false/ forged documents, certificates, or information or misrepresentation/ wilful suppression of facts, or has resorted to unethical, illegal means or has forged BHEL documents, certificates etc. for securing business, meeting PQR or for enlistment in BHEL or with customers other than BHEL."</p> <p>iii) In spite of warnings, the Supplier persistently violates or circumvents the provisions of labour laws/ regulations/ rules or other statutory requirements.</p> <p>iv) Supplier is found to be involved in cartel formation or in any other act so as to influence the bidding process or influence the price.</p> <p>v) The Supplier has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage, coercion etc.</p> <p>vi) The Supplier is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings.</p> <p>vii) Supplier is found to have obtained any internal information/ documentation of BHEL by unauthorized means.</p> <p>viii) The foreign Principals along with the representing Agent shall be banned together if information submitted by them about their precise relationship, commission/ remuneration etc. payable/ receivable and other particulars as asked by BHEL, as per the extant guidelines regarding dealing with Agents of Foreign Suppliers is found false/ incorrect, at any stage.</p> <p>ix) Supplier has substituted, damaged, failed to return, or unauthorizedly disposed off</p>
1.4.2	<p>A Supplier can also be banned with the approval of Director (E, R&D) provided a direction to this effect has been received from the administrative ministry of the Government.</p>

Note: Above shall be applicable along with [Guidelines for "Suspension of Business dealings with Suppliers/ Contractors"](#) available in BHEL website <http://www.bhel.com>. These shall form part of tender documents.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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

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Annexure -B

Terms & Conditions of Reverse Auction

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry 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.
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 Process Compliance form (**Annexure-III of Business Rule Document of Reverse Auction – shall be shared to bidders along with intimation of RA schedule**) 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" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, GST and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) 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, (**as per Annexure-IV of Business Rule Document of Reverse Auction**) 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 (whose quote is highest in online sealed bid) will not be allowed to participate in further RA process provided minimum three bidders are left after removal of H1 bidder. In case of tie for H1 bid (identical online sealed bids), 15 minutes' additional time shall be provided and all the participating bidders shall be informed by mail/message on bidding screen to enable bidders submit revised online sealed bids so as to break the tie.
16. In case H1 bidder happen to be MSE and was removed from further bidding but is within L1 + 15% band, then this bid shall also be considered and to be processed in line with 'Public Procurement Policy for Micro & Small Enterprises (MSEs) order, 2012'.

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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.O.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-E

<u>State wise GST Registration nos.</u>		
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

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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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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PRICE SCHEDULE (UNPRICED)- VOLUME-III

PLEASE REFER

E-PROCUREMENT PORTAL <https://bhel.abcprocure.com>

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PRICE SCHEDULE - VOLUME-III

PLEASE REFER

E-PROCUREMENT PORTAL <https://bhel.abcprocure.com>

**ABOVE TO BE READ ALONG WITH SCHEDULE-2
(WEIGHTAGE) OF PRICE SCHEDULE (VOLUME-III)**

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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VOLUME-III PRICE SCHEDULE, REV-00	
JOB: SUPPLY OF READY MIX CEMENT CONCRETE AT 1X660 MW SAGARDIGHI THERMAL POWER PROJECT, UNIT-V AT MURSHIDABAD, WEST BENGAL.	
TENDER NO. PSER:PMX:350(I):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019	
PREAMBLE	
SL NO	DESCRIPTION
1	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully before filling in rate. Clauses under this preamble shall be read in conjunction with Volume-IA, Volume-IC, Volume-IE, Volume-IF and other tender sections as applicable and shall have precedence over any contrary statement mentioned anywhere in this document.
2	The work shall be carried out as per specifications, the description of the items in this schedule and/or Engineer's instructions.
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 complete items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of structures & other misc. equipment, strengthening of roads / culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies (excluding GST & BOCW Cess, as applicable), transport, layout, repairs, rectification, maintenance till handing over, supervisions, 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. GST & BOCW Cess shall be payable extra, as applicable.
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 $\pm 15\%$ (plus/minus fifteen percent) 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	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing, clearing of old structures and leveling 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.
8	Rate 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.
9	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.
10	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.
11	No splitting of the job is envisaged. Decision of BHEL in this regard shall be final and binding to the bidders.
12	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.
13	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.
14	Bidder has to quote their offer for all the items (including non-schedule items) otherwise their offer may not be considered for evaluation & may be liable for rejection. In case, rate Non-Schedule items are not quoted by the bidder, it will be treated at par with rate of corresponding item of CPWD / DSR schedule as prescribed in the tender / BOQ cum Rate Schedule.
15	No interest, whatsoever, shall be payable by BHEL on the security deposit, any bank guarantee submitted or any amount due to successful bidder / contractor.
16	Bidder's GRAND Total price (at sl. no. 1.0 of SCHEDULE-1 i.e. CONCRETE WORK) shall be considered for evaluation unless stated otherwise. Non-Schedule items [as per sl. no. 2.0(a), 2.0(b) & 2.0(c) of SCHEDULE-1] shall not be considered for evaluation. BHEL reserves the right to rationalise the rates of Non-Schedule items, quoted by L1 bidder against itemwise lowest rates (among the participating bidders), before placement of order.
17	Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
18	Engineer's decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract.
19	In case of any discrepancy between item descriptions, relevant drawing and/ or specification clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement.
20	HIERARCHY In case of any conflict / deviations amongst various documents, the order of precedence shall be as follows: a. Statutory Regulations b. DCPL / WBPDC specification c. Items in Schedule of quantities d. IS / BS standards e. BHEL's standard specification (with prior approval of Engineer-in-charge).

VOLUME-III PRICE SCHEDULE, REV-00			
JOB: SUPPLY OF READY MIX CEMENT CONCRETE AT 1X660 MW SAGARDIGHI THERMAL POWER PROJECT, UNIT-V AT MURSHIDABAD, WEST BENGAL.			
TENDER NO. PSER: PUR: PMX: 350(II): 004: (ENQ: 19: PP: 0015: PUR: 4) Date 11/04/2019			
SCHEDULE-1 - TOTAL PRICE			
SL NO	DESCRIPTION	PRICE SCHEDULE REF	GRAND TOTAL PRICE (IN INR)
1.0	TOTAL PRICE OF SCHEDULE - 2	SCHEDULE- 2 - BREAK UP OF TOTAL PRICE	<i>IN FIGURES:-</i> <i>IN WORDS:-</i>
2.0	NON-SCHEDULE ITEM For items not covered in SCHEDULE-2, quote % above or below the CPWD Schedule of rates 2016		
a)	Rate of complete item	_____ % above / _____ % below of CPWD Rate Schedule 2016	
b)	Rate of supply of material at site only	_____ % above / _____ % below of CPWD Rate Schedule 2016	
c)	Rate for execution complete excluding supply of materials.	_____ % above / _____ % below of CPWD Rate Schedule 2016	
NOTE			
1.0	Taxes & duties shall be as per SCC.		
2.0	Bidder shall quote GRAND total price of SCHEDULE-2 at Sl. No 1.0 above, All other amounts / rates of each item of works in respective schedules / parts will be derived based on allocated percentages. As such, any uncalled figure/ amount noted at any other place / schedule of Volume-III will not be reckoned & will stand null & void.		
3.0	Bidder to note that GRAND Total price at sl. no. 1.0 above shall be considered for evaluation & awarding. As such grand total price should be complete in all respect for the full scope defined and considering all terms and conditions. Non-Schedule items shall not be considered for evaluation.		
4.0	Based on the itemwise percentage allocations, the amount for the individual items of the SCHEDULE - 2 shall be arrived at. The rates of individual items shall be derived from the amount against each items after rounded off. However, RA bill payment shall be done after rounding off the gross amount to two decimal points. Any adjustment, if required, due to such methodology, will be effected / adjusted in final bill.		
5.0	Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per Sl. No. 3.0 above.		
6.0	Any item as per scope of work, if not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.		
7.0	Price format shall not be changed by bidder in any case and it may lead to cancellation of their offer.		
8.0	The quoted price shall be all inclusive F.O.R. Site price, but excluding GST & BOCW Cess. GST & BOCW Cess shall be payable extra, as applicable.		
9.0	The quantity of items may vary during execution mainly due to actual requirement etc. The unit rates work out from the overall amount quoted & accepted by BHEL shall be considered and no separate unit rates shall be allowed. Unit rates shall be valid throughout the contract period.		
10.0	For payment of non schedule items, the rate shall be derived from CPWD Schedule - 2016.		

VOLUME-III PRICE SCHEDULE, REV-00				
JOB: SUPPLY OF READY MIX CEMENT CONCRE AT 1X660 MW SAGARDIGHI THERMAL POWER PROJECT, UNIT-V AT MURSHIDABAD, WEST BENGAL.				
TENDER NO. PSER:PMX:350(II):004:(ENQ:19:PP:0015:PMX:4) Date 11/04/2019				
SCHEDULE- 2 : READY MIX CONCRETE				
ST No.	DESCRIPTION	UNIT	QUANTITY	WEIGHTAGE
	CONCRETE WORK: Supply of Ready Mix Concrete including cost of establishment of Design Mix as per IS-456 & IS-10262 (Latest Revision) of various grades, Trial mix, labour, materials, equipment for handling, batching, mixing with mechanised equipments like batching plant, etc. complete as per specifications and direction of engineer in charge for the following mixes: [Transportation of concrete from batching plant shall be done by user]			
C001	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume).	CUM	3966	0.015643766
C002	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume).	CUM	12417	0.053049033
C003	Plum cement concrete 1:3:6 with 1 part cement, 3 part sand, 6 parts graded aggregate 40 mm maximum size-75% & 150 mm maximum size-25%.	CUM	595	0.002542013
C004	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume)	CUM	50	0.000246397
C005	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 12.5 mm graded aggregate by volume)	CUM	238	0.001172848
C006	Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 20 mm graded aggregate by volume)	CUM	1816	0.009783773
C007	Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 12.5 mm graded aggregate by volume)	CUM	50	0.000269377
C008	Design Mix for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size including use of plasticizer / superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & direction for the following.			
a	M25 Grade	CUM	68949	0.358490611
b	M30 Grade	CUM	15997	0.084496183
c	M35 Grade	CUM	60	0.000321931
C009	Design Mix for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size including use of plasticizer / superplasticizer conforming to IS:9103 (latest) to achieve slump more than 125mm all complete as per specification & direction for the following.			
a	M30 Grade	CUM	7445	0.041442243
b	M35 Grade	CUM	1236	0.006982282
c	M40 grade	CUM	125	0.000735297
C010	Extra over Sl. No. C008 & C009 for controlling of temperature of fresh concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	10722	0.011658775
C011	Design Mix cement concrete for reinforced concrete works with coarse sand and graded hard stone aggregate of 12.5 mm nominal size including use of plasticizer / superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & direction for the following.			
a	M20 grade	CUM	30	0.000149805
b	M25 grade	CUM	1055	0.005268140
C012	Design Mix for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures with coarse sand and graded hard stone aggregate of 20 mm nominal size including addition of suitable plasticizer cum waterproofing cement additives conforming to IS:9103 (latest) to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 all complete as per specification & direction for the following.			
a	M25 grade	CUM	12183	0.078935738
b	M30 grade	CUM	6949	0.045602077
C013	Design Mix of Grade M 30 for reinforced concrete works using graded aggregate cast-in-situ piling with coarse sand and graded hard stone aggregate of 20 mm nominal size and a minimum cement content of 400 Kg per cum of concrete including addition of suitable plasticizer conforming to IS:9103 (latest) to achieve a slump more than 125 mm in concrete as per manufacturers recommendation all complete as per specification & direction for the cast in situ piles.	CUM	46479	0.277007335
C014	Transportation of concrete from Batching Plant to the work site by transit mixer.			
a	Up to 1 Km	CUM	1000	0.000593529
b	Above 1 Km up to 1.5 Km	CUM	1500	0.001157381
c	Above 1.5 Km for every additional 500 m or part there off.	CUM	5000	0.004451467
	TOTAL			1.000000000

SAGARDIGHI THERMAL POWER PROJECT: 1 x 660 MW UNIT NO. 5, PHASE – III
BHEL-PSER-PMX-TS-C001 REV: 02 Date: 01.04.2019

TECHNICAL SPECIFICATION OF CONCRETE

for

Providing Ready Mix Concrete
for 1x660 MW Unit No. 5, Phase - III
Sagardighi Thermal Power Project

at

Manigram, Sagardighi,
Murshidabad district in W.B



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector– Eastern Region
Plot–DJ9/1, Sector II, Salt Lake
Kolkata-700091

SAGARDIGHI THERMAL POWER PROJECT: 1 x 660 MW UNIT NO. 5, PHASE – III
BHEL-PSER-PMX-TS-C001 REV: 02 Date: 01.04.2019

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SAGARDIGHI THERMAL POWER PROJECT: 1 x 660 MW UNIT NO. 5, PHASE – III
BHEL-PSER-PMX-TS-C001 REV: 02 Date: 01.04.2019

1.00.00 SCOPE

This specification covers all the requirements, described hereinafter for general use of Plain and Reinforced Cement Concrete work in Structures and locations, cast-in-situ or precast, and shall include all incidental items of work not shown or specified but reasonably implied or necessary for the completion of the work.

IS: 4926 and IS: 456 shall form a part of this specification and shall be complied with unless permitted otherwise. For any particular aspect not covered by this Code, appropriate IS Code, specifications and/or replacement by any International Code of practice as may be specified by the Engineer shall be followed. All codes and Standards shall conform to its latest revisions. A list of IS codes and Standards is enclosed hereinafter for reference. However, should the list be not exhaustive and does not cover any aspect of the work, then relevant Indian and, in its absence, relevant International code shall apply

2.00.00 GENERAL

2.01.00 Work to be provided for by the Contractor

The work to be provided for by the Contractor, unless otherwise specified shall include but not be limited to the following:-

- a) Furnish all labour, supervision, services including facilities as may be required under statutory labour regulations, materials, forms, templates, supports, scaffolds, approaches, aids, construction equipment, tools and plants, transportations, etc. required for the work.
- b) Submit for approval detailed schemes of all operations required for executing the work, e.g. Material handling, Concrete mixing, Placement of concrete, services, Approaches, etc.
- c) Design and submit for approval concrete mix designs required to be adopted on the job.
- d) Furnish samples and submit for approval results of tests of various properties of the following :
 - i) The various ingredients of concrete
 - ii) Concrete
- e) Provide all incidental items not shown or specified in particular but reasonably implied or necessary for successful completion of the work in accordance with the specifications.
- f) For supply of certain materials normally manufactured by specialist firms, the Contractor may have to produce, if directed by the Engineer, a guarantee in approved proforma for satisfactory performance for a reasonable period as may be specified, binding both the manufacturers and the Contractor, jointly and severally.

SAGARDIGHI THERMAL POWER PROJECT: 1 x 660 MW UNIT NO. 5, PHASE – III
BHEL-PSER-PMX-TS-C001 REV: 02 Date: 01.04.2019

2.02.00 Work by Others

No work under this specification will be provided by any agency other than the Contractor unless specifically mentioned elsewhere in the contract.

2.03.00 Information to be submitted by the Tenderer

2.03.01 With Tender:

The following technical information are required with the tender:

- a) Source and arrangement of processing of aggregates proposed to be adopted.
- b) Type of plant and equipment proposed to be used.

2.03.02 After Award:

The following information and data including samples where necessary, shall be submitted by the contractor progressively during the execution of the contract.

- a) Programme for Installation & Commissioning of the RMC plant:

Within 15 days of the award of contract, the contractor shall submit a Master Programme for Installation & Commissioning of the RMC plant.

- b) Samples

Samples of the following materials and any other materials proposed to be used, shall be submitted as directed by the Engineer, in sufficient quantities for approval. Approved samples will be preserved by the Engineer for future reference. The approval of the Engineer shall not, in any way, relieve the Contractor of his responsibility of supplying materials of specified qualities:

- i) Coarse and fine aggregates
- ii) Admixtures

- c) Design Mix

Design mix as per Clauses 2.01.00 (c) & 3.04.00 of this specification giving proportions of the ingredients, sources of aggregates and cement, along with accompanying test results of trial mixes as per relevant I.S., is to be submitted to the Engineer for his approval before it can be used on the works.

- d) Test Reports for Cement & admixtures.

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e) Inspection Reports

Inspection Reports in respect of any item of work as may be desired by the Engineer as per this specification.

f) Test Reports

Reports of tests of various materials and concrete as required under Clause 4.00.00 for SAMPLING & TESTING of this specification.

g) Any other data which may be required as per this specification.

2.04.00 Conformity with Design

One of the mix designs developed by the Contractor as per the I.S. Specifications and established to the satisfaction of the Engineer by trial mixes shall be permitted to be used by the Engineer, the choice being dictated by the requirements of designs and workability. The methods of mixing, conveyance as per requirement, Making test samples, curing, protection and testing of concrete will be as approved or directed by the Engineer.

2.05.00 Materials to be used

2.05.01 General Requirement

All materials whether to be incorporated in the work or used temporarily for the construction shall conform to the relevant IS Specifications unless stated otherwise and be of best approved quality.

2.05.02 Cement

Cement used shall be Ordinary Portland Cement conforming to Code for ordinary cement in IS-269:2015 and shall be fresh when delivered. The Contractor shall submit the manufacturer's certificate for each consignment of cement procured to the Engineer. If the cement is procured by the BHEL and issued to the Contractor, the Contractor shall satisfy himself at the time of taking delivery that the quality, quantity and freshness of cement are up to the specified standards. No complain later on regarding the cement supplied by the BHEL shall be entertained and all rectification work on this account shall be done by the Contractor at his own expense. If at any time, the Engineer feels that the cement being used by the Contractor is not up to specification, he may stop the work and send the samples of the cement to a testing laboratory for standard tests and all expenses incurred thus shall be borne by the Contractor. The Contractor shall also have no claim for this type of suspension of

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work. In special cases any of the following type of cement may be permitted or directed to be used with prior approval by the Engineer:

- a) 53 Grade ordinary Portland Cement conforming to IS-269:2015
- b) Portland slag cement conforming to IS-455
- c) Portland Pozzolona Cement (flyash based) Conforming to IS-1489 (Part -1)
- f) Portland pozzolona Cement (calcined clay based) conforming to IS-1489 (Part-2)

2.05.03 Aggregates

Aggregates shall be natural or crushed gravel or crushed rock and free from deleterious material. It shall comply with the requirements of IS-383. All fine and coarse aggregate shall be tested for susceptibility to Alkali Silicate reaction in a laboratory approved by the Engineer.

a) Coarse Aggregate

Aggregate of sizes ranging between 4.75 mm and 150 mm will be termed as Coarse Aggregate. Only Coarse Aggregate from approved quarries and conforming to IS: 383 will be allowed to be used on the works. Coarse aggregates consisting of hard, strong and durable pieces of crushed stone and shall be free from organic or clay coatings and other impurities like disintegrated stones, soft flaky particles etc. and any other material liable to affect the strength, durability or appearance of concrete.

Aggregates other than crushed stone conforming to the provisions of specification may be used if permitted by the Engineer.

Washing of aggregates by approved means shall be carried out, if desired by the Engineer. Grading of coarse aggregates shall generally conform to IS: 383 and shall be such as to produce a dense concrete of the specified proportions and strength and of consistency that will work readily into position without segregation.

If by the analysis the deficiency of a particular grain size is found, which could affect the density of the concrete, the Engineer may ask the Contractor to avoid such quantities of aggregate of the particular size or and such quantity of aggregate of any particular size to achieve the required grading as per IS:383.

b) Fine Aggregate

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Aggregate smaller than 4.75 mm and within the grading limits and other requirements set in IS: 383 are termed as Fine Aggregate or Sand. Only Fine Aggregate from approved sources and conforming to the above IS Specification will be allowed to be used on works. In certain cases there may be two types of sand, one very fine and the other very coarse. In such cases, the two types shall be combined to meet the requirements of a particular zone of IS: 383. In all cases, the preferred zone is Zone - II. In certain cases crushed stone sand may be added to natural sand in order to achieve the required grading. Crushed stone sand alone may be used only with the approval of the Engineer.

Sand shall be hard, durables, clean and free from adherent coatings or organic matter and shall not contain clay balls or pellets. The sand shall be free from impurities such as iron pyrites, alkalis, salts, coal, mica or other laminated materials in such forms or quantities as to affect adversely the hardening, strength, durability or appearance of concrete or to cause corrosions to any metal in contact with such concrete.

2.05.04 Water

Water for use in Concrete shall be clear and free from injurious oils, acids, alkalis, organic matter, soluble silts or other deleterious substances which may cause corrosion, discolouration, efflorescence etc. Normally potable water is found to be suitable. Generally, IS: 3550 will be followed for routine tests. Acceptance test for water shall be as per IS: 3025, and Table-1 of IS: 456. In case of doubt regarding development of strength, the suitability of water for making concrete shall be ascertained by compressive strength and initial setting time tests as per method of tests in accordance with the requirements of IS-516 & IS- 4031 respectively. The pH value of water shall generally be not less than 6.

2.05.05 Admixture

Only admixture of approved quality will be used when directed or permitted by the Engineer. The different types of admixtures which may be necessary to satisfy the concrete mix and the design requirement shall be as per the following I.S. Standards:

IS: 2645 - Integral cement water proofing compound

IS: 9103 - Indian standard specification for Admixtures for Concrete or equivalent American Codes (ASTM C494 and ASTM C260) or British Codes (BS 5075 , Part 1 to 3) and may be one of the following :

- a) Accelerating admixtures:
 - Set accelerating admixtures like "Sigunit Powder" / "Sigunit LN10" or equivalent.
- b) Retarding admixtures:

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- Modified ligno sulphonate based set retarding concrete admixture like, "Plastiment R" or equivalent.
- c) Water reducing admixtures :
 - Modified sulphonated melamine formaldehyde based water reducing concrete admixture like, "Sikament" or equivalent.
- d) Air entraining admixtures:
 - Modified ligno sulphonate based air entraining concrete admixture like "FLOMO AEP" or surface - active agents like "Sika AER" or equivalent.
- e) Water proofing admixtures

The waterproofing admixture for concrete shall conform to relevant IS code. The admixture shall not cause decrease of strength of concrete / plaster at any stage and it is free from chlorides and sulphates .The admixture shall not affect the setting time by more than 5 %

The maximum permissible dosage of admixture will be 3% (three percent) by weight of cement but a lower dosage will always be preferred.

However, in case of important structures where M25 or higher grade concrete is specified, the use of melamine based, high range water resistant concrete admixture shall be used to provide a waterproof concrete around 410 Kg/Cum, a melamine based super plasticizer will be preferable.

In concrete: The approved admixture shall be based on modified ligno sulphonate like "Plastocrete - N/Super" or approved equivalent. The method of application and other details shall conform to the manufacturer's specification and/or as instructed by the Engineer. The Contractor shall have the services of the manufacturer's supervisor to supervise the work, if desired by the Engineer.

However, the Contractor shall furnish following technical information about the admixtures (along with the manufacturer's Catalogue) which he is planning to use in different areas within the scope of work for the approval of the Engineer:

- i) Type of admixture
- ii) Mix proportion & mode of application in concrete.

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- iii) Manufacturer's specification & necessary quality assurance certificates (mainly on chloride & sulphate content, PH value infra red analysis & solid content.)

2.06.00 Storage of Materials

2.06.01 General

All materials shall be as stored as to prevent deterioration or intrusion of foreign matter and to ensure the preservation of their quality and fitness for the work. Any material, which has deteriorated or has been damaged or is otherwise considered defective by the Engineer, shall not be used for concrete and shall be removed from site immediately, failing which, the Engineer shall be at liberty to get the materials removed and Storage of materials shall conform to IS: 4082.

2.06.02 Cement

Sufficient space for storage, with open passages between stacks, shall be arranged by the Contractor to the satisfaction of the Engineer.

Cement shall be stored above the ground in perfectly dry, leak proof (watertight), well-ventilated ware-houses at the works in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter.

Cement shall be stored in easily countable stacks with consignment identification marks. The bags shall be stacked in a manner so as to facilitate removal or first in first out basis. Sub-standard or partly set cement shall not be used and shall be removed from the site, with the knowledge of the Engineer, as soon as it is detected.

Different types of cement shall be clearly marked with the Type and different types of cement shall not be intermixed.

2.06.03 Aggregates

Aggregates shall be stored on brick soling or an equivalent platform so that they do not come in contact with dirt, clay, grass or any other injurious substances at any stage. Each size shall be kept separated with wooden or steel or concrete or masonry bulk-heads or in separate stacks and sufficient care shall be taken to prevent the material at the edges of the stock piles from getting intermixed. Stacks of fine and coarse aggregates shall be kept sufficiently apart with proper arrangement of drainage. The aggregates shall be stored in easily measurable stacks of suitable depths as may be directed by the Engineer.

2.06.04 Admixtures

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Admixtures shall be stored in strong moisture proof packings / as per recommendations of manufacturer.

2.07.00 Quality Control

Contractor shall establish and maintain quality control for different items of work and materials as may be directed by the Engineer to assure compliance with contract requirements and maintain and submit to the Engineer records of the same.

The quality control operation shall include but not be limited to the following items of work:

- a) Admixture : Type, quantity, physical and chemical properties that affects strength, workability and durability of concrete.

For air entraining admixtures, dosage to be adjusted to maintain air contents within desirable limits
- b) Aggregate : Physical, chemical and mineralogical qualities. Grading, moisture content and impurities.
- c) Water : Impurities tests.
- d) Cement : Tests to satisfy relevant IS Specifications (only association with Owner's tests, if the supply is made by Owner).
- g) Grades of Concrete : Usage and mix design, testing of all properties.
- h) Batching & Mixing : Types and capacity of plant, concrete mixers and transportation equipment.

3.00.00 INSTALLATION

All installation requirements shall be in accordance with IS 4926 & IS:456 and as supplemented or modified herein or by other best possible standards where the specific requirements mentioned in this section of the specification do not cover all the aspects to the full satisfaction of the Engineer.

3.01.00 Washing and Screening of Aggregates

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Washing and Screening of coarse aggregate shall be carried out to remove fines, dirt or other deleterious materials.

Washing of fine aggregate shall not be allowed, Fine aggregates shall be screened only to remove dirt or other deleterious materials.

However, all washing & screening of aggregates shall be carried out by approved means to ensure compliance with the aggregate specification.

3.02.00 Admixture

All concrete shall be designed for normal rate of setting and hardening at normal temperature. Variations in temperature and humidity under different climatic conditions will affect the rate of setting and hardening, which will, in turn, affect the workability and quality of the concrete.

Admixtures may be permitted to be used in accordance with IS: 456 to modify the rate of hardening, to improve workability or as an aid to control concrete quality. The Engineer reserves the right to require laboratory test or use test data, or other satisfactory reference before granting approval. The admixture shall be used strictly in accordance with the manufacturer's directions and/or as directed by the Engineer.

3.03.00 Grades of Concrete

Structural concrete shall be of M30 grade and for other part of the work shall be as shown on the drawing as per grade classification of IS-456. In case of liquid retaining structures, IS: 3370 will be followed.

3.04.00 Proportioning and Works Control

3.04.01 General

Proportioning of ingredients of concrete shall be made by any of the two following methods as directed by the Engineer.

- a) With preliminary tests by designing the concrete mix. Such concrete shall be called 'Design Mix Concrete'.
- b) Without preliminary tests adopting nominal concrete mix. Such concrete shall be called 'Nominal Mix Concrete'.

As far as possible, design mix concrete shall be used on all concrete works. Nominal mix concrete, in grades permitted in accordance with IS: 456, may be used if shown on drawings or approved by the Engineer. In all cases the proportioning of ingredients and works control shall be in accordance with IS 4926 and IS: 456 and shall be adopted for use after

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the Engineer is satisfied regarding its adequacy and after obtaining his approval in writing.

3.04.02 Mix Design Criteria

Concrete mixes will be designed by the Contractor to achieve the strength, durability and workability necessary for the job, by the most economical use of the various ingredients. In general, the design will keep in view the following considerations:

- a) Consistent with the various other requirements of the mix, the quantity of water should be kept at the lowest possible level.
- b) The nominal maximum size of coarse aggregate shall be as large as possible within the limits specified.
- c) The various fractions of coarse and fine aggregates should be mixed in such a proportion as to produce the best possible combined internal grading giving the densest and most workable mix.
- d) Chemical admixtures may be used to modify the rate of hardening, to improve workability (maintaining low water - cement ratio) or as an aid to control concrete quality.
- e) The finished concrete should have adequate durability in all conditions, to withstand satisfactorily the weather and other destructive agencies which it is expected to be subjected to in actual service.

The requirement of adequate structural strength is catered for by the choice of proper grade of concrete by the Engineer. The Contractor will strictly abide by the same in his design of concrete mix installation. Notwithstanding anything mentioned in various tables given in IS: 456 giving specific values and degrees of workability for different condition of concrete placing, minimum cement content and maximum water-cement ratio for concrete exposed to sulphate attack and for concrete to ensure durability under different condition of exposure, strength requirement for different grades of concrete, proportion for nominal mix concrete, values given in the tables in IS: 456, shall be followed.

Various trials shall be given by the Contractor with specific cement content on each trial. In some cases, plasticizers and other admixtures may be necessary to achieve the desired results.

3.05.00 Strength Requirements

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The strength requirements of both design mix and nominal mix concrete where ordinary Portland Cement or Portland slag cement is used, shall be as per Table-2 of IS:456. All other relevant clauses of IS:456 shall also apply.

3.06.00 Minimum Cement Content

The minimum cement content for each grade of concrete shall be as per Table-5 of IS: 456.

3.07.00 Water-Cement Ratio

The choice of water-cement ratio in designing a concrete mix will depend on -

- a) The requirement of strength.
- b) The requirement of durability.

3.07.01 Strength Requirement

In case of 'Design Mix Concrete', the water-cement ratio of such value as to give acceptable test results as per IS: 456, will be selected by trial and error. The values of water-cement ratios for different grade and mix designs will have to be established after conducting sufficiently large number of preliminary tests in the laboratory to the satisfaction of the Engineer. Frequent checks on test will have to be carried out and the water-cement ratios will be revised if the tests produce unsatisfactory results. Notwithstanding anything stated above the Contractor's responsibility to produce satisfactory test results and to bear all the consequences in case of default remains unaltered.

In case of nominal mix concrete, proportions for different grades of concrete are specified in Table-9 of IS: 456 and no tests are necessary. The acceptance test criteria for nominal mix concrete shall be as per IS: 456.

3.07.02 Durability Requirement

Table-5 of IS: 456 gives the maximum water-cement ratio permissible from the point of view of durability of concrete subjected to adverse exposure to weather, sulphate attacks, and contact with harmful chemicals. Impermeability may also be an important consideration.

Whenever the water-cement ratio dictated by durability consideration is lower than that required from strength criterion, the former shall be adopted.

In general the water cement ratio between 0.4 and 0.45 will be desirable to satisfy the durability requirement and from the consideration of impermeability of concrete. The Contractor may propose lower water

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cement ratio as mentioned above by addition of a suitable plasticizer / super-plasticizer. However the Contractor has to propose specifically along with field trials in the event of lower cement content if found suitable along with a plasticizer. It will be preferable to use Melamine based plasticizer.

All test cubes shall be made and tested for compressive strength in accordance with IS-456. The compressive strength class of concrete for various structures shall be as follows:

TABLE – I
STRENGTH REQUIREMENT OF CONCRETE

Sl. No	Description	Grade of Concrete	Minimum Characteristic cube strength N/mm ²	Minimum Cement Content Kg/Cum	Max. free water cement ratio
1	i) Plain cement concrete used for screeds and backfill	M10	10	-	-
	ii) Lean concrete	M10	10	-	-
2	Paving in main plant area/Grade Slab	M20	20	300	0.55
3	i) Reinforced concrete for super structure and foundation	M25	25	300	0.5
	ii) Reinforced concrete for water retaining structure	M25	25	300	0.5
4	Pre-cast concrete	M25	25	300	0.5
5	Reinforced concrete for foundation of TG, Mill & Fan foundations	M30	30	320	0.45
6	TG top deck	M35	35	340	0.45
7	Piles	M25	25	400	0.5

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TABLE – II

MIX PROPORTIONS (BY WEIGHT) EXPECTED TO GIVE
 DIFFERENT DEGREES OF WORKABILITY WITH DIFFERENT
 VALUES OF WATER - CEMENT RATIO

(FOR GUIDANCE)

CEMENT/TOTAL AGGREGATE RATIOS

WORKABILITY	WATER/ CEMENT RATIO	RATIO BY WEIGHT OF CEMENT OF GRAVEL AGGREGATE		RATIO BY WEIGHT OF CEMENT OF CRUSHED STONE AGGREGATE	
		20 mm size	38 mm size	20 mm size	38 mm size
Very low	0.4	01:04.8	01:05.3	01:04.5	01:05.0
Slump	0.5	01:07.2	01:07.7	01:06.5	01:07.4
0-25 mm	0.6	01:09.4	1:10	01:07.8	01:09.6
	0.7	1:10	1:12	01:08.7	01:10.6
Low	0.4	01:03.9	01:04.5	01:03.5	01:04.0
Slump	0.5	01:05.5	01:06.7	01:05.0	01:05.5
25-50 mm	0.6	01:06.8	01:07.4	01:06.3	01:07.0
	0.7	01:08.0	01:08.5	01:07.4	01:08.0
Medium	0.4	01:03.5	01:03.8	01:03.1	01:03.6
Slump	0.5	01:04.8	01:05.7	01:04.2	01:05.0
50-100 mm	0.6	01:06.0	01:07.3	01:05.2	01:06.2
High	0.4	01:03.2	01:03.5	01:02.9	01:03.3
Slump	0.5	01:04.4	01:05.2	01:03.9	01:04.6
100-175 mm	0.6	01:05.4	01:06.7	01:04.7	01:05.7
	0.7	01:06.2	01:07.4	01:05.5	01:06.5

NOTE: 1 - Notwithstanding anything mentioned above, the cement/Total aggregate ratio is not to be increased beyond 1:9.0 without specific permission of the Engineer.

NOTE: 2 - It should be noted that such high aggregate cement ratios will be required for concretes of very low slump and high water- cement ratios which may be required to be used in mass concrete work only.

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NOTE: 3 - The above figures are for guidance only, the actual Cement/aggregate ratios are to be worked out from the specific gravities of coarse aggregates and sand being used and from trial mixes.

3.08.00 Workability

The degree of workability necessary to allow the concrete to be well consolidated and to be worked into the corners of formwork and around the reinforcement and embedments and to give the required surface finish shall depend on the type and nature of structure and shall be based on experience and tests. The usual limits of consistency for various types of structures are given below:

TABLE - III
 LIMITS OF CONSISTENCY

Degree of workability	Slump in mm with Standard Cone as per IS:1199		Use for which concrete is suitable.
	Min.	Max.	
Very low	0	25	Large Mass concrete structure with heavy compaction equipment, roads and like.
Low	25	50	Uncongested wide and shallow R.C.C. structures.
Medium	50	100	Deep but wide R.C.C. structures with congestion or reinforcement and inserts.
High	100	150	Very narrow and deep R.C.C. structures with congestion due to reinforcement and inserts.

(NOTE: Notwithstanding anything mentioned above, the slump to be obtained for work in progress shall be as per direction of the Engineer)

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With the permission of the Engineer, for any grade of concrete, if the water has to be increased in special cases, cement shall also be increased proportionately to keep the ratio of water to cement same as adopted in trial mix design for each grade of concrete. The workability of concrete shall be checked at frequent intervals by slump tests. Alternatively where facilities exist or if required by the Engineer, the compacting factor test in accordance with IS: 1199.

3.09.00 Size of Coarse Aggregates

The maximum size of coarse aggregates for different locations shall be as follows unless otherwise directed by the Engineer:-

Very narrow space	- 12 mm
Reinforced concrete except foundation	- 20 mm
Ordinary Plain concrete and Reinforced concrete foundations	- 40 mm
Mass concrete	- 80 mm
Mass concrete in very large structure	- 150 mm

Grading of coarse aggregates for a particular size shall conform to relevant I.S. Codes and shall also be such as to produce a dense concrete of the specified proportions, strength and consistency that will work readily into position without segregation.

Coarse aggregate will normally be separated into the following sizes and stacked separately in properly designed stockpiles:

150 mm to 80 mm, 80 mm to 40 mm, 40 mm to 20 mm and 20 mm to 5mm. In certain cases it may be necessary to further split the 20 mm to 5 mm fraction into 20 mm to 10 mm and 10 mm to 5 mm fractions.

This separation of aggregates in different size fractions is necessary so that they may be remixed in the desired proportion to arrive at a correct internal grading to produce the best mix.

3.10.00 Mixing of Concrete

Concrete shall always be mixed in mechanical mixer unless specifically approved by the Engineer for concrete to be used in unimportant out of the way locations in small quantities. Water shall not normally be charged into the drum of the mixer until all the cement and aggregates constituting the batch are already in the drum and mixed for at least one minute. Mixing of each batch shall be continued until there is a uniform

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distribution of the materials and the mass is uniform in colour and consistency, but in no case shall mixing be done for less than 2 (two) minutes and at least 40 (forty) revolutions after all the materials and water are in the drum. When absorbent aggregates are used or when the mix is very dry, the mixing time shall be extended as may be directed by the Engineer. Mixers shall not be loaded above their rated capacity as this prevents thorough mixing.

The entire contents of the drum shall be discharged before the ingredients for the next batch are fed into the drum. No partly set or remixed or excessively wet concrete shall be used. Such concrete shall be immediately removed from site. Each time the work stops, the mixer shall be thoroughly cleaned & when the next mixing commences, the first batch shall have 10% additional cement to allow for loss in the drum.

Regular checks on mixer efficiency shall be carried out as directed by the Engineer as per IS: 4634 on all mixers employed at site. Only those mixers whose efficiencies are within the tolerances specified in IS: 1791 will be allowed to be employed.

Ingredients for design mix concrete shall be measured by weight. For small jobs portable swing weigh Batcher conforming to IS: 2722 may be used.

Batching plant conforming to IS: 4925 shall be used for large jobs. The accuracy of the measuring equipment shall be within + 2% of the quantity of Cement, water or total aggregates being measured and within + 5% of the quantity of any admixture being used. The batching equipment shall be fitted with an accurate mechanism for weighing separately the cement, fine aggregate and coarse aggregate. Water may be measured by volume or by weight. All measuring equipment should be maintained in a clean serviceable condition, and their accuracy shall be checked periodically.

Mechanical / electrical control shall be provided on the mixing equipment to ensure the batch cannot be discharged until approved mixing time has elapsed and the entire batch shall be discharged before the mixer is recharged.

Where admixtures are employed, separate containers & measuring devices shall be used.

For minor concreting works, batching by volume according to specific weight may be permitted by the Engineer. In that case the whole bags of cement shall be used and gauge boxes used for measuring aggregates.

When hand mixing is permitted by the Engineer, it shall be carried out on a water-tight platform and care shall be taken to ensure that mixing is

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continued until the mass is uniform in colour and consistency. In case of hand-mixing, 10% extra cement shall be added to each batch.

3.11.00 Cold Weather Concreting

When conditions are such that any operation of concreting may be expected to be done at 5°C atmospheric temperature or below the work shall conform to the requirement of Clause 14 of IS:456 and IS:7861. (Part. II).

3.12.00 Hot Weather Concreting

When depositing concrete in very hot weather, the Contractor shall take all precautions as per IS:7861 (Part-I) and stagger the work to the cooler parts of the day to ensure that the temperature of wet concrete used in massive structures does not exceed 40°C while placing. Positive temperature control by pre cooling, post cooling or any other method, if required, will be specified.

3.13.00 Concreting Under Water

When it is necessary to deposit concrete under water it shall be done in accordance with the requirements of clause 14 of IS: 456.

4.00.00 SAMPLING AND TESTING OF MATERIALS

4.01.00 General

4.01.01 The method of sampling for testing of construction materials and work / job samples shall be as per the relevant IS / standards / codes and in line with the requirements of the technical specifications / quality plans. All samples shall be jointly drawn, signed and sealed wherever required, by the Contractor and the engineer or his authorized representative.

4.01.02 The Contractor shall carry out testing in accordance with the relevant IS / standards/codes and in line with the requirements of the technical specifications/quality plans. Where no specific testing procedure is mentioned, the tests shall be carried out as per the best prevalent engineering practices and to the directions of the Engineer. All testing shall be done in the presence of the engineer or his authorized representative.

4.01.03 Before execution of any civil work the Contractor shall conduct full scale suitability tests on various construction and building material such as fine and coarse aggregates, cement, admixtures, supplementary

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cementations materials and construction water to ascertain their suitability for use and the concrete mix designs conducted from reputed institutes such as Jadavpur University, IEST-Shibpur, NIT-Durgapur etc. as agreed by the engineer. The test samples for such full scale testing shall be jointly sampled and sealed by the engineer and Contractor, thereafter these shall be sent to the concerned laboratory through the covering letter signed by field quality assurance (FQA) representative of the engineer.

4.01.04 The Contractor shall timely initiate the action with regard to the evaluation of aggregates and other building material including concrete mix design, so as to ensure completion of these tests before start of civil works at site, thereby not affecting any project work. The test reports and recommendations for suitability of the materials including concrete mix design shall be promptly submitted by the Contractor to the engineer.

4.02.00 **Aggregates**

Evaluation of aggregate for potential alkali-aggregate reactivity shall be carried out as per following scope of work

- A. Evaluation of Aggregates for Mechanical / Physical Properties
- a) To carry out different tests on coarse aggregate sample i.e. specific gravity, water absorption, sieve analysis, deleterious material; soundness, crushing value, impact value, abrasion value, elongation index and flakiness index, as per IS: 2386.
 - b) To carry out different tests on fine aggregate sample i.e. specific gravity, water absorption, sieve analysis, deleterious material, soundness, silt content, clay content and organic impurities as per IS: 2386.
 - c) To prepare evaluation report based on test results of a) and b) above and to advise regarding suitability of fine and coarse aggregates.
- B. Evaluation of Aggregates for Potential Alkali-Aggregate Reactivity:
- a) To carry out petrographic analysis and accelerated Mortar bar Test on aggregate samples (1N NaOH at 80 deg. Centigrade for 14 days as per ASTM 1260, or the method established/ developed by CSMRS for 22days test).
 - b) To prepare a report based on test results of a) above and to advise regarding suitability of aggregates to be used and further testing required if any.

4.03.00 Cement

Representative samples will be taken from each consignment of cement received from the manufacturer/supplier for carrying out the tests for fineness (by hand sieving), setting time and compressive strengths. Soundness Tests may also be required to be carried out if required by the Engineer.

The tests shall be carried out free of charge by the Owner if cement is supplied by him. In case the Contractor is directed to arrange for the supply of cement as per the terms and conditions of the Contract the tests shall be carried out by him. In case due to any circumstances, the agency of supply is changed in the middle of the Contract, the party who bore the original contractual obligation will carry on with the test, free of charge to the other, till the end of the job.

No cement from a particular consignment/batch will be used on the works unless satisfactory 3 (three) days and 7 (seven) days test results for compressive strength are known. The Owner, Engineer and Contractor will jointly associate themselves with the tests irrespective of whether they are carried out by the Owner or the Contractor. These tests are of great importance as their results will have a bearing on the acceptance of concrete or otherwise as per the terms and conditions of the Contract.

4.04.00 Water

Sampling and Testing of water being used for concrete works as per IS: 3550 will be carried out by the Contractor at regular intervals and whenever directed by the Engineer. The final acceptance criteria in case of doubt will be as per IS: 3025 & IS: 456.

4.05.00 Admixture**4.05.01 Air Entraining Agents (A.E.A)**

Initially, before starting to use A.E.A., relationship between the percentage of air entrained and the cube crushing strength vis-à-vis quantity of A.E.A. used for all types of concrete will be established by the Contractor by carrying out sufficiently large number of tests. After then, at regular intervals and whenever directed by the Engineer, the Contractor will check up the actual percentages of air entrained and corresponding crushing strengths to correlate with the earlier test results.

4.05.02 Other Admixtures

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Tests for establishing the various properties of any other admixtures which may be required to be added shall be carried out by the Contractor.

4.06.00 Concrete

The sampling of concrete, making the test specimens, curing and testing procedure etc. shall be in accordance with IS:516 and IS:1199 the size of specimen being 15 cm cubes. Normally, only compression tests shall be performed but under special circumstances the Engineer may require other tests to be performed in accordance with IS: 516.

Sampling procedure, frequency of sampling and test specimen shall conform to Clause 14 of IS: 456.

To control the consistency of concrete from every mixing plant, slump tests and/or compacting factor tests in accordance with IS: 1199 and as mentioned in Clause 3.6 of this Specification shall be carried out by the Contractor every two hours or as directed by the Engineer. Slumps corresponding to the test specimens shall be recorded for reference.

The acceptance criteria of concrete shall be in accordance with Clause 15 of IS: 456.

Concrete work found unsuitable for acceptance shall have to be dismantled and replacement is to be done as per specification by the Contractor. No payment for the dismantled concrete, the relevant formwork and reinforcement, embedded fixtures, etc. wasted in the dismantled portion shall be made. In the course of dismantling, if any damage is done to the embedded items or adjacent structures, the same shall be made good to the satisfaction of the Engineer.

5.00.00 ACCEPTANCE CRITERIA

5.01.00 Standard Deviation

Standard deviation shall be based on test results and determination of Standard deviation shall conform to clause 16 of IS: 456.

5.02.00 Acceptance Criteria

The strength requirements and acceptance criteria shall conform to Clause 16 of IS: 456.

5.03.00 Inspection and Core Tests

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Inspection of concrete work immediately after stripping the formwork and core test of structures shall conform to Clause 17 of IS: 456.

6.00.00 LABORATORY AND FIELD TESTING

- 6.01.00 The field laboratory for QA and QC activities shall be constructed and set-up by the Contractor in line with the indicative field QA&QC laboratory set-up enclosed at Annexure-I. The Laboratory building shall be constructed and installed with the adequate facilities to meet the requirement of envisaged test setup. Temperature and humidity controls shall be available wherever necessary during testing of samples. The quality plan shall identify the testing equipment / instrument, which the Contractor shall deploy and equip the field quality laboratory for meeting the field quality plan requirements. The Contractor shall furnish a comprehensive list of testing equipment / instrument required to meet the planned/scheduled tests for the execution of works for OWNER acceptance/ approval. The Contractor shall mobilize the requisite laboratory equipment and QA&QC manpower at least 15 days prior to the planned test activity as per the schedule of tests.
- 6.02.00 All equipment and instruments in the field shall be calibrated before the commencement of tests and then at regular intervals, as per the manufacturer's recommendation and as directed by the OWNER. The calibration certificates shall specify the fitness of the equipment and instruments within the limit of tolerance for use. Contractor shall arrange for calibration of equipment and instruments by an NABL / NPL accredited agency and the calibration report shall be submitted to OWNER.
- 6.03.00 The tests which cannot be carried out in the field laboratory shall be done at a laboratory of repute. This includes all IITs, NCB, CSMRS, reputed government / autonomous laboratories / organizations, NITs and other reputed testing laboratories. The test samples for such test shall be jointly selected and sealed by the engineer and thereafter these shall be sent to the concerned laboratory through the covering letter signed by OWNER engineer.
The test report along with the recommendations shall be obtained from the laboratories without delay and submitted to OWNER.

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- 6.04.00 Based on the schedule of work agreed with the engineer-in-charge and the approved FQP, the Contractor shall prepare a schedule of tests and submit them to the engineer-in-charge and organize to carry out the tests as scheduled /agreed.

Annexure-I

LIST OF RMC FIELD QUALITY ASSURANCE LABORATORY APPARATUS

SL NO	DESCRIPTION	QUANTITY
1	Cube moulds - 150 mm (ISI marked)	144
2	Cube moulds - 70.6 mm	18
3	Cube testing machine with two dial gauge and brick plate attachment	2 sets of 2000 kN capacity each
4	Digital thermometer - 200°C	6
5	Electrical oven	1
6	IS sieve set along with sieve shaker – 75 μ, 150 μ, 300 μ, 600 μ, 1.18 mm, 2.36 mm, 4.75 mm, 6.3 mm, 10 mm, 12.5 mm, 16 mm, 20 mm, 22.4 mm, 25 mm, 31.5 mm, 40 mm, 50 mm, 53 mm, 63 mm, 80 mm, 90 mm, 120 mm, 125 mm, pan	1 Set for Sand & 1 set for coarse aggregate
7	Measuring cylinder (glass) 50 ml, 200 ml, 500 ml	2 each
8	Physical balance Digital 10 kg capacity L.C. – 1 gm	1
9	Platform balance – Digital: 200 kg capacity	1
10	Pycnometer	2
11	Slump cone with tamping rod	4
12	Specific gravity bottle – 50 ml	2
13	Air entrainment meter capacity – 0.005 cum	2
14	English type trowel	4
15	Impact testing machine	1
16	Le-Chatelier apparatus with water bath	2
17	Measuring cylinder (plastic) 50 ml, 100 ml, 200 ml, 500 ml	1
18	pH meter	1
19	Screw gauge	2
20	Spatula	4
21	Standard sand grade 1, 2, 3 500 kg	each
22	Stop watch - Digital	1
23	Thermometer ordinary 50°C	5
24	Vernier calipers - Digital	1
25	Vicat apparatus	2
26	Weigh Boxes	4

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27	Cylindrical measures: - capacity 0.01 cum, Dia (l) – 250 mm, Height – 280 mm, (l) with tamping rod as per IS 1199.	1
28	Rapid Curing Water Tank (IS: 1199)	1
29	Flow Table for self compacting Concrete	1

Annexure-II

INDICATIVE LIST OF BOUGHT OUT ITEMS FOR READY MIX CONCRETE WORKS

Sl. No	Bought out Item	Proposed Make	Proposed list of Manufacturers
1	Cement		
2	Construction Chemicals admixtures, waterproofing, accelerators,		
3	Any other specific high value and critical bought out Item required, meeting the specification requirements		

Note: The Bidders are required to indicate the list of proposed manufacturers/ sub-vendors for each of the BOI in their Bid proposal, which shall be discussed for finalization at post bid stage.

7.00.00 LIST OF I.S. CODES AND STANDARDS FOR REFERENCE

All work under this specification shall, unless specified otherwise, conform to the latest revisions and/or replacements of the following or any other Indian Standard Specifications and Codes of Practice. In case any particular aspect of work is not specifically covered by Indian Standard Specifications, any other standard practice, as may be specified by the Engineer, shall be followed :-

- IS: 269 - Indian Standard Specification for Ordinary Portland Cement
- IS: 383 - Indian Standard Specification for Coarse and Fine Aggregates from Natural Sources for Concrete
- IS: 455 - Indian Standard Specification for Portland Slag Cement
- IS: 456 - Indian Standard Code of Practice for Plain and Reinforced Concrete
- IS: 516 - Indian Standard Specification for Methods of Test for Strength of Concrete

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- IS: 1200 - Indian Standard Specification for Method of (Part-II) Measurement Cement Concrete Works.
- IS: 1489 - Indian Standard Specification for Portland - Pozzolona Cement - Part 1 & 2
- IS: 1791 - Indian Standard Specification for Batch Type Concrete Mixers
- IS: 2386 - Indian Standard Specification for Methods of Test for Aggregates for Concrete - Part-I to VIII
- IS: 2430 - Indian standard specification for method of sampling of Aggregate for concrete.
- IS: 2514 - Indian Standard Specification for Concrete Vibrating Tables
- IS: 2645 - Integral Cement water proofing compound
- IS: 2722 - Indian Standard Specification for Portable Swing Weigh Batchers for Concrete (Single and Double Bucket type)
- IS: 2770 - Indian Standard Specification for Method of Testing Bond in Reinforced Concrete. Part - 1: Pull out Test
- IS: 3025 - Indian Standard Specification for Methods of Sampling and Test (Physical and Chemical) for Water & waste water - Part - 1 to 37
- IS: 3550 - Indian Standard Specification for Method of Test for Routine Control for Water used in Industry
- IS: 3812 - Indian Standard Specification for Fly Ash for Use as Pozzolana & Admixture
- IS: 4031 - Indian Standard Specification for Method of Tests for Hydraulic Cement - Part - 1 to 14
- IS: 4082 - Indian Standard Specification for Recommendation on Stacking and Storage of Construction Materials at site
- IS: 4634 - Indian Standard Specification for Method of Testing Performance of Batch-type Concrete Mixers
- IS: 4925 - Indian Standard Specification for Concrete Batching and Mixing Plant
- IS: 4926 - Indian Standard Specification for Ready Mixed Concrete
- IS: 5512 - Indian Standard Specification for Flow Table for use in Tests of Hydraulic Cement and Pozzolanic Materials
- IS: 5513 - Indian Standard Specification for Vicat Apparatus

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- IS: 5515 - Indian Standard Specification for Compaction Factor Apparatus
- IS: 5816 - Indian Standard Specification for Method of Test for Splitting Tensile Strength of Concrete Cylinders
- IS: 5891 - Indian Standard Specification for Hand Operated Concrete Mixers
- IS: 6452 - Indian Standard Specification for High Alumina Cement for Structural Use
- IS: 6909 - Indian Standard Specification for Super sulphated Cement
- IS: 6925 - Indian Standard Specification for Method of Test for Determination of Water Soluble Chloride in Concrete Admixtures
- IS: 7320 - Indian Standard Specification for Concrete Slump Test Apparatus
- IS: 7861 - Indian Standard Specification for (Part-I Recommended Practice for hot and cold & II) Weather Concreting
- IS: 7969 - Safety Code for Storage and Handling of Building Materials
- IS: 8041 - Indian Standard Specification for Rapid Hardening Portland cement
- IS: 8142 - Indian Standard Specification for Determining Setting time of Concrete by Penetration Resistance
- IS: 9103 - Indian Standard Specification for Admixtures for Concrete.
- IS: 10262 - Recommended Guideline for concrete Mix Design
- IS: 12330 - Indian standard specification for sulphate resisting Portland cement
- IS: 12600 - Indian standard specification for low heat Portland cement

LOGO	INDICATIVE FIELD QUALITY PLAN										ANNEXURE- III A
SUPPLIERS NAME AND ADDRESS:											
	ITEM : CIVIL WORK SUB-SYSTEM : READY MIX CONCRETE	QP NO.:		REV. NO.:	DATE:	Page 1 of 9	PROJECT: PACKAGE: CONTRACT NO. MAIN CONTRACTOR				
Sl. No	Activity and operation	Characteristics / Instruments		Class of check	Type of check	Quantum Of check	Reference Document	Acceptance Norms	Format of Record		Remarks
1	2	3		4	5	6	7	8	9	D*	10
1	GENERAL REQUIREMENTS										
A	Setting up of Field QA&QC" laboratory		As agreed / required	A	Physical	Once prior to start of work	Tech Specs and Const. Drawings		SR	√	Functioning of laboratory equipment in proper working condition to be verified on monthly basis
B	Availability of requisite laboratory set up and equipment in good working condition well before commencement of concerned activity.		As agreed / required	A	Physical	Once prior to start of work and thereof monthly	Tech Specs and Const. Drawings		SR	√	
C	Submission of QA & QC manpower deployment schedule based on agreed L-2 network.			A	Physical	Once prior to start of work	Tech Specs and Const. Drawings		SR	√	
D	Availability of QA&QC manpower based on deployment schedule.			A	Physical	Once prior to start of work and thereof monthly	Tech Specs and Const. Drawings		SR	√	

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1	2	3		4	5	6	7	8	9	D*	10
E	Sampling for testing of building materials, concrete mix design etc.		As agreed / required	A	Physical	Once per each source	Tech Specs and Const. Drawings		SR/TR	√	Test report along with the recommendations from specialist agency to be submitted to the Engineer.
F	Submission of schedule of tests to be done monthly / quarterly and maintenance of the same on a computer connected to LAN for monitoring				Physical	Once prior to start of work and thereof monthly	Tech Specs and Const. Drawings		SR	√	
G	Stacking and storage of construction materials and components at site		As per IS:4082	B	Physical	Random	Tech Specs and Const. Drawings and IS:4082		SR	√	
H	All bought out items to be procured from the approved vendor and on approval of Quality plans by Engineer as per inspection category.		-	B	Verification of TC and/or Testing 100% SR/LB	100%	Tech Specs/BOQ		SR/LB	√	The TC submitted should bear proper identification or correlation with the batch of material supplied and same shall be brought out in the challan/ consignment note.

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Sl. No	Activity and operation	Characteristics / Instruments		Class of check	Type of check	Quantum Of check	Reference Document	Acceptance Norms	SI. No	Activity and operation	
1	2	3		4	5	6	7	8	9	D* 10	
1	Submission of list of Bought out items and their vendors for each of the bought out item identified for approval within the period agreed in LOA.		-	A	Physical	One time	Tech Specs/BOQ		SR/LB	√	To be submitted to CQA for approval with a copy to site.
2	MATERIALS	Expert opinion regarding suitability of construction materials shall be taken from Specialist institute Identified during pre-award)									
2.1	CEMENT										
		Retesting of cement	As per IS :4031	A	Testing	At Random	As per relevant IS Codes		Test Report	√	Each consignment of cement shall be duly correlated with manufacturers TC, in case the cement is supplied by the contractor one sample from each lot shall be tested for setting time and compressive strength. Acceptance norms shall be as per relevant IS. If cement is stored more than 60 days in godown of contractor same shall be retested for comp. Strength & setting time.

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Sl. No	Activity and operation	Characteristics / Instruments		Class of check	Type of check	Quantum Of check	Reference Document	Acceptance Norms	SI. No	Activity and operation	
1	2	3		4	5	6	7	8	9	D*	
10											
2.2	Coarse Aggregate										
i		Moisture content	As per IS:2386	B	Physical	Once for each stack of 100 CuM, or part there of	IS: 456 IS : 383/Tech Spec		SR/LB	√	During monsoon this has to be done every day before start of concreting
ii		Specific gravity, water absorption	IS:2386	A	Physical	Once for each source & for every change of source	IS: 2386 Part-III,IS:456, IS-383/Tech Spec.		SR/LB/Test Report	√	
iii		Sieve analysis, flakiness index, elongation index,	IS:2386	B	Physical	One per 100 cum., or part there of	IS:2386 Part-I, IS:383/Tech Spec		SR/LB	√	
iv		Deleterious materials (coal & lignite, clay lumps, material finer than 75 micron sieve, soft fragment , shale)	IS:2386	A	Physical	Once per source/on every change of source	IS:2386 Part-II, IS:383/Tech Spec		SR/LB/Test Report	√	
V		Soundness	IS:2386	A	Physical	- do -	IS:2386 Part-V, IS:383		SR/LB/Test Report	√	
vi		Alkali aggregate reactivity		A	Physical	- do -	IS: 2386 (Part-VII), IS:383 /Tech Spec/ASTM C-1260 / ASTM 1293		SR/LB/Test Report	√	The aggregate type (deleterious/innocuous result should be supported by petrographic examination

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Sl. No	Activity and operation	Characteristics / Instruments		Class of check	Type of check	Quantum Of check	Reference Document	Acceptance Norms	SI. No	Activity and operation	
1	2	3		4	5	6	7	8	9	D*	10
vii		Petrographic examination	IS:2386 Pt VIII	A	Physical	- do -	IS:2386 Part-VIII, IS : 383 /Tech Spec		SR/LB/Test Report	√	
viii		Crushing value, abrasion value and impact value	IS:2386	A	Physical	- do -	IS: 383. IS-2386 Part IV/Tech Spec		SR/LB/Test Report	√	
2.3	Fine Aggregate										
i		Moisture content, water absorption	balance, oven etc	B	Physical	To be done every day before start of work	IS : 2386 Part-III IS:383		SR/LB/Test Report	√	
ii		Deleterious materials (coal & lignite, clay lumps, material finer than 75 micron sieve, soft fragment , shale)	IS : 2386	B	Physical	Once per source & for on every change of source	IS : 2386 Part-II. IS:383		SR/LB/Test Report	√	
iii		All other tests similar to coarse aggregates as mentioned above.					IS-2386. IS-383		SR/LB/Test Report	√	Except test for flakiness index, elongation index, abrasion value, impact value

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Sl. No	Activity and operation	Characteristics / Instruments		Class of check	Type of check	Quantum Of check	Reference Document	Acceptance Norms	SI. No		Activity and operation
1	2	3		4	5	6	7	8	9	D*	10
2.4	Water										
i		Test for acidity & alkalinity, sulphate and chloride content.	Burette, conical flask pipette etc	B	Testing	One per 3 month for each source	IS:3025 part 22 and 23 (for test procedure) IS:456 for acceptance)		SR/LB/Test Report	v	
ii		Tests for ascertaining limit of solids	As per IS Code	B	Physical	One per 3 month for each source	IS:3025 part 18 (organic),IS:456		SR/LB/Test Report	v	
iii		Tests for pH Value	pH meter	B	Testing	One per 3 month for each source	IS :3025, IS:456		SR/LB/Test Report	v	
2.5	CONCRETE										
i		4 Trial mixes to ascertain the workability and cube strength	After receiving the recommended mix design from specialist agency	A	Physical	One for each mix proportion	Tech specification		SR/LB	v	

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Sl. No	Activity and operation	Characteristics / Instruments		Class of check	Type of check	Quantum Of check	Reference Document	Acceptance Norms	Sl. No	Activity and operation	
1	2	3		4	5	6	7	8	9	D*	10
ii		Crushing strength (works Tests cubes)	IS:516	A	Physical	One set of 6 cubes per 50 CuM or part thereof for each grade of concrete per shift whichever is earlier.	IS: 516, IS: 456. Tech. Spec		SR/LB/Test Report	v	Min. of 6 cubes for each mix, 3 specimen shall be tested at 7 days remaining 3 shall be for 28 days comp. Strength.
iii		Workability - slump test	IS :1199	B	Physical	At the time of concrete pouring at site every two hrs.	IS:456/ Tech, Spec,		SR/LB/Test Report	v	
iv		Water content		B	Physical	Once per shift	As per approved design mix.		SR/LB	v	At batching plant
2.5.1	Admixtures for Concrete	Type of admixture	As per IS:9103	A	EIC Approved source and review of MTC/test reports	For each lot received at site	Design mix and IS:9103		Test Report	v	Admixture of approved Brand and tested quality shall be used (each lot of admixture shall include brochure in which the type of admixture and its properties shall be clearly indicated.

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1	2	3		4	5	6	7	8	9	D*	
		Suitability	As per IS:9103	B	Physical	For each lot received at site	Design mix and IS:9103		SR/LB/Test Report	v	Relative density, pH and slump retention on each batch / lot of admixture and to compare these properties with MTC
2.6	Concrete conveying, placing & compaction										
i		mixing of concrete shall be done in a approved mixer such as to produce a homogenous mix				To be calibrated at the time of starting and subsequently once in three months, and shall conform to IS:4925	Review of calibration chart/ Certificate, IS 4926				
ii		Arrangement for transportation & placement of concrete,	As required	C	Visual	100%	Before clearance for concreting		Inspection Report	v	
iii		Calibration of Batching Plant	Batcher should comply with requirement of IS 4926/ IS:4925	A	Physical	To be calibrated at the time of starting and subsequently once in three months, and shall conform to IS:4925	Review of calibration chart/ Certificate		Calibration Certificate	v	Provision of online printer is mandatory

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1	2	3		4	5	6	7	8	9	D*	10
iv		Handling and Transportation of concrete	As required	B	Physical	100%	As per construction/ erection methodology (to be approved one week prior to start of work)		SR	v	
v		Temperature Control of Concrete for top deck of TG Foundations.	Thermometer	B	Physical	100%	Temperature as per technical specification		SR	v	

- NOTE: 1. LEGEND: D *Records, identified with Tick" (v) shall be essentially included by supplier in QA
2. Legend to be used: Class #: A= Critical, B=Major, C=Minor, SR, TR, MTC, LB
3. Categorization Witnessing & Accepting (As per owner QA&I System) Category 'A' FQA Engineer In association with Executing Engineer, Category 'B' Executing Engineer, Category 'C' Executing Engineer ;SR - Site Register, TR= Test Report, MTC = Manufacturer's Test Certificate
4. This document shall be read in conjunction with owner Tech. Specifications, BOQ, Drawings

Providing Ready Mix concrete
for 1X660 MW
Sagardighi Thermal Power Project
at
Murshidabad,
West Bengal



Bharat Heavy Electricals Limited
(A Govt. of India Undertaking)
Power Sector– Eastern Region
Plot–DJ9/1, Sector-II, Salt Lake
Kolkata-700091

TENDER NO. – PSER: PUR: PMX: 350(II): 004: (ENQ: 19: PP: 0015: PUR: 4) Date 11/04/2019		
VOLUME-IC	SPECIAL CONDITIONS OF CONTRACT (SCC)- SUPPLY	PAGE 2 OF 25

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4.0	OPEN SPACE FOR OFFICE & STORAGE
5.0	WATER
6.0	ELECTRICITY
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29.0	CERTIFICATE TOWARDS COMPLETION
30.0	SPLITTING OF THE CONTRACT
31.0	CIVIL LABORATORY
32.0	CONSTRUCTION SCHEDULE
33.0	MATERIAL HANDLING
34.0	TOOLS & PLANTS (TO BE PROVIDED BY CONTRACTOR)
35.0	OTHER TERMS

ANNEXURE- A: LIST OF EQUIPMENTS FOR CIVIL SITE LABORATORY

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The Special Conditions of Contract (SCC) inscribed hereunder shall be read and construed along with General Conditions of Contract (GCC, Supply) and in case of any conflict or inconsistency, the provision of the Special Conditions of Contract, shall prevail.

1.0	PROJECT SYNOPSIS AND GENERAL INFORMATION
1.1	<p>Project name: Sagardighi Thermal Power Extension Project, unit # 5, 1x660 MW. No of unit x capacity: 1 x 660 MW (Super-critical). Project setting up by: West Bengal Power Development Corporation Limited. Design ambient dry bulb temp: 50 deg max, 5 deg min. Max relative humidity: 84%. Average rainfall: 1389 mm.</p>
1.2	APPROACH TO SITE
	<p>The site is located at Manigram, about 13 km north of Sagardighi town by the side of the SMGR (Sagardighi – Manigram – Gankar - Raghunathgunj) road at a distance 20 km. from National Highway 34 in Murshidabad district in W.B and around 240 km from Kolkata. Nearest railway station is Manigram adjacent to the site on Bandel - Barhawara branch line and 6.5 km from Sagardighi Railway Station on Sainthia - Azimgunj line of Eastern Railway. From Sagardighi railway station a railway line will branch off to the site for material unloading and coal marshalling. Nearest Airport: NSC Bose Air Port, Kolkata. Nearest Seaport: Haldia / Kolkata.</p>
1.3	Owner: WBPDCCL (West Bengal Power Development Corporation Limited)
2.0	SCOPE OF THE CONTRACT
2.1	<p>The scope of work includes the followings:</p> <ol style="list-style-type: none"> 1. Procurement, Supply, storing, of approved quality aggregates, Cement, admixtures etc. for ready mix concrete of various grades as per details given in BOQ or elsewhere in the contract document. 2. Establishment of Design mix of various grades as per IS-456 and IS-10262 or equivalent Standard. 3. Production of ready mix concrete in computerised automatic batching plant of required capacity as per quality norms and as per Field Quality Plan (FQP) approved by Customer. 4. Conducting various tests in established ready mix concrete testing Laboratory at site as per FQP. 5. Supply of ready mix concrete at batching plant in transit mixers placed by respective vendors of BHEL or at site by transit mixers provided by you.
2.2	<p>Mix design (M 20, M 25, M 30, M 35 or as required grade) for all concreting shall be carried out from a reputed & approved laboratory of BHEL / WBPDCCL. contractor may add admixture for minimizing of cement content in line with relevant IS code as advised by BHEL time to time without any additional cost.</p> <p>Some of the design mixes are available at site. Vendor may adopt the existing design mixes or design may be carried out from listed approved laboratory for Sagardighi Project.</p>

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2.3	The work to be performed under this specification consists of providing all labour, materials, consumables, equipment, temporary works, temporary storage sheds for contractors own use, temporary colony for labour and staff, temporary site offices, constructional plant's transportation / handling and all incidental items not shown or specified but reasonably implied or necessary for the completion of subject scope, all in strict accordance with the specifications including revisions and amendments thereto as may be required during the execution of work.	
2.4	Batching plant area along with 6m wide & approx. 150 m long approach road shall have to be properly hard surfaced with interlocking pavers or brick bats etc. with adequate drainage system. There should be separate area for parking of bulker and transit miller.	
2.5	Minimum Two-month stock of raw material including admixture are to be maintained all time at batching plant. Initially minimum monthly requirement would be 5000 cum. Approximate 10000 – 12000 Cum of ready mix concrete monthly may have to be supplied during peak period i.e. except rainy season as per requirement if BHEL. In rainy season the approximate quantity shall be 6000 – 8000 Cum monthly. Separate shed for storage of cement and admixture is to be made.	
2.6	SANITARY The Contractor shall furnish and maintain sanitary facilities for the use of all personnel engaged in the Work under this Contract. These facilities shall be subject to the approval by the Employer.	
2.7	The scope shall also include testing of material & ready mix concrete in laboratory with necessary equipment for conducting relevant tests as required. Instruments used in Lab shall have valid calibration certificate from authorized agency.	
2.8	All quality standards & other technical requirements shall be strictly adhered to. The Bidder shall fully apprise himself regarding prevailing conditions at the site, climatic conditions including monsoon pattern, soil conditions, local conditions and site specific parameters and shall include for all such conditions and contingent measures in the bid, including those which may not have been specifically mentioned in the specifications.	
2.9	All works under this specification, unless specified otherwise, shall conform to the latest revision of Indian Standard Specifications and Codes of Practice. In case any particular aspect of work is not covered specifically by customer Specification, any other IS standard practice as may be specified by the Engineer shall be followed.	
3.0	SITE VISIT	
3.1	Contractor should visit site and acquire full knowledge & information about site conditions prevailing at site and in and around the plant premises together with all the statutory, obligatory, mandatory requirements of various authorities before submission of the bid in line with the above, site visit confirmation will be required to be submitted by the bidder with the technical bid.	
4.0	OPEN SPACE FOR OFFICE & STORAGE	
4.1	Open spaces for material storage yard & construction of temporary site office may be allocated as made available by the customer / BHEL free of cost. Contractor has to make his own arrangements for labour colony including Electricity and water for the labour colony.	
4.2	Construction of necessary stores and storage of materials shall be in contractor's scope. BHEL shall provide available space as received from customer on mutually agreed basis. Security of stores & work place shall be in Contractor's scope.	
4.3	REMOVAL OF TEMPORARY FACILITIES When the Work is completed all such temporary structures and facilities shall be removed from the Site and the area shall be restored to its original condition.	
5.0	WATER	
5.1	Construction water of required quality will be made available before start of work at one point within 500 m from work premises free of cost to the contractor. Bidder has to installed minimum 50 Cum Capacity of water storage tank in Batching Plant area. Bidder to note that no ground water is allowed for construction purpose by the project authority.	

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5.2	Further necessary network for construction & drinking water system shall be done by the bidder at his own cost.
5.3	Contractor should arrange on their own, drinking water in their labour colony.
5.4	BHEL shall not be responsible for any inconvenience or delay caused due to any interruption of water supply and the contractor shall claim no compensation for delay in work for such interruption. Contractor may make standby arrangement for water for which no separate payment shall be made by BHEL.
5.5	Contractor will have to arrange for storage of water to meet the day-to-day requirement. Bidder will ensure adequate supply of construction water to meet the requirement of water during major concreting.
5.6	Construction water shall be supplied for only production of ready mix concrete and for that meter shall have to be installed by the vendor. Vendor has to arrange water for maintenance of all batching plant machineries. Separate water storage shall be arranged for service water needs. The availability of water in Sagardighi project may be limited. Contractor shall ensure that no water is wasted. In this regard the contractor shall take all necessary measure towards preservation of water.
6.0	ELECTRICITY
6.1	<p>BHEL Shall Provide Construction Power free of charge at 415V level at one point (within 500 M from his workplace / batching plant), bidder has to make his own distribution arrangement to draw electricity.</p> <p>However, During Construction Power interruption, vendor has to keep their DG back-up to maintain steady production of Ready mix concrete till end of contract.</p> <p>The bidder will have to procure & install adequate area illumination system during construction right from start of his work. This system will include temporary pole lighting, portable lighting towers with sufficient DG back-up for area lighting at different working areas for execution of the work & safety of workmen within the quoted rate.</p> <p>The illumination should be such that minimum illumination requirement as specified in specification or any-where for general illumination is maintained.</p> <p>GENERAL: -</p> <p>If any other voltage level (other than normally available) is required, the same shall be arranged by the contractor from power supply as above. Contractor will have to provide at his own cost necessary calibrated energy meters (tamper proof, suitably housed in a weather proof box with lock & key arrangement) at point of power supply along with calibration certificate from authorized / accredited agency for working out the power consumption. In case of recalibration required for any reason the necessary charges including replacement by calibrated meters is to be borne by the contractor. Supply of electricity shall be governed by Electricity Act and Installation Rules and other Rules and Regulation as applicable. The contractor shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases.</p>
6.2	The bidder shall have to provide earth leakage circuit breaker at each point wherever human operated electrical drives / T&Ps are deployed.
6.3	The power supply will be from the available source of customer. BHEL shall not be responsible for any inconvenience or delay caused due to any interruption of power supply / variation in voltage level and no compensation for delay in work can be claimed by the contractor due to such non-supply on the grounds of idle labour, machinery or any other grounds.
6.4	Bidder will have to arrange sufficient illumination at their own work areas.
6.5	The contractor should ensure that the work in critical areas is not held up in the event of power breakdown. In the event of breakdown in the electric supply, if the progress of work is hampered, it will be the responsibility of the contractor to step up the progress of work after restoration of electric

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	supply so that overall progress of work is not affected.	
6.6	The contractor shall have to make arrangement at their own cost for illumination that will be required in the working area for execution of the work & safety of workmen.	
6.7	The contractor shall have to make arrangement at their own cost for illumination etc in labor colony. However there may be provision of Chargeable Power for labor colony for which contractor has to install meters and necessary accessories	
7.0	MATERIAL SUPPLY	
7.1	SUPPLY OF MATERIALS – All requisite approved quality materials viz. cement aggregates, sand, admixtures and consumables (like gas, electrodes etc. and other materials required for the work) shall be supplied by the contractor in time during execution. BHEL shall not supply any materials for this work.	
7.1.1	Cement shall be as per Technical specification and description mentioned in the respective items of BOQ.	
7.1.2	Test certificates in respect of Cement for each consignment to be furnished and also to be tested as per FQP before use. The contractor shall submit the consumption statement of cement used in the works along with bill.	
8.0	INSPECTION, TESTING AND INSPECTION CERTIFICATES	
8.1	The engineer, his duly authorized representative and / or an outside inspection agency acting on behalf of BHEL / owner shall have access at all reasonable times to inspect & examine the materials & workmanship of the works during its manufacture and if part of the works is being manufactured or assembled on other premises or works, the vendor shall obtain for the engineer and for their duly authorized representative permission to inspect as if the works were manufactured or assembled on vendor's own premises or works. Necessary arrangement for carrying out inspection including supply of labour, IMTEs, area illumination and scaffolding, if required will be vendor's responsibility and same has to be carried out within the quoted price.	
8.2	Before any materials, leaves the place of manufacture, BHEL shall be given the option of witnessing inspections & tests for compliance with specifications & related standards. The vendor shall give the engineer / inspector 15 days written notice of any material being ready for testing. Such test shall be to the vendor's account except for the expenses of the inspector. The engineer / inspector, unless the inspection is waived will attend such tests within 15 days of the date on which the equipment is notified as being ready for test / inspection, failing which the vendor may proceed with test which shall be deemed to have been made in the inspector's presence and he shall forthwith forward to the Inspector duly certified copies of test reports.	
8.3	In all cases where the vendor provides the tests at the premises of the vendor or any sub-vendor, the vendor except where otherwise specified shall provide free of charge such items as labour, materials, electricity, fuel, water, stores, apparatus and instruments as may be reasonably demanded by the engineer/ inspector to carry out effectively such tests on the equipment in accordance with the contract and shall give facilities to the engineer/ inspector to accomplish testing.	
9.0	INSURANCE	
9.1	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.	
9.2	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.	

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9.3	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.	
9.4	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.	
9.5	Other conditions of Insurance shall be as per relevant clause of GCC/SCC.	
10.0	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 his 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.	
11.0	DEWATERING	
	Contractor shall ensure at all times that his work area & approach / access roads are free from accumulation of water, so that the materials are safe and the operation of plant / progressive delivery schedule are not affected. No separate claim in this regard shall be admitted by BHEL. No separate payments for dewatering of subsoil, surface water or catchments water, if required, at any time during execution of the work including monsoon period shall be considered by BHEL.	
12.0	TIME SCHEDULE/ COMPLETION PERIOD	
	The entire work under the scope of work shall be successfully completed in all respect as below: <ol style="list-style-type: none"> 1. Supply of Ready Mix Ready mix concrete(RMC): within 30 (thirty) months from date of start of work, as certified by Construction Manager, BHEL. 2. Mobilization at site shall be done within 45 days from date of written intimation from BHEL. The exact date of start of work shall be reckoned based on certificate of Construction Manager, BHEL. 3. Weekly & daily requirement of RMC shall be finalized with designated representative of BHEL suitably and production/supply to be made accordingly. Records of such requirements shall be properly maintained. 	
13.0	PRICE BID, CONTRACT PRICE & EVALUATION OF PRE-QUALIFICATION CRITERIA	
	Bidders should quote prices in INR as per format, Volume-III provided in the tender. Bids shall be evaluated based on grand total price quoted.	
14.0	TERMS OF PAYMENT	
14.1	The contractor shall submit his running bill (RA bill) once in a month at the end of each month in line with payment terms / billing schedule indicated below. The RA bill complete in all respects accompanied by BHEL engineers certified / measurement sheet, jointly signed, will be paid after	

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	<p>passing of the bill subject to completeness & correctness. The measurement will be taken as specified in terms & conditions of contract and certified by the BHEL engineer of actual work. However, no extra payment shall be made in the event of delay in release of payment.</p> <p>95% pro-rata monthly RA payment shall be considered for payment based on monthly work completion certificate to be issued by BHEL engineer as per approved BBU/Price Schedule.</p> <p>The payment shall be released within 60 days from the date of receipt of complete invoice along with all necessary documents including Engineering Certificate.</p>
14.2	Out of above 95%, 3% of gross bill amount shall be paid in the following manner on certification by BHEL engineer after compliance of each of following activity in each month. In case of non-fulfilment of respective activity by contractor in each month, no payment shall be made by BHEL against corresponding activity and no claim of bidder at a later date, whatsoever, in this regard shall be entertained by BHEL.
14.2.1	0.7 % shall be paid on compliance of housekeeping of contractor's working area and store/ office areas.
14.2.2	0.3 % shall be paid on compliance of general illumination of contractor's working area and stores, office area.
14.2.3	0.2 % shall be paid on compliance of applicable OHSAS requirement as per guidelines of BHEL/ PSER and as specified in the tender.
14.2.4	0.3 % shall be paid on compliance of applicable safety requirement as per guidelines of BHEL/ PSER and as specified in the tender.
14.2.5	1.5% shall be paid on submission of soft & hard copies of MSQR (Monthly Site Quality Report) related to all Field Quality activities which have to carry out at site as per approved FQP.
14.3	Balance 5% shall be paid after completion of warranty period of 3 months from the date of completion of work and handing over back of site / land to BHEL / WBPDCCL.
14.4	Contractor shall make their own arrangement for making payment of impending labour wages and other dues in the meanwhile.
14.5	Contractor has to submit entry gate pass for cement and admixture required for the work to BHEL. Contractor have to submit entry gate pass along with royalty paid certificate for Fine & coarse aggregate required for the work to BHEL. In absence of the above their corresponding RA bills shall not be processed.
14.6	Subject to any deduction which BHEL may be authorized to make under the contract, the contractor shall on the certification of the BHEL engineer at site, be entitled to payment explained hereunder.
14.7	The bills will be sent to BHEL, Site Finance for scrutiny and payment will be made after processing / verification only.
14.8	The measurement will be taken by BHEL engineer as per relevant clause of specification and IS standard and certify regarding actual work executed in measurement book and bills for work. However no additional payment shall be made in the event of delay in release of payment beyond the stated period.
14.9	All admissible recovery / adjustment, etc. shall be made from interim payable amount.
14.10	BHEL site at its discretion may split up percentage break up and effect payment to suit the site condition, cash flow requirement, according to the progress of work.
14.11	Paying Authority: Construction Manager, BHEL, Sagardighi TPS Project, BHEL-PSER. The quoted / accepted price shall remain Firm throughout the contract period Including extension period, if any. However, price variation shall be paid / recovered as per relevant clause.
15.0	TAXES, DUTIES ETC.
15.1	All taxes excluding GST & BOCW Cess (as specified 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

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	execution of the contract shall be borne by successful bidder and shall not be payable extra by BHEL. Any increase of above at any stage during execution of contract, including extension of the contract, shall have to be borne by successful bidder contractor. Bidder's quoted/ accepted rates/ price shall be inclusive of all such requirements.
15.2	GST along with Cess (as applicable) legally leviable & payable by successful bidder as per GST Law shall be paid by BHEL, extra. Hence, bidder shall not include GST along with Cess (as applicable) in their quoted rates/ price.
15.3	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 successful bidder on BHEL for this project / work.
15.4	Since GST on output will be paid by BHEL separately as enumerated above, bidder's your quoted rates / price should be after considering the Input Credit under GST law at bidder's end.
15.5	TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills (RA bills) unless exemption certificate from the appropriate authority / authorities is furnished.
15.6	TDS under GST (if / as & when applicable later) shall be deducted at applicable rates on gross invoice value from the running bills (RA bills). However, as on date no TDS under GST is applicable.
15.7	Bidder shall note that GST Tax Invoice complying with GST Invoice Rules (Section 31 of GST Act & Rules referred thereunder) wherein the 'Bill To' details shall encompass following. BHEL GSTN – Refer attached GSTN code table of BHEL. Name - BHARAT HEAVY ELECTRICALS LIMITED Address - Shall be intimated later. Specific details of BHEL GSTN, Name and Address as stated above, have been specified elsewhere in the tender.
15.8	Successful 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 send a scanned copy of Tax Invoice to BHEL through following communication mode for enabling BHEL to meet its GST related compliances. Portal address. and Email address – Shall be intimated later. Specific details of above shall be intimated to successful bidder by BHEL at appropriate juncture.
15.9	In case of delay in submission of above mentioned 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 successful bidder, in case such delay is not attributable to BHEL.
15.10	In case of raising any Supplementary Tax Invoice (Debit / Credit Note), successful 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.
15.11	Successful 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, successful bidder shall also ensure prompt delivery of goods after dispatch.
15.12	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, not attributable to BHEL, GST amount shall be recoverable from successful bidder along with interest levied/ leviable on BHEL, as the case may be.
15.13	Successful 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 successful

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	bidder along with interest levied / leviable on BHEL.			
15.14	Way Bill: Successful bidder to arrange for way bill / e-waybill for any transfer of goods for the execution of the contract. Successful bidder has to make their own arrangement at their cost for completing the formalities, if required, with Issuing Authorities, for bringing materials, plants & machinery at site for execution of the works under this contract, Road Permit / Way Bill, if required, shall be arranged by successful bidder and BHEL will not supply any Road Permit/ Way Bill for this purpose.			
15.15	Any new taxes & duties, if imposed subsequent to due date of offer submission as per NIT & TCN, by statutory authority during contract period (including extension, if the same is not attributable to you), shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, you shall obtain prior approval from BHEL before depositing new taxes and duties.			
15.16	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.			
16.0	PRICE VARIATION CLAUSE/ ESCALATION			
16.1	ESCALATION / PRICE VARIATION CLAUSE shall be applicable as detailed below:			
16.1.1	In order to take care of variation in cost of execution of work on either side, due to variation in the index of Cement, Aggregate & Diesel, Price Variation Formula as described herein shall be applicable			
16.1.2	85% component of Contract Value shall be permitted to be adjusted for variation in various relevant indices during execution of work. The remaining 15% shall be treated as fixed component.			
16.1.3	SL NO	CATEGORY	INDEX	COMPONENT (K)
	i)	Cement	Monthly index numbers for ORDINARY PORTLAND CEMENT as per Office of the economic Adviser. (website: http://eaindustry.nic.in/home.asp)	45
	ii)	Aggregates	Monthly index numbers for STONE, CHIP as per Office of the economic Adviser. (website: http://eaindustry.nic.in/home.asp)	35
	iii)	Diesel	Monthly index numbers for HSD as per Office of the economic Adviser. (website: http://eaindustry.nic.in/home.asp)	5
16.1.4	<p>Payment / recovery due to variation in index shall be determined on the basis of the following notional formula without any initial absorption, in respect of the identified components viz Cement, Aggregate & Diesel.</p> $P = K \times R \times (X_n - X_o) / X_o$ <p>Where</p> <p>P = Amount to be paid / recovered due to variation in the Index for Cement, Aggregates & diesel. K = Percentage component applicable for Cement, Aggregate & Diesel. R = Value of work done for the billing month X_n = Revised Index / price for Cement, Aggregates & diesel for the billing month under consideration. X_o = Index / price for Cement, Aggregates & diesel as on the Base date.</p>			
16.1.5	Base date shall be calendar month of the date of LOI.			
16.1.6	PVC shall not be payable for the Supplementary / Additional Items, Extra works executed on man day rates basis.			

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16.1.7	You shall furnish necessary monthly indices for Cement, Aggregate & Diesel from the relevant websites along with your Bills.	
16.1.8	You will be required to raise the bills for price variation payments on a monthly basis along with the running bills irrespective of the fact whether any increase / decrease in the index for relevant categories has taken place or not. In case there is delay in publication of bulletins (final figure), the provisional values as published can be considered for payments and arrears shall be paid / recovered on getting the final values.	
16.1.9	PVC shall be applicable for the entire original contract period plus the extended period. However the Total Quantum of Price Variation amount payable/ recoverable shall be regulated as follows:	
16.1.10	For the portion of backlog attributable to you, the PVC will be based on the average of the indices for the period of the original contract period.	
16.1.11	For the period of Force Majeure, the PVC will be limited to the indices applicable at the beginning of the force majeure period.	
16.1.12	For the portion of backlog attributable to BHEL, the PVC will be as per the indices applicable for the respective months.	
16.1.13	The total amount of PVC shall be limited to 10% of executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary / Additional Items, Extra works executed on man day rates basis.	
17.0	PROJECT MANAGEMENT/ CONSTRUCTION MANAGEMENT	
	To meet the need of construction management at site, contractor shall provide the following services within quoted / accepted rates.	
17.1	PLANNING & MONITORING	
17.1.1	The bidder shall prepare a detail supply schedule (L-3) as per requirement given in this document. This network must conform to the overall supply schedule. The bidder should also ensure monitoring of these activities at least weekly basis to start with and on daily basis whenever required by BHEL.	
17.1.2	<p>The bidder will have to Supply & install of 1 Nos. PCs (multimedia PC work station Pentium- Core-i5-650, 3.2 GHZ or above, 500 GB HDD, 4 GB RAM, 100 /1000 MBPS LAN card) of HP / HCL / COMPAQ / ZENITH or equivalent make with window 10 or higher, 64 bit (with roll back to 32 bit O/S and required software like MS Office 2013 or higher, AutoCAD 2014 or higher, ADOBE PDF CREATOR with 1 nos. Multifunction (scanner / copy / print) & 1 No. A4 Colour laser printer as per instruction of BHEL for exclusive use of BHEL. These computers / printer / Multifunction shall remain Vendors property and they will be allowed to take out the same after closing of contract. The contractor shall provide data / information etc. in prescribed formats for periodical updating of the progress reports, material management reports, updating of network pertaining to the contractor's scope of work etc.</p> <p>The contractor shall also provide 2 (Two) Number computer operators and 2 (Two) number service staff for miscellaneous service for BHEL's use at site / Kolkata for reconciliation, progress review & day-to-day planning purpose, documentation etc.</p> <p>These facilities are to be provided within 30 days from LOI date till completion of scheduled contract period.</p> <p>If BHEL does not avail the service of computer / printer / personnel as per requirement, BHEL shall have the right to deduct the amount as per following rates on prorated basis, from contractor's RA bill or any other dues.</p>	
17.1.2.1	@ Rs 20,000/- (Rupees Twenty thousand)/ month for each computer operator or at actual (rate +30%)	

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	if BHEL arranges this facility, whichever is lower.	
17.1.2.2	@ Rs 12,000/- (Rupees Twelve thousand)/ month for each computer with printer or at actual (rate +30%) if BHEL arranges this facility, whichever is lower.	
17.1.2.3	@ Rs 16,000/- (Rupees Sixteen thousand)/ month for each service staff or at actual (rate +30%) if BHEL arranges this facility, whichever is lower.	
17.1.2.4	In the event of the contract period getting extended beyond the stipulated time for reasons not attributable to the bidder. The bidder will be reimbursed at the above mentioned rate or actual +15%, whichever is lower, if the services of operator/ service staff are being used by BHEL.	
17.1.3	The contractor's site office must have facilities of communications like Fax, E-mail, and telephone with STD facility within a month from LOI.	
17.2	PROGRESS REPORTING	
17.2.1	The bidder shall submit monthly progress reports for work force, materials, consumables (cement, aggregates, admixtures etc.) and other as per pro-forma considered necessary by BHEL. In case of any failure on contractor's part to comply with this, BHEL may at its discretion, consider to withhold part payment against their RA bills.	
17.2.2	The progress report shall indicate the progress achieved against planned with reasons indicating delays, if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time, so that further works again proceed as per the original program and the slippages do not accumulate and effect the overall program.	
17.2.3	The daily work force reports shall clearly indicate the work force deployed, category-wise specifying also the activities in which they are engaged.	
17.2.4	Weekly progress review meetings will be held at site during which actual progress during the week vis-à-vis scheduled program shall be discussed or actions to be taken for achieving targets. For discussions, the contractor shall present program of subsequent week. The contractor shall constantly update / revise his work program to meet the overall requirement.	
17.2.5	Periodic progress reviews on the entire activities of execution in respect of supply of ready mix ready mix concrete will be held once in a month at Kolkata / site. These meetings will be attended by reasonably higher officials of the contractor and will be used as a forum for discussing all areas where progress needs to be speeded up. The contractor shall be further responsible for ensuring that suitable steps are taken to meet various targets decided upon such meetings.	
17.2.6	During the contract / extended contract period contractor shall take an average ten colour digital photograph (soft copy) / slides each month (not less than two per week) of the works during progress. In case of failure in providing such photograph in each month, an amount of Rs. 5000/- (Rupees Five Thousand) per month shall be deducted from contractor's RA bill.	
17.3	SITE ORGANIZATION	
17.3.1	The contractor shall maintain a site organization of adequate strength in respect of manpower, construction machinery and other implements at all time for smooth execution of the contract headed by a competent construction manager for site operations with sufficient level of authority to take site decisions. The vendor will submit organization chart (showing the name of SITE-IN-CHARGE) with individual bio-data indicating various levels of experts to be posted for supervision and execution, quality, material management, planning, safety, etc. The organization shall be reinforced from time to time, as required to make up slippage (if any) from the schedule without any commercial implication to BHEL. The organization chart is to be submitted within 10 days from the date of LOI.	
17.3.2	Following (minimum) engineering manpower with power plant construction background to be deployed at site by the successful vendor for their day to day supervision etc.	

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17.3.2.1	Qualified safety officers (exclusive for safety supervision).	One No.
17.3.2.2	Quality Engineer & Quality Assistant	One no Engineer (Minimum 5 years' Experience) One Quality assistants (min. Diploma In Civil Engineering)
17.3.2.3	Deputation of above man-power shall be jointly decided at site in line with requirement.	
17.3.2.4	Engineer / supervisor for other functions like store & purchase, material management, fin, administration etc. are to be provided as per site requirement and not considered above.	
17.3.2.5	In the event of non-deputation of engineer/ supervisor by the bidder as per above agreed schedule, BHEL shall reserve the right to deduct Rs. 55,000/- (Rupees Fifty Five Thousand) per man-month for engineer, Rs. 45,000/- (Rupees Forty Five Thousand) per man-month for the supervisor / safety officer / Assistant from RA bills. Further induction of manpower regarding site supervisor & site engineer will be decided at site as per requirement without any financial implication.	
17.3.2.6	BHEL reserves the right to reject or approve the list of personnel proposed by the contractor. The persons whose bio-data have been approved by BHEL will have to be posted at site and deviation in this regard will not be permitted unless specific & reasonable justification is made.	
17.3.2.7	In addition to above, a well experienced qualified engineer to be designated, as 'Project Co-coordinator', shall be deployed by the contractor. Such engineer shall have adequate exposure on the job and shall remain fully involved in all planning activities, guidance etc. to contractor's own team during the complete execution period of contract.	
17.3.2.8	The contractor should also submit to BHEL for approval a list of T&Ps along with their fitness certificates. The tools & tackles shall not be removed from site without written permission of BHEL.	
17.3.2.9	Parallel working of all installed batching plants is envisaged. Hence every batching plant should have independent Batching Plant operator, Transit mixer operator and adequate supporting staff round the clock to cater all the batching plants as per requirement. However, with prior intimation routine maintenance shall be allowed phase wise.	
18.0	QUALITY ASSURANCE & QUALITY CONTROL	
18.1	INSPECTION & FIELD QUALITY ASSURANCE	
18.1.1	Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) & technical instructions as revised from time to time. 'Total Quality' shall be the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide the services of quality assurance engineer as per the relevant clauses.	
18.1.2	Preparation of quality assurance log sheets and protocols with customer / consultants / statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work / specification. These records shall be submitted to BHEL / customer for approval from time to time.	
18.1.3	The protocols between contractor and customer / BHEL shall be made for correctness of foundations, materials, procedures, at each stage of installation, generally as per the requirement of customer / BHEL. This is necessary to ensure elimination of errors and to avoid accumulation and multiplication of errors.	
18.1.4	A daily log book (with proper indexing) should be maintained by every supervisor / engineer of contractor, for respective area of work, on the job for detailing and incorporating alignment/ clearance / centering / levelling readings and inspection details of various equipment, etc. This log book shall be always accessible to BHEL engineers. High pressure welding (as applicable under the scope of this contract) details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc. will be documented in welding log as per BHEL Engineer's instructions. Record of radiography (as applicable under the scope of this contract) containing details like serial	

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	number of weld joints, date of radiography, repairs, if any, re-shots etc. shall also be maintained as per BHEL Engineer's instructions. Record of heat treatments (as applicable under the scope of this contract) performed shall be maintained as prescribed by BHEL.
18.1.5	The performance of welders (as applicable under the scope of this contract) will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically for scrutiny of BHEL's Engineer. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately.
18.1.6	Only welders duly authorized by BHEL / customer / consultant after welder qualification test as per ASME Sec-Ix / AWS D1.1 (as applicable) shall be engaged on the work. All the welders shall carry identity cards as per the proforma prescribed by BHEL / Customer / Consultant.
18.1.7	Any re-laying or re-termination of cables / re-erection of instruments / recalibration of instruments etc. required due to contractor's mistake and found at any stage inspection, shall be carried out by the contractor at no extra cost. Repair / rectification procedure to be adopted to make any job acceptable shall be subject to the approval of BHEL.
18.1.8	Weekly Quality Review Meeting at site shall be organised by BHEL to discuss quality issues and next weeks inspection plans. Site in-charge of the contractor along with QAEs of the contractor must be present in the meeting with closure report of the issues raised by BHEL in the previous meetings.
18.2	REQUIREMENT OF ISO 9001
18.2.1	BHEL: PSER is accredited with ISO 9001 certification and as such this work is subject to various audits to meet ISO 9001 requirements.
18.2.2	<p>The basic philosophy of the Quality Management System under ISO 9001 is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product / procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of such non-conformities, & maintain the relevant quality records. The non-conformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers / vendors of various products / services contributing in the work are also considered as part of the quality management system.</p> <p>As such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.</p>
18.2.3	BHEL reserves the right to carry out quarterly quality audits and quality surveillance of the systems and procedures of contractor's quality management. Contractor shall provide all necessary assistance to enable BHEL to carry out such audit & surveillance.
18.2.4	Quality audits / approval of the results of test & inspection will not prejudice the right of BHEL to reject an equipment service not giving desired performance and shall not in no way limit the liabilities and responsibilities of the contractor in earning satisfactory performances of equipment / service as per specification.

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18.3	MMEs / MMRs
18.3.1	Contractor shall ensure deployment of reliable and calibrated MMEs (Measuring and Monitoring Equipment). The MMEs shall have test / calibration certificates from authorised / Government approved / Accredited agencies traceable to National / International Standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMEs so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall i.e. repeat the readings taken by that instrument, failing which BHEL may deploy MME and retake the readings at Contractor's cost.
18.3.2	Contractor shall provide all the Measuring Monitoring Equipment (MMEs) required for completion of the work satisfactorily. These MMEs shall be of brand, quality and accuracy specified by BHEL Engineer and should have necessary calibration and other certificates as per the requirement of BHEL Engineer. Decision of BHEL Engineer regarding acceptance or otherwise of the measuring instruments / gauges / tools for the work under this specification, is final and binding on the contractor. BHEL shall give an indicative list of MMEs required for this work elsewhere in this contract and to be made available by the contractor. The list will be reviewed by BHEL site as per the requirement of approved FQPs and the contractor shall meet any augmentation needed wherever required.
18.3.3	It is the responsibility of the contractor to prove the accuracy of the testing / measuring / calibrating equipment brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions.
18.3.4	Re-work necessitated on account of use of invalid MMEs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions, including resource augmentation if any, as specified by BHEL to make-up for the loss of time.
18.3.5	In the courses of erection, it may become necessary to carry repeated checks of the work with instruments recently calibrated, re-calibrated. BHEL may counter / finally check the measurements with their own MMEs. Contractor shall render all assistance in conduct of such counter / final measurements.
18.4	INSPECTION BY TS / FES / QA ENGINEERS OF BHEL UNITS / ENGINEERING CENTRES
18.4.1	Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipment under erection and commissioning at various stages may also be conducted by teams of Engineers from Field Engineering Services of BHEL's Manufacturing Units, Quality Assurance teams from Field Quality Assurance, Unit/Factory Quality Assurance and Commissioning Engineers from Technical Services etc. Contractor shall arrange all labour, tools and tackles etc along with proper access for such stage inspections free of cost.
18.4.2	Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per applicable clause of the contract, and provided such modifications have not arisen for reasons attributable to the contractor.

18.5	CONFORMANCE TO THE STATUTORY REQUIREMENTS (AS APPLICABLE UNDER THE SCOPE OF THE CONTRACT)
18.5.1	<p>The work to be executed under these specifications has to be offered for inspection, at appropriate stages of work completion, to various statutory authorities for compliance with applicable regulations. The work related statutory inspections, though not limited to, are as under:</p> <ol style="list-style-type: none">1) Inspectorate of Steam Boilers and Smoke Nuisance2) Electrical Inspector3) Factory Inspector, Labour Commissioner, PF Commissioner and other authorities connected to this project work. <p>The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL Engineer's instructions, arranging materials for ground inspection, taking rub outs for stamping of the pressure parts / pipes to be offered for inspection, submitting co-related inspection reports, documents, radiographs etc and following up the matter with them. Contractor shall also make all arrangements for offering the Products / Systems for inspection at location, as applicable, to the concerned authority.</p>
18.5.2	<p>Contractor should be qualified to execute pressure parts & piping work coming under the purview of IBR or Competent Inspecting Authority, for which he should register himself with CIB of state concerned / Competent Inspector. Contractor also should be aware of the latest Boiler regulations and Electricity Act, including the amendments thereof, as applicable under the scope of this contract.</p>
18.5.3	<p>Contractor shall comply with 'Qualification Tests for welders engaged in welding of Boilers and Steam Pipes under Construction, Erection and Fabrication at Site in India and in repairing Boilers and steam pipes by welding' in line with Chapter XIII of Indian Boiler Regulations-1950, for testing his welders / men / workers, including all associated fees, procedures, required instruments and equipment and their calibration thereof. It shall be contractor's responsibility to obtain approval of Statutory Authorities, wherever applicable, for the conducting of any work which comes under the purview of these authorities, at his cost.</p>
18.5.4	<p>The following fees shall be excluded from scope of Contractor:</p> <ol style="list-style-type: none">1. Registration Fee as per Regulation 385 of Chapter IX of Indian Boiler Regulations-1950 or Registration Fee as per prevailing statutory boiler regulations.2. Fees for inspection of Boiler at the site of Construction as per Regulation 395 A, sl no 4 of Chapter IX of Indian Boiler Regulations- 1950. <p>However all other fees like visit fees charged by the Boiler Inspector and other arrangements for his visit or visits till satisfactory completion of work, shall be included in scope of Contractor.</p>
18.6	STORAGE & PRESERVATION OF WELDING ELECTRODES & OTHER BHEL-ISSUED MATERIAL
18.6.1	<p>The contractor shall be responsible for storage & preservation of welding electrodes & other BHEL-issued materials as per BHEL Storage & Preservation Guidelines / Instructions.</p>

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18.7 PENALTIES ON VENDORS / SUB-CONTRACTORS AGAINST NON-COMPLIANCE OF QUALITY NORMS				
Sl. No.	Nature of Non-compliance	Penalty for Domestic Project	Penalty for Export Project	Remarks
GENERAL				
18.7.1	Unavailability of QAE deployment schedule (duly approved by BHEL Site) matching with manpower requirement of approved L2 schedule	0.10%	0.10%	Against each RA bill
18.7.2	Unavailability of required number of QAE with proper experience & NDT certification as per the requirement of the Contract	Rs.1,000.00	\$16.00	Per person per day
18.7.3	Not attending quality meeting of BHEL by nominated member of vendor / sub-contractor	Rs.2,000.00	\$32.00	Per meeting
CALIBRATION				
18.7.4	Use of MMEs without valid calibration certificate	Rs.1,000.00	\$16.00	Per equipment per instance
18.7.5	Use of NDT equipment, welding equipment without having valid calibration certificate / condition not as per requirement	Rs. 1,000.00	\$16.00	Per equipment per instance
WELDING & NDT				
18.7.6	Unqualified welders carrying out welding / tack welding	Rs. 1,000.00	\$16.00	Per welder per instance. (Gatepass of the person shall be withheld)
18.7.7	Not using portable oven for welding consumables	Rs. 500.00	\$8.00	Per welder per instance. (The consumables in the oven shall be confiscated)
18.7.8	Not using electrodes pre-baked in baking oven	Rs. 500.00	\$8.00	Per instance. (The subject consumables shall be confiscated)

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18.7.9	Not using welding consumables of approved make & not using correct type of electrode as per approved EWS / Drawing / WPS	Rs. 1,000.00	\$16.00	Per instance. (The subject consumables shall be confiscated)
18.7.10	Non-removal of welding slag and spatters after welding	Rs. 500.00	\$8.00	Per joint
18.7.11	Not using NDT equipment as prescribed in the manual / FQP / guidelines / Contract	Rs. 1,000.00	\$16.00	Per equipment per instance
18.7.12	Welder doing welding without valid job card	Rs. 500.00	\$8.00	Per instance
18.7.13	Discrepancy observed in the weld joints identified by BHEL / Customer for RT vs RT film offered	Rs. 2,000.00	\$32.00	per joint
MATERIAL MANAGEMENT				
18.7.14	Non-maintenance of grid pillar marking	Rs. 200.00	\$3.00	Per location week
18.7.15	Mismatch of location of material in store area w.r.t. location mentioned in stock register	Rs. 500.00	\$8.00	Per instance
18.7.16	Non-compliance of Preservation of material as per storage & preservation manuals	Rs. 1,000.00	\$16.00	Per equipment
18.7.17	Not offering received material for verification within stipulated time as per contract	Rs. 500.00	\$8.00	Per instance
PAINTING & ALLIED WORKS				
18.7.18	Not using primer / paints of approved make and as per Specifications	Rs. 1,000.00	\$16.00	Per instance
18.7.19	Painting without proper surface preparation as per approved schedule / drawing / FQP	Rs. 500.00	\$8.00	Per instance

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PROTOCOLS & LOG SHEETS

18.7.20	Delay in preparation of Protocols / Logsheets as per approved FQP within 3 days of completion of checks	Rs. 200.00	\$3.00	Per protocol per day delay
18.7.21	Delay in offering inspection of Bought-out Items / Consumables / Aggregates (for items which need site inspection as per approved QP) within 3 days of receipt of material at site	1% of the item value of the LOT	1% of the item value of the LOT	per item per day delay after receipt of material
18.7.22	Delay in submission of required documents (viz. Invoice, Inspection Release Note, COC, MDCC, MTC as the case may be) of Bought-out Items (shop inspection items / consumables) with in 3 days of receipt of material at site.	1% of the item value of the LOT	1% of the item value of the LOT	per item per day delay after receipt of material

NOTE:

Any non-conformity requiring dismantling / rework, attributable to vendor / sub-contractor, shall be penalised at a rate mentioned above or cost to BHEL, whichever is higher.

19.0	QUALITY ASSURANCE PROGRAMME
	DELETED
20.0	GENERAL REQUIREMENTS – QUALITY ASSURANCE
	DELETED
21.0	HEALTH, SAFETY & ENVIRONMENT
	Refer Document Number: HSEP: 14 REV:00, DATE: 12.08.14 Document Title: Health, Safety and Environment Plan for Site Operation by Subcontractors
22.0	SPECIFIC REQUIREMENTS FOR ISO 9002
	DELETED
23.	INTEREST BEARING RECOVERABLE ADVANCE/ MOBILISATION ADVANCE
	Not applicable for this tender
24.0	OVER RUN CHARGES
	Not applicable in this tender.
25.0	LIQUIDATED DAMAGES
25.1	Since time is the main essence of the contract, the mobilization by bidder is to be made within the time limit prescribed in relevant clause of the tender. In case contractor fails to mobilize within the period specified in the contract, BHEL will reserves the right to levy liquidated damages at the rate of 0.5% (half percent) of the awarded contract value delayed for each week of delay or part thereof without prejudice to any other relief or compensation due to BHEL under any other conditions of the order subject to a maximum limit of 10% of total contract value. In case of delay in mobilisation of bidder, for reasons not attributable to BHEL, the 'Liquidated Damages' clause shall be strictly enforced, unless extension of delivery date is granted through an amendment to the work/ purchase order.

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25.2	COMPENSATION FOR NON-PERFORMANCE
25.2.1	<p>If the contractor fails to maintain the required production / supply of ready mix concrete in time for which delay occurs in the completion of the works, vendors/agencies as deployed suffers due to non-availability of ready mix concrete in time as well as BHEL suffers financially under such circumstances BHEL reserves the right to recover the cost of compensation with BHEL overhead up to 30%, limited to 10% of the contract value.</p> <p>The amount of such compensation shall be recovered from any money as due or which may become due to the contractor and/or from the bank guarantees / security deposit of the contractor. To impose such compensation, BHEL will not be required to prove that BHEL has incurred financial loss of such amount or proof of payment.</p>
25.3	However the overall LD and Compensation for Non-Performance will be limited to 15% of Contract Value.
25.4	In case of any nonconformity observed during the execution of contract, BHEL reserve the right to cancel the whole order / contract or a portion thereof at the risk & cost of the contractor and the contractor shall be liable to BHEL for any excess costs thereof.
26.0	GUARANTEE / WARRANTY
26.1	The contractor will be responsible for the quality of ready mix concrete supplied, quality of materials / design of ready mix concrete mix. In case the ready mix concrete fail to give the required strength, the cost of re-test, demolition & other cost / charges shall be recovered from the vendor. Decision of Engineer in this regard is final & binding on the vendor.
26.2	Guarantee / warranty period shall be 3 months from the date of supply of last lot of ready mix concrete of with submission of accepted test results of ready mix concrete specimens. Commencement of guarantee period shall be from the date completion of work under this contract as certified by BHEL.
27.0	EXTENSION OF TIME FOR COMPLETION
27.1	If the completion of work as detailed in the scope of work gets delayed beyond the contract / completion period due to reasons not attributable to contractor, the contractor shall make request for an extension of the contract and BHEL at its discretion may extend the contract. However such extension shall not entitle the vendor for price revision or price compensation as this being FIRM price contract.
27.2	However, if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty / LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take at the risk and cost of contractor.
27.3	A joint program 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 contractor as per specified format. Review of the programme and record of shortfall shall be done.
27.4	During the period of 'Time extension', contractor shall maintain their resources as per mutually agreed program
27.5	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) Contractor, (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 solely to contractor after adjusting delay attributable to BHEL & Force majeure and recoverable from the dues payable to the contractor.
28.0	PERFORMANCE BOND
	Performance bond is not applicable.
29.0	CERTIFICATE TOWARDS COMPLETION
	The work under the scope of the contractor shall be deemed to have been completed in all respects

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	only when so certified by BHEL / owner. The decision of BHEL in this regard shall be final and binding on the contractor.																						
30.0	SPLITTING OF THE CONTRACT																						
	Not Applicable																						
31.0	CIVIL LABORATORY																						
31.1	Contractor shall establish and maintain civil laboratory with necessary equipment (as per Annexure-A) for conducting relevant tests at site, as required. Instruments used in Lab shall have valid calibration certificate from authorized calibration agency. The Laboratory building shall be of 4.5 m x 10.5 m (minimum) in area with false ceiling along-with air condition area of 27 Sqm. Raised platform (600mm wide) with stone / tile finished up to 1.0m high dado above platform level to be provided. At least 2 Nos. Computer, printer, scanner to be provided with required numbers of good quality table & chairs to be provided. Necessary electrical wiring for operation of various equipment / instrument and other use to be provided. Bidder has to submit a layout drawing of laboratory along with the bid. Subsequently, before start of construction of laboratory, the lay-out drawing shall be approved by BHEL engineer.																						
31.2	Ready mix concrete Cubes shall be taken at site as per FQP / instruction of BHEL and the same shall be tested at Site / Govt. approved laboratory / Institution if required at your own cost.																						
31.3	Other than above mentioned test, any testing required to be carried out at site as per FQP / joint discussion at site and technical specification have to be arranged by you for all the works at your own cost																						
32.0	CONSTRUCTION SCHEDULE																						
32.1	Entire work shall be carried out in accordance with the broad supply schedule given below, within the stipulated period. Within 30 days of LOI, the contractor shall discuss with BHEL site engineer & furnish detail construction schedule (L-3/ L-4) indicating all major activities and get it approved from BHEL engineer. This schedule will undergo review and based on progress vis-à-vis project requirement, contractor shall have to submit revised schedule for approval of BHEL.																						
32.1.1	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">SI no.</th> <th style="width: 65%;">Major Milestone</th> <th style="width: 30%;">Time from date of intimation from BHEL</th> </tr> </thead> <tbody> <tr> <td align="center">1</td> <td>Report to Construction Manager / BHEL Site</td> <td align="center">10 days</td> </tr> <tr> <td align="center">2</td> <td>Completion of Installation of 1st Batching Plant.</td> <td align="center">45 days</td> </tr> <tr> <td align="center">3</td> <td>Completion of Installation of 2nd Batching Plant.</td> <td align="center">60 days</td> </tr> <tr> <td align="center">4</td> <td>Completion of Installation of 3rd Batching Plant</td> <td align="center">As per requirement.</td> </tr> <tr> <td align="center">5</td> <td>Completion of finalisation & approval of Design Mixes of ready mix concrete</td> <td align="center">50 days</td> </tr> <tr> <td align="center">6</td> <td>Start of production of Ready mix concrete</td> <td align="center">60 days</td> </tr> </tbody> </table>	SI no.	Major Milestone	Time from date of intimation from BHEL	1	Report to Construction Manager / BHEL Site	10 days	2	Completion of Installation of 1 st Batching Plant.	45 days	3	Completion of Installation of 2 nd Batching Plant.	60 days	4	Completion of Installation of 3 rd Batching Plant	As per requirement.	5	Completion of finalisation & approval of Design Mixes of ready mix concrete	50 days	6	Start of production of Ready mix concrete	60 days	
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5	Completion of finalisation & approval of Design Mixes of ready mix concrete	50 days																					
6	Start of production of Ready mix concrete	60 days																					
32.2	Contractor shall establish mix design for all ready mix concrete grades by taking trial mix at site after submission of Design Mix of various Ready mix concrete grades or from authorized agency (As per BHEL / Customer approval). Contractor shall ensure adding of admixture and minimizing of cement content in line with relevant BS Code.																						
32.3	The contractor shall plan his work in such a manner so as to meet the overall project schedule, in consultation with BHEL/ WBPDCCL engineer																						
32.4	Contractor shall submit daily work program based on above construction schedule. Deferment of above schedule is not acceptable. Contractor will adhere to schedule and resource planning to be augmented to ensure completion as per schedule.																						
32.5	Periodic progress reviews on the entire activities of execution in respect of supply & works in scope of contractor will be held once in a month at Kolkata / site. These meetings will be attended by reasonably higher officials of the contractor and will be used as a forum for discussing all areas where progress needs to be speeded up. The contractor shall be further responsible for ensuring that suitable steps are taken to meet various targets decided upon such meetings.																						
32.6	Above schedule is indicative. The contractor shall plan his work in such a manner so as to meet the																						

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	overall project schedule, in consultation with BHEL/BIFCL Engineer.	
33.0	MATERIAL HANDLING	
33.1	No material is envisaged to be issued by BHEL in this contract .	
33.2	However, all the materials (to be supplied by you as envisaged & cement) are to be handled by you and you will be solely responsible for safe custody of the same.	
34.0	TOOLS & PLANTS (TO BE PROVIDED BY CONTRACTOR)	
34.1	Tentative list of T&P to be deployed by contractor for successful completion of work is detailed below. It may be noted that the list is not exhaustive and is only for general guidance. The contractor is required to provide all necessary T&P measuring (calibrated) instruments & handing equipment to maintain work progress for timely completion of total work as per contract. In case of project requirement, some activities may have to pre-pone, in such cases the contractor may have to deploy additional T&P. Quoted rate shall be inclusive of such emerging requirements. However, contractor shall submit deployment plan of all T&P along with tender bid.	
34.2	Following Major T&Ps to be deployed by contractor within the indicated time from date of LOI / hand over of site which is applicable.	
	Major T&P items	Time from date of intimation from BHEL
34.2.1	1 No. 40'0" x 8'0" or 2 Nos. 20'0" x 8'0" office Porta Cabin or equivalent.	Within 20 days
34.2.2	2 Nos. Pay loader, 1 no pay loader with minimum capacity of 1.2 Cum	Within 45 days
34.2.3	Total 100 Cum/Hr. capacity of Automatic Batching Plant with Printing facility with required Silo for storing of Cement to be commissioned at Site. Total numbers of batching plant shall be restricted to 2 Nos	Within 60 days
34.2.4	1 Nos. DG set 125KVA	Within 45 days
34.2.5	Ready mix concrete Testing Lab 1 AC Lab 4.50 m x 4.50 m and 1 Non-AC Lab 4.50 m x 6.00 m with required Equipment & Instrument as per Annexure - A	Within 60 days
34.2.6	Ready mix concrete compressive strength testing moulds– 100 Nos.	Within 50 days
34.2.7	1 no drinking water tank – 1000 lit.	Within 40 days
34.2.8	2 Nos. self-priming water pump 5HP (diesel / electric)	Within 45 days
34.2.9	2 Nos. dumper	Within 40 days
34.2.10	2 Nos. Welding rectifier	As per requirement
34.2.11	Portable fire extinguishers as below: Soda acid – 2 sets. Dry chemical powder – 2 sets CO2 – 2 sets. Water & sand bucket (4 buckets in one stand) – 2 sets. Fire hose with nozzle (50 M length) – 2 sets	Within 60 days
34.3	In the event of any failure on the part of the contractor to deploy T & P to sustain desired work progress, BHEL may at his discretion also terminate the contract on this ground and take out any or whole amount of the contract from the scope of the contractor. In the event of failure of contractor to deploy necessary and sufficient T&P/ IMTEs to maintain work progress, BHEL will be at liberty to arrange the same at the risk & cost of contractor including transportation cost of same from any of BHEL site/ other agency & charges as applicable shall be deducted from contractor's RA bill. Decision of BHEL in this regard will be final & binding on contractor.	
34.4	One no. Batching Plant shall not be more than 1 year old and rest all Batching Plant shall not be more	

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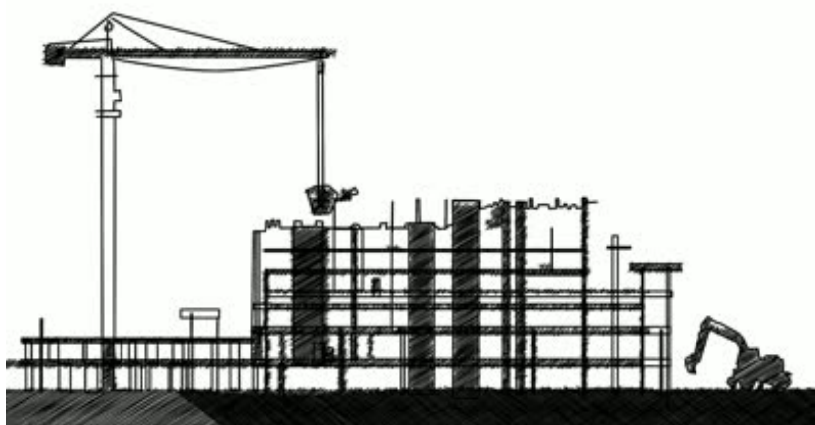
	than 2 years old. All the batching plants shall maintain adequate spares to cater immediate day to day maintenance.
34.5	<p>T&P shown in the above mentioned list are tentative based on planned progress requirement, construction schedule and material availability at site. It is to be reviewed and mutually agreed with CM, BHEL site periodically from time to time for mobilization of major T&Ps, and the same have to be adhered to. No change will be permitted without written approval of Construction Manager, BHEL site.</p> <p>Further requirement will be reviewed time to time at site and contractor will provide additional T&P/equipment to ensure completion of entire work within schedule time without any financial implication to BHEL. All other T&Ps shall be provided by the contractor without any extra cost to BHEL. Vendor will give advance intimation & certification regarding capacity etc. prior to dispatch of heavy equipment.</p>
34.6	All T&P and all IMTEs, which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition.
34.7	In the event of non mobilisation of any T&P by the successful bidder and as a result progress of work suffered, BHEL reserves the right to deduct suitable amount from the dues of the bidder, with assigning reasons thereof on market Rate.
35.0	OTHER TERMS
35.1	All other term & conditions of this specification shall be governed by the pertinent provisions of GCC and other volumes of this tender, as applicable.

ANNEXURE- A**LIST OF EQUIPMENTS FOR CIVIL SITE LABORATORY**

SL NO.	NAME OF TEST	NAME OF EQUIPMENT	SIZE OF EQUIPMENT	IS REF.
1	Initial & final setting time, Consistency of cement	Vicat Apparatus with desk pot	Standard	IS 5513
2	Abrasion value test	Los Angles Abrasion testing machine	Standard	IS 2386
3	Aggregate Impact value test	Aggregate Impact value testing machine.	Standard	IS 9377
4	Aggregate crushing value test	Crushing value apparatus	Standard	IS 2386
5	Flakiness index	Thickness gauge for measuring flakiness index.	Standard	IS 2386
6	Elongation Index	Elongation gauge	Standard	IS 2386
7	Bulk density, voids and bulking apparatus	Measuring cylinders	3, 5, 10 & 15 liters cylinders	
8	Ready mix concrete Compressive test	Digital Compressive Testing Machine.	2000KN capacity	IS 2505
9	Cement cube casting	Cube mould	70.6 x 70.6 x 70.6 mm, 09 Nos. minimum	IS 10086
10	Ready mix concrete Cube Testing	Ready mix concrete Cube Mould	150x150x150mm, minimum 120 Nos.	IS 10086
11	Workability of ready mix concrete	Slump cone	Standard, at least 04 nos	IS 456
12	Specific gravity of aggregates	Pycnometer	Standard, at least 02 nos	IS 383
13	Cement mortar vibration	Motorised vibration machine for cement cube casting	Standard	IS 4031
14	Course aggregate Sieve analysis (Ready mix concrete & Road Works)	Sieve set	450mm dia GI Frames Size: 125 mm, 90 mm, 75 mm, 63 mm, 53 mm, 40 mm, 20 mm, 16 mm, 12.5 mm, 10 mm, 4.75 mm, Pan and cover (2 Sets)	IS 383
15	Fine aggregate sieve analysis	Sieve set	200 mm dia Brass sieves; Size 4.75 mm, 2.36 mm, 1.18 mm 600 micron, 300 micron, 150 micron, 75 micron, 75 micron, Pan and cover (2 Sets)	IS 383
16	Seive Shaker	Motorised Sieve shaker	Mfg. Catalogue	
17	Silt content check	Sand silt content beaker	Standard	

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Process Control Accessories				
Sl	Description of Equipment	Specification	Size / No.	
1	Hot air oven	Temperature range 50° C to 300° C	600 x 600 x 600 mm (min. size)	
2	Electronic balance	600g x 0.01g, 10Kg and 50 kg	3 nos.	
3	Physical balance	5 kg capacity	Loose weights up to 5 kg	
4	Thermometer	Temperature 0°C to 50°C	1 No. Digital & 2 Analogue.	
5				
6	Measuring jars	100ml, 200ml, 500ml & 1000 ml	2 nos. set of each size	
7	Gauging trowel	100mm & 200 mm with wooden handle	4 nos.	
8	Spatula	100mm & 200 mm with long blade wooden handle	2 nos. each size	
9	Stainless steel scoop	2 kg and 5 kg	2 nos. each	
10				
11	Digital pH meter	0.1 least count	02 nos.	
12				
13				
14	GI tray	600 x 450 x 50 mm, 450 x 300 x 40 mm, 300 x 250 x 40 mm	02 nos. each	
15	Electric mortar mixer	0.25 CUM capacity.	01 no	
16	Rebound hammer test	Digital Rebound hammer	01 nos.	IS 13311
17	Ultrasonic pulse velocity test	UPV apparatus for ready mix concrete	01 No.	



**HEALTH,
SAFETY and
ENVIRONMENT
PLAN**

for

**SITE
OPERATIONS**

by

**SUB-
CONTRACTORS**

POWER SECTOR

HSE PLAN FOR SITE OPERATIONS BY BHEL'S SUBCONTRACTORS

AT A GLANCE

BEFORE START	SIGNING OF MOU Agree to comply to HSE requirement- Statutory and BHEL's	
PLAN	HSE ORGANISATION	
	Manpower <ul style="list-style-type: none"> 1 (one) safety officer for every 500 workers or part thereof 1(one) safety-steward/ supervisor for every 100 workers Qualification As per Cl. 7.1	HSE Roles and responsibilities <ul style="list-style-type: none"> Site In-charge- As per clause 7.2.1 Safety officer- As per clause 7.2.2
	HSE Planning for Man , Machinery/Equipment/Tools & Tackles	
PROVIDE	HSE INFRASTRUCTURE	
	<ul style="list-style-type: none"> PPEs Drinking Water Washing Facilities Latrines and Urinals Provision of shelter for rest Medical facilities 	<ul style="list-style-type: none"> Canteen facilities Labour Colony Emergency Vehicle Pest Control Scrapyard Illumination
TRAIN	HSE TRAINING , AWARENESS & PROMOTION	
	Training <ul style="list-style-type: none"> Induction training Height work and other critical areas Tool Box talk & Pep Talk 	Awareness & Promotion <ul style="list-style-type: none"> Signage Poster Banner Competition Awards
COMMUNICATE	HSE COMMUNICATION	
	Incident Reporting <ul style="list-style-type: none"> Accident- Fatal & Major Property damage Near Miss 	Event Reporting <ul style="list-style-type: none"> Celebrations Training Medical camp

EXECUTE SAFELY

OPERATIONAL CONTROL PROCEDURES

PERMIT TO WORK

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

SAFETY DURING WORK EXECUTION

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

HOUSE KEEPING

WASTE MANGEMENT

TRAFFIC MANAGEMENT

ENVIRONMENTAL CONTROL

EMERGENCY PREPAREDNESS AND RESPONSE PLAN

CHECKS

HSE AUDITS & INSPECTION

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

HSE PERFORMANCE EVALUATION PARAMETERS

NON CONFORMANCE

PENALTY for NON CONFORMANCE

Refer Clause 16

Incremental penalty

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

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



**HEALTH, SAFETY AND ENVIRONMENT
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1.0 PURPOSE

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

2.0 SCOPE

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

3.0 OBJECTIVES AND TARGETS

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

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



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HSE TARGETS

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

4.0 BHEL POWER SECTOR HEALTH, SAFETY & ENVIRONMENT POLICY**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/-

Date: 01.05.2013

Director (Power)

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5.0 MEMORANDUM OF UNDERSTANDING:

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

Memorandum of Understanding

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

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

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


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

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

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

Name :

Place & Date:

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6.0 TERMS AND DEFINITIONS

6.1 DEFINITIONS

6.1.1 INCIDENT

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

6.1.2 NEAR MISS

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

6.1.3 MAN-HOUR WORKED

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

6.1.4 FIRST AID CASES

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

6.1.5 LOST TIME INJURY

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

6.1.6 MEDICAL CASES


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

6.1.7 TYPE OF INCIDENTS & THEIR REPORTING:

The three categories of Incident are as follows:

Non-Reportable Cases:

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

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Reportable Cases:

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

Injury Cases:

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

6.1.8 TOTAL REPORTABLE FREQUENCY RATE

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

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

6.1.9 SEVERITY RATE

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

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

6.1.10 INCIDENCE RATE

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

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


7.0 HSE ORGANISATION**Number of safety officers:**

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

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

7.1 QUALIFICATION FOR HSE PERSONNEL

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


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

7.2.1 SITE IN -CHARGE OF SUBCONTRACTOR


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

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

7.2.2 HEALTH, SAFETY AND ENVIRONMENT OFFICER OF SUBCONTRACTOR

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

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8.0 PLANNING BY SUBCONTRACTOR

8.1 MOBILISATION OF MACHINERY/EQUIPMENT/TOOLS BY SUBCONTRACTOR

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

8.2 MOBILISATION OF MANPOWER BY SUBCONTRACTOR

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

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8.3 PROVISION OF PPEs

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


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

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

Relevant is-codes for personal protection

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

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

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

Colour scheme for Helmets:

1. Workmen: Yellow
 2. Safety staff: Green or white with green band
 3. Electrician: Red
 4. Others including visitors: White
- All the PPEs shall be checked for its quality before issue and the same shall be periodically checked. The users shall be advised to check the PPEs themselves for any defect before putting on. The defective ones shall be repaired/ replaced.
 - The issuing agency shall maintain register for issue and receipt of PPEs.
 - The Helmets shall have logo or name (abbreviation of agency name permitted) affixed or printed on the front.
 - The body harnesses shall be serial numbered.

8.4 ARRANGEMENT OF INFRASTRUCTURE

8.4.1 DRINKING WATER


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

8.4.2 WASHING FACILITIES

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

8.4.3 LATRINES AND URINALS

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

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8.4.4 PROVISION OF SHELTER DURING REST

Proper Shed & Shelter shall be provided for rest during break

8.4.5 MEDICAL FACILITIES

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

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

8.4.5.2 FIRST AIDER

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


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

- The subcontractor shall provide necessary first aid facilities as per schedule III of BOCW. At every work place first aid facilities shall be provided and maintained.
- The first aid box shall be kept by first aider who shall always be readily available during the working hours of the work place. His name and contact no to be displayed on the box.
- The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time.
- The first aid box shall be distinctly marked with a Green Cross on white background.
- Details of contents of first aid box is given in Annexure No. 01
- Monthly inspection of First Aid Box shall be carried out by the owner as per format no. HSEP:13-F01
- The subcontractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.

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

The persons engaged at the site shall undergo health checkup as per the format no. HSEP:13-F02 before induction. The persons engaged in the following works shall undergo health checkup at least once in a year:

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

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

8.4.6 PROVISION OF CANTEEN FACILITY

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

8.4.7 PROVISION OF ACCOMODATION/LABOUR COLONY

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

8.4.8 PROVISION OF EMERGENCY VEHICLE

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

8.4.9 PEST CONTROL


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

8.4.10 SCRAPYARD

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

8.4.11 ILLUMINATION

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

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

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

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


9.0 HSE TRAINING & AWARENESS

9.1 HSE INDUCTION TRAINING

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

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

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

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- Proper safety wear & gear must be issued to all the workers being registered for the induction (i.e., Shoes/Helmets/Goggles/Leg guard/Apron etc.)
- They must arrive fully dressed in safety wear & gear to attend the induction.
- Any one failing to conform to this safety wear& gear requirement shall not qualify to attend.
- On completing attending subcontractor's in-house HSE induction, each employee shall sign an induction training form (format no. HSEP:13-F03) to declare that he had understood the content and shall abide to follow and comply with safe work practices. They may only then be qualified to be issued with a personal I.D. card, for access to the work site.

9.2 HSE TOOLBOX TALK

- HSE tool Box talk shall be conducted by frontline foreman/supervisor of subcontractor to specific work groups prior to the start of work. The agenda shall consist of the followings:
 - Details of the job being intended for immediate execution.
 - The relevant hazards and risks involved in executing the job and their control and mitigating measures.
 - Specific site condition to be considered while executing the job like high temperature, humidity, unfavorable weather etc.
 - Recent non-compliances observed.
 - Appreciation of good work done by any person.
 - Any doubt clearing session at the end.
- Record of Tool box talk shall be maintained as per format no. HSEP:13-F04
- Tool box talk to be conducted at least once a week for the specific work.


9.3 TRAINING ON HEIGHT WORK

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

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

9.4 HSE TRAINING DURING PROJECT EXECUTION

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

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

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

9.5.1 Display of HSE posters and banners

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

9.5.2 Display of HSE signage

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

9.5.3 Competition on HSE and award

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

9.5.4 HSE awareness programme

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


10.0 HSE COMMUNICATION

10.1 INCIDENT REPORTING

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

10.2 HSE EVENT REPORTING

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

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11.0 OPERATIONAL CONTROL

All applicable OCPs (Operational control procedures) will be followed by subcontractor as per BHEL instructions. This will be done as part of normal scope of work. List of such OCPs is given below. In case any other OCP is found to be applicable during the execution of work at site, then subcontractor will follow this as well, within quoted rate. These OCPs (applicable ones) will be made available to subcontractor during work execution at site. However for reference purpose, these are kept with Safety Officer of BHEL at the Power Sector Regional HQ, or available in downloadable format in the website, which may be 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 handing of gas cylinders	Spray insulation
Energy conservation	Manual arc welding	Trial run of rotary equipment
Safe welding and gas cutting operation	Safe use of helmets	Stress relieving
Fire safety	Good house keeping	Material preservation
Safety in use of hand tools	Working at height	Cable laying/tray work
First aid	Safe excavation	Transformer charging
Food safety at canteen	Safe filling of hydrogen in cylinder	Electrical maintenance
Illumination	Vehicle maintenance	Safe handling of battery system
Handling and erection of heavy metals	Safe radiography	Computer operation
Safe acid cleaning	Waste disposal	Storage in open yard
Safe alkali boil out	Working at night	For sanitary maintenance
Safe oil flushing	Blasting	Batching
Steam blowing	DG set	Piling rig operation
Safe working in confined area	Handling & storage of mineral wool	Gas distribution test
Safe operation of passenger lift, material hoists & cages	Drilling, reaming and grinding(machining)	Cleaning of hotwell / deaerator
Electro-resistance heating	Compressor operation	O&M of control of AC plant & system
Air compressor	Passivation	Safe Loading of Unit
Safe EDTA Cleaning	Safe Chemical cleaning of Pre boiler system	Safe Boiler Light up
Safe Rolling and Synchronisation		

11.1 HSE ACTIVITIES

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

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

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

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

11.2 WORK PERMIT SYSTEM

- The following activities shall come under Work Permit System
 - a. Height working above 2 metres
 - b. Hot working at height
 - c. Confined space
 - d. Radiography
 - e. Excavation more than 4 meter depth
 - f. Heavy lifting above 50 ton
 Refer Annexure 05 for Work permit formats.
- "HSE Procedure for Work Permit System" shall be followed while implementing permit system. Where customer is having separate Work Permit System the same shall be followed.
- Permit applicant shall apply for work permit of particular work activity at particular location before starting of the work with 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.

11.3 SAFETY DURING WORK EXECUTION

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

11.3.1 WELDING SAFETY

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


11.3.2 RIGGING

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

11.3.3 CYLINDERS STORAGE AND MOVEMENT

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

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

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

11.3.4 DEMOLITION WORK

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

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

11.3.5 T&Ps


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

11.3.6 CHEMICAL HANDLING

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

11.3.7 ELECTRICAL SAFETY

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

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

11.3.8 FIRE SAFETY


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

11.3.9 SCAFFOLDING

- Suitable scaffolds shall be provided for workman for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration of work which can be done safely from ladders.
- When a ladder is used, it shall be of rigid construction made of steel. The steps shall have a minimum width of 45 cm and a maximum rise of 30 cm. Suitable handholds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than ¼ horizontal and 1 vertical.
- Scaffolding or staging more than 3.6 m above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 90 cm above the floor or platform of such scaffolding or staging and extending along the entire length of the out side and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from savor, from swaying, from the building or structure.

11.3.10 WORK AT HEIGHT:

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

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

11.3.11 WORKING PLATFORM

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

11.3.12 EXCAVATION

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


11.3.13 LADDER SAFETY

Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in the length while the width between side rails in rung ladder shall in no case be less than app. 29.2 cm for ladder upto and including 3 m in length. For longer ladders this width shall be increased at least ¼" for each additional foot of length.

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

11.3.14 LIFTING SAFETY

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

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

11.3.15 HOISTING APPLIANCE

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

11.4 ENVIRONMENTAL CONTROL

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

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

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

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


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

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

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

11.5 HOUSEKEEPING

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

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

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

11.6 WASTE MANAGEMENT


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

11.6.1 BINS AT WORK PLACE

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

11.6.2 STORAGE AND COLLECTION

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

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11.6.3 SEGREGATION

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

11.6.4 DISPOSAL

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


11.6.5 WARNING AND SIGNS

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

11.7 TRAFFIC MANAGEMENT SYSTEM

11.7.1 SAFE WORKPLACE TRANSPORT SYSTEM

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

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


11.7.2 TRAFFIC ROUTE FOR PEDESTRIANS

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

11.7.3 WORK VEHICLE

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

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

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11.7.4 DAILY CHECK BY DRIVER

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

11.7.5 TRANSPORTATION OF PERSONNEL AND MATERIALS BY VEHICLES


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

11.7.6 MAINTENANCE

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

11.8 EMERGENCY PREPAREDNESS AND RESPONSE

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

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

12.0 HSE INSPECTION

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

12.1 DAILY HSE CHECKS


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

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

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

12.2 INSPECTION OF PPE

- PPEs shall be inspected by HSE officer at random once in a week as per format no. HSEP:13-F06 for its compliance to standard and compliance to use and any adverse observation shall be recorded in the PPE register.
- The applicable PPEs for carrying out particular activities are listed below.

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12.3 INSPECTION OF T&Ps

- A master list of T&Ps shall be maintained by each subcontractor.
- All T&Ps being used at site shall be inspected by HSE officer once in a month as per format no. HSEP:13-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:13-F08

12.4 INSPECTION OF CRANES AND WINCHES


- Cranes and winches shall be inspected by the operator through a daily checklist for its safe condition (as provided by the equipment manufacturer) before first use of the day.
- Cranes and Winches shall be inspected by HSE officer once in a month as per format no. HSEP:13-F09 for healthiness, maintenance and validity of third party inspection.
- The date of third party inspection and next due date shall be painted on cranes and winches.
- The operators/drivers shall be authorized by sub-contractor based on their competency and experience and shall carry the I-card.
- The operator should be above 18 years of age and should be in possession of driving license of HMV man & goods), vision test certificate and should have minimum qualification so that he can read the instructions and check list.

12.5 INSPECTION ON HEIGHT WORKING

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

12.6 INSPECTION ON WELDING AND GAS CUTTING OPERATION

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

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

12.7 INSPECTION ON ELECTRICAL INSTALLATION / APPLIANCES

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

12.8 INSPECTION OF ELEVATOR


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

13.0 HSE PERFORMANCE

HSE performance of the subcontractor shall be monitored as per the following parameters:

Sl. No.	Parameters of measurement
1	Timely deployment of qualified safety officer and cumulative number of days in a month the required no. of qualified safety officer is available
2	Shortfall in number of meetings in the month conducted or attended by the safety officer
3	Level of compliance wrt decisions taken in previous meetings/audit/inspection/as reported.
4	Delay in submission of monthly report on safety in the prescribed format
5	Delay in reporting any incident including near-miss to BHEL /Customer/statutory authority(if required)
6	Degree of PPE non-compliance
7	Non- conducting of health check-up as per BOCW requirements
8	Non availability of proper first-aid facility , ambulance, adequate labour welfare initiatives
9	Non conductance of induction training and tool box meeting
10	Total number of instances in the month, House keeping NOT attended inspite of instructions by BHEL i.e. removal/disposal of surplus earth/ debris/scrap/unused/surplus cable drums/other electrical items/surplus steel items/packing material

- 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.


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14.0 HSE PENALTIES

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

15.0 OTHER REQUIREMENTS

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

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

16. NON COMPLIANCE

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


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

- Legend:-

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

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

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the subcontractor. The amount collected above will be utilized for giving award to the employees who could avoid incident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

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17.0 HSE AUDIT/INSPECTION

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

18.0 MONTHLY HSE REVIEW MEETING

- 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 Incharge of Subcontractors and HSE officer of Subcontractors.
- MOM on the discussion will be circulated to the concerned for implementation.

19.0 FORMATS USED (Details available in Annexure-04)

SL. No.	Format Name	Format No.	Rev No.
01	Inspection of First Aid Box	HSEP:13-F01	00
02	Health Check Up	HSEP:13-F02	00
03	HSE Induction Training	HSEP:13-F03	00
04	Tool Box Talk	HSEP:13-F04	00
05	Monthly Site HSE Report	HSEP:13-F05	00
06	Inspection of PPE	HSEP:13-F06	00



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

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20.0 ANNEXURES

ANNEXURE 01

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

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

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

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

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

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



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

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

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ANNEXURE 02**HSE AUDIT/INSPECTION CHECKLIST CUM COMPLIANCE REPORT**

PROJECT: _____ SUBCONTRACTOR: _____

DATE : _____ OWNER : _____

INSPECTION BY: _____

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

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



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Angle $\pm 70^0$ from horizontal				
Other				
HOISTS, CRANES AND DERRICKS				
Condition of cables and sheaf OK				
Condition of slings, chains, hooks OK				
Inspection & maintenance log maintained				
Outriggers used				
Signals observed and understood				
Qualified operators				
Others				
MACHINERY, TOOLS & EQUIPMENT				
Proper instruction				
Safety devices				
Proper cords				
Inspection and maintenance				
Other				
VEHICLE AND TRAFFIC				
Rules and regulations observed				
Inspection and maintenance				
Licensed drivers				
Other				
TEMPORARY FACILITIES				
Emergency instructions posted				
Fire extinguishers provided				
Fire-aid equipment available				
General neatness				
Others				
FIRE PREVENTION				
Personnel instructed				
Fire extinguishers checked				
No smoking in prohibited areas.				
Hydrants				
Clearance				
Others				
ELECTRICAL				
Proper wiring				
ELCB's provided				
Ground fault circuit interrupters				
Protection against damage				
Prevention of tripping hazards				
Other				
HANDLING & STORAGE OF MATERIALS				
Properly stored or stacked				
Passageways clear				
Other				
FLAMMABLE GASES AND LIQUIDS				
Containers clearly identified				
Proper storage				
Fire extinguisher nearby				



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

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ANNEXURE 03**REFERENCES**

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

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



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

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

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

FORMAT NO: HSEP:13-F01

REV NO.: 00

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

Number of employees on the site:- _____

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

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

FORMAT NO: HSEP:13-F01

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

Signature of Subcontractor's Site I/C::

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

FORMAT NO: HSEP:13-F02

REV NO.: 00

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

NAME:

History Of Past Illness	H/O Epilepsy
	H/O Drug Allergy
	H/O Diabetics/ Hypertension
	H/O Unconsciousness

Personal History

EXAMINATION	OBSERVATION
<u>General Physical Examination</u>	
Height :	
Weight :	
BMI :	
Built And nourishment :	
Pallor :	
Temperature :	
Chest Expansion :	Inspiration Expansion
Lymph Node Enlargement :	
<u>Ear, Nose, Throat</u>	
Ear :	
Nose :	
Throat :	

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


FORMAT NO: HSEP:13-F02

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

Signature of the examining doctor

	POWER SECTOR	FORMAT NO: HSEP:13-F03 REV NO.: 00 PAGE NO. 01 OF 01
	HSE INDUCTION TRAINING	

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

Sl No.	Name	Designation	Organisation	Signature

Signature of Training co-ordinator :

**POWER SECTOR****TOOL-BOX TALK**

FORMAT NO: HSEP:13-F04


REV NO.: 00

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Name of Site :	
Sub-Contractors Name :	
Date :	

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

Signature of Site I/C of Subcontractor :

	POWER SECTOR	FORMAT NO: HSEP:13-F06 REV NO.: 00 PAGE NO. 01 OF 01
	PERSONAL PROTECTIVE EQUIPMENTS	

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

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

Signature of Site I/C of Subcontractor :

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

FORMAT NO: HSEP:13-F07

REV NO.: 00


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

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

Signature-Site Safety Officer (BHEL)

Signature-Subcontractor/ Subcontractor's
Safety Officer

	POWER SECTOR	FORMAT NO: HSEP:13-F08 REV NO.: 00 PAGE NO. 01 OF 01
	STATUS OF T&Ps	

Name of Site	
Name of Sub-Contractor	
Date of Inspection	

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

Signature of Site I/C of subcontractor :

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

FORMAT NO: HSEP:13-F09

REV NO.: 00

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

Crane Reg. No (Make/Model) _____

Name of Driver/Operator _____

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

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

FORMAT NO: HSEP:13-F09

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

WINCH

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

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


FORMAT NO: HSEP:13-F09

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

Signature of Site I/C of subcontractor :

	POWER SECTOR	FORMAT NO: HSEP:13-F10 REV NO.: 00 PAGE NO. 01 OF 02
	INSPECTION OF HEIGHT WORKING	


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

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

	POWER SECTOR	FORMAT NO: HSEP:13-F10 REV NO.: 00 PAGE NO. 02 OF 02
	INSPECTION OF HEIGHT WORKING	

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

Signature of Site I/C of subcontractor :

	POWER SECTOR	FORMAT NO: HSEP:13-F11 REV NO.: 00 PAGE NO. 01 OF 02
	INSPECTION OF WELDING AND GAS CUTTING	

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

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

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


FORMAT NO: HSEP:13-F11

REV NO.: 00

PAGE NO. 02 OF 02


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

Signature of Site I/C of subcontractor :

	POWER SECTOR	FORMAT NO: HSEP:13-F12 REV NO.: 00 PAGE NO. 01 OF 02
	INSPECTION OF ELECTRICAL INSTALLATION	


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

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

	POWER SECTOR	FORMAT NO: HSEP:13-F12 REV NO.: 00 PAGE NO. 02 OF 02
	INSPECTION OF ELECTRICAL INSTALLATION	

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

Signature of Site I/C of subcontractor :

	POWER SECTOR	FORMAT NO: HSEP:13-F13 REV NO.: 00 PAGE NO. 01 OF 01
	INSPECTION OF ELEVATOR	

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

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

Signature-Subcontractor/ Subcontractor's Safety Officer	Signature-Site Safety Officer (BHEL)
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**POWER SECTOR****HSE PENALTY**

FORMAT NO: HSEP:13-F14

REV NO.: 00

PAGE NO. 01 OF 02

Sub: MEMO for Penalty for non compliances in Safety

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

Safety Area

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

Legend:-

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

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

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

FORMAT NO: HSEP:13-F14

REV NO.: 00

PAGE NO. 02 OF 02

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

Penalty imposed:

1, Rate as per above chart _____

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

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


Signature :

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

Name _____

Name _____

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

	POWER SECTOR- HQ	FORMAT NO: HSEP:13-F15
	Incident Report	REV NO.: 00
(To be submitted within 24 hours of time of incident)		PAGE NO. 01 OF 01

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

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



PERMIT NO. PSEB:PIR:PMX:35010:004:(ENQ:19:PP:015:PUR54) Date 11/04/2019

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

BURNING/WELDING /HOT WORK PERMIT

Area : _____ Date: _____ Time: _____

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

Name of Work Performing Contractor: _____

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

Description of Work: _____

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

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

The following precautions are to be taken:

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

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

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

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

Name of BHEL Safety Representative: _____ Sign: _____

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

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

Permit Cancellation:

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

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

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

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

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

Original at BHEL site	Second Copy – BHEL SAFETY	Third Copy : Contractor
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TENDER NO.: PSEB/PIR/PMX/350/0/004/ENQ/19/PP/015/PUR/4 Date: 11/04/2019

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

LIFTING ACTIVITY PERMIT

Area : _____ Date: _____ Time: _____

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

Name of Work Performing Contractor: _____

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

Description of Work: _____

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

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

The following precautions are to be taken:

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

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

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

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

Name of BHEL Safety Representative: _____ Sign: _____

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

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

Permit Cancellation:

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

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

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

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

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

Original at BHEL site	Second Copy – BHEL SAFETY	Third Copy : Contractor
Bharat Heavy Electricals Limited		
Power Sector - Eastern Region, Kolkata		



SAFETY WORK CLEARANCE Permit no. _____

Project: _____	Emergency Contact Nos: _____
Subcontractor: _____	

WORKING AT HEIGHT PERMIT

Area : _____ Date: _____ Time: _____

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

Name of Work Performing Contractor: _____

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

Description of Work: _____

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

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

The following precautions are to be taken:

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

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

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

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

Name of BHEL Safety Representative: _____ Sign: _____

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

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

Permit Cancellation:

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

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

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

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

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

Original at BHEL site	Second Copy – BHEL SAFETY	Third Copy : Contractor
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Bharat Heavy Electricals Limited		
Power Sector - Eastern Region, Kolkata		
TENDER NO. – PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019		
VOLUME – IA	GENERAL CONDITIONS OF CONTRACT (SUPPLY)	1 of 25

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Bharat Heavy Electricals Limited Power Sector - Eastern Region, Kolkata		
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PART – I

INSTRUCTION TO TENDERER

CLAUSE NO	DESCRIPTION
1.0	SUBMISSION OF TENDERS
	The tenderers must submit their tenders in two parts in separate sealed covers as detailed below and as per instructions of NIT.
	PART – I (TECHNO-COMMERCIAL PART).
	PART – II (PRICE PART).
1.1	PART – I (TECHNO-COMMERCIAL PART)
1.1.1	This shall include the following.
1.1.1.1	Covering letter of tenderer.
1.1.1.2	Volume-IA/IB/IC/ID – General and Special Conditions of Contract.
1.1.1.3	Volume-II – Technical specification including drawings, if any.
1.1.1.4	Volume-III – ‘Price schedule’, (No rate shall be entered in the rate column. Only write ‘quote’ against each rate of the schedule).
1.1.1.5	Drawings.
1.1.1.6	Schedules, annexures, proformas and other documents as indicated in the tender document and as specified in the tender enquiry letter.
1.1.1.7	The above documents shall form one set of the Part –I tender. Tenderers shall submit requisite sets of Part-I tender, i.e. original and duplicate sets as specified in the tender enquiry letter. All the sets shall be sealed and marked ‘Original Part – I tender’ and ‘Copies of Part – I tender’ on the respective sets and superscribed as : PART – I (TECNHO-COMMERCIAL PART). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.2	PART –II (PRICE PART)
	This shall include following:
1.2.1	Copy of the covering letter enclosed in Part-I tender.
1.2.2	Volume III – Schedule of item of work (in the rate /price column the rate / price figures should be entered in words as well as in figures).
1.2.3	Tenderer shall submit requisite sets of Part-II tender duly sealed in one cover, superscribed as: PART – I (PRICE PART). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.3	PART – III (EMD)
	Earnest Money Deposit should be made in the form as indicated in tender document and shall be submitted inside a sealed envelope superscribing the following. PART – III (EMD). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.4	MAIN COVER
	Duly sealed and superscribed, as detailed above of Part – I, Part- II and Part – III tenders shall be enclosed in one main cover duly sealed and superscribed as: PART – IV (TECNHO-COMMERCIAL PART, PRICE PART AND EMD). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
2.0	OPENING OF TENDERS
2.1	Unless otherwise specified, techno-commercial bids will be opened one day after latest due date of submission of offer at 15-00 hrs for which bidder may depute representative.
2.2	While BHEL reserve the right to open the price bid (Cover-II) of the offers in camera, the

Bharat Heavy Electricals Limited Power Sector - Eastern Region, Kolkata		
TENDER NO. – PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019		
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	date & time to open to Cover-II tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, one representative of the bidder shall be allowed to attend.
2.3	Price bids of those bidders who will be qualified for the subject job on the basis of pre-bid discussions, evaluation of techno commercial bids etc will be opened on specified date. Bidders may depute their representatives to participate in opening of price bids. BHEL's decision in this regard is final & binding.
3.0	RATES TO BE IN FIGURES AND WORDS
3.1	The tenderer shall quote in English both in figures as well as in words the rates and amounts tendered by him in the priced schedule of items of work forming part of the tender in such a way that interpolation is not possible. The amount for each item shall be worked out and entered and requisite totals given of all items. The tendered amount for the work shall be entered in the tender and duly signed by the tenderer.
3.2	If some discrepancies are found between the rate given in words and figures or the amount shown in the tender the following procedure shall be followed.
3.2.1	When there is a difference between the rates in figures and words, the rates which correspond to the amount worked out by the tenderer shall be taken as correct.
3.2.2	When the rate quoted by the tenderer in figures and words tallies but the amount is incorrect, the rate quoted by the tenderer shall be taken as correct.
3.2.3	When it is not possible to ascertain the correct rate, in the manner prescribed above, the lesser of the two (ie between figures and words) will be treated as valid rate.
4.0	CORRECTIONS AND ALTERATIONS
	All entries in the tender shall either be typed or be in ink, erasures and over-writing are not permitted and may render such tenders liable to summary rejection. All corrections and alterations shall be duly attested by the tenderer with date.
5.0	ALL PAGES TO BE INITIALLED
	All signatures in tender documents shall be dated as well. All pages of all volumes and sections including drawing of tender documents shall be initialed with seal at the lower right hand corner or signed with seal wherever required in the tender documents by the tenderer or by a person holding power of attorney (copy to be enclosed with Part-I of tender) authorizing him to sign on behalf of the tenderer before submission of tender.
6.0	ADDENDA
	Addenda to the tender documents may be issued prior to the date of opening of the tenders to clarify documents or to reflect modifications in the design or contract terms. All such addenda issued shall form part of tender documents.
7.0	RATES TO BE ALL INCLUSIVE
	The tenderer shall quote for the jobs on the basis of the items entered in the schedule of items of work and shall quote separately for each and every items entered in schedule of items of work. The rates and prices quoted shall be all inclusive as provided for in the schedule of items of work and any claim whatsoever for enhancement of rates or prices quoted on any account shall not be entertained.
8.0	INFORMATION
	The information given in the tender documents and the plans and drawings forming part thereof is merely intended as general information without undertaking on the part of BHEL as to their accuracy and without obligation relative thereto upon BHEL. 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 labour etc. No claim will be entertained later on the ground of lack of knowledge.
9.0	QUANTITIES
	The quantities indicated in the schedule of items of work with respect to the various items are only approximate and are intended merely as a general information without undertaking as to the correctness thereof and without any obligation relative thereto upon BHEL.
10.0	ENCLOSURES
	The enclosures to be enclosed alongwith Part-I of the tender shall include the following besides other such enclosures which may have been specified elsewhere in the tender documents.
10.1	Valid Income Tax Clearance Certificate and Sales Tax Clearance Certificate in original or true copies/ photocopies duly attested by a Gazetted Officer.
10.2	Solvency certificate from a nationalized scheduled bank.
10.3	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, attested copy of partnership deed, instrument of partnership duly certified by the

Bharat Heavy Electricals Limited		
Power Sector - Eastern Region, Kolkata		
TENDER NO. – PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019		
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	Notary Publics shall be enclosed. In case of company, date and place of registration including date of commencement – certificate, certified copies of Memorandum and Articles of Association, nature of business carried on by the company and provisions of the memorandum relating thereof, names and particulars including addresses of all the directors and their previous experiences etc shall be furnished.
10.4	Power of Attorney or other proof of authority of the person who has signed the tender.
10.5	Provident Fund Account No through which PF of the Employees are deposited including supporting document for the same.
10.6	In case of a consortium arrangement consisting of prime bidder and his associate, the prime bidder to furnish as exclusive undertaking jointly executed by him and his associate for the successful performance of the entire contract. At the time of contract finalisation, a legal document on the formation of such group has to be submitted to BHEL which will be a part of the contract document.
10.7	Any other documents required in terms of this notice.
11.0	GENERAL
11.1	The tender shall be completely filled in all respects and shall be tendered together with requisite information in the manner detailed above. Any tender incomplete in any respect and violating any of the instructions shall be liable to be rejected. If the space in the tender or any schedule or proforma is insufficient pages shall be separately added and numbered.
11.2	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 :-
11.2.1	To reject any or all the tender.
11.2.2	To split up the work amongst two or more tenderers.
11.2.3	To award the work in part.
11.2.4	Either of the contingencies stated in 11.2.2 and 11.2.3 to modify the time for completion suitably.
11.3	Conditions and unwitnesses tenders, 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.
11.4	If a tenderer expires after his submission of the tender or after the acceptance of his tender BHEL may at their discretion cancel such tender. If a partner of a firm expires after the submission of the tender or after the acceptance of the tender, BHEL may cancel such tender at their discretion unless the firm retains its character.
11.5	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.
11.6	If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract, if awarded and forfeit Earnest money / Security Deposits.
11.7	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.
11.8	Should a tenderer or contractor or in the case of a firm or Company one or more of 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 detail of the officer. Failing this, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money /Security Deposit.
11.9	The tender submitted by a bidder shall become property of BHEL who shall have no obligation to return the same to the bidder.
11.10	BHEL shall not be liable for any expenses incurred by the bidder in the preparation of the tender irrespective of whether the tender is accepted or not.

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PART – II

GENERAL CONDITIONS OF CONTRACT

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43.0

LIST OF STANDARDS FOR REFERENCE.

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1.0	APPLICATION Unless otherwise provided in the contract documents, these general conditions shall govern the works of the accompanying technical specifications. special conditions of this volume shall be read in conjunction with these general condition and these conditions will from a part of the contract documents.
2.0	DEFINITION OF TERMS : In construing these General Conditions, Special conditions and accompanying Specification the following words shall have the meaning herein assigned to them except where the context otherwise requires.
2.1	The owner/ purchaser shall mean CUSTOMER and shall include its successor in office, legal representative and permitted assigns.
2.2	Purchaser/ vendee/ BHEL shall mean Bharat Heavy Electricity Limited a Company registered under the Indian Companies Act 1956, with its Registered Office at BHEL House, Siri Fort, New Delhi. Power Sector Eastern Region, Kolkata or its Administrative Officers or its engineer or other employees are authorised to deal with any matter with which these persons are concerned on its behalf.
2.3	EXECUTIVE DIRECTOR/ GENERAL MANAGER shall mean the officer in administrative charge of BHEL, Power Sector - Eastern Region or their other regional offices
2.4	The bidder/ tenderer shall mean well established reputed organisations, manufacturer etc having requisite financial and technical capability and experience participating in the Tender invited by BHEL for supply and delivery, erection, testing and commissioning or plant equipment and status including associated civil structural and architectural works complete as per applicable technical specifications.
2.5	The contractor shall mean the successful bidder/ tenderer who is awarded the contract and shall be deemed to include the contractor's successors assigns, heirs executors, administrators of representatives approved by the BHEL.
2.6	The sub-contractor shall mean individual or firm to whom any part of the work has been subletted by the contractor with the consent in writing of BHEL and shall include his/its heirs, executors, administrators, legal representative and permitted assigns.
2.7	The Engineer shall mean an Officer of BHEL as may be duly appointed and authorised in writing by BHEL to act as Engineer on his behalf for the purpose of the Contract, to perform the duty set forth in this General Condition of Contract and other Contract Documents.
2.8	The Consulting Engineer shall mean any firm or person as may be duly appointed and authorised in writing by BHEL/Purchaser from time to time to review plant and equipment, works and services under the Contract.
2.9	The "Review Conslutant" shall mean any firm or person as may be duly appointed and authorised in writing by BHEL/Purchaser from time to time for final review of the plant and equipment, works and services under the Contract.
2.10	The "Inspector" shall mean any firm or person as may be duly appointed and authorised in writing by BHEL/Purchaser from time to time to inspect plant and equipment, works and services under the Contract.
2.11	'Acceptance of Tender" shall mean Telegraphic/ Telex/ Tele-fax Letter of Intent or Notification communicating to the Contractor the acceptance by BHEL of his tender.
2.12	"Contract Price' shall mean the agreed sum of money stated in the Contract to be paid to the Contractor for the successful fulfilment of the Works in accordance with the terms of the Contract Documents.
2.13	"Contract" shall mean the Agreement between the Contractor and BHEL for execution of and payment for the works as defined in the Contract Documents.
2.14	The "Contract Documents" shall mean and includes the General Conditions of Contract. Specifications and Schedules. Drawings, Form of Tender, Covering Letters, Schedule of Prices and Quantities submitted by the successful Bidder, Letter of Interest of BHEL, Drawings, subsequent amendments mutually agreed upon and the Agreement to be entered in to between BHEL and the Contractor duly signed by them under the Clause – Contract" of these General Conditions and other documents that may form part (s) of the Contract Documents.
2.15	"Work or Works' shall mean the plant / equipment to be supplied and / or works to be done by the Contractor under the contract Documents.
2.16	"Plant" shall mean the portion of the work (under the scope of this contract) which includes

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	permanent equipment, machinery, apparatus, materials, articles and civil, structural and architectural works and things of all kinds to be provided under the contract documents.
2.17	“Test” shall mean such test as is prescribed or considered necessary by BHEL / purchaser whether performed or made by the Engineer or any Agency acting under the direction of the Engineer.
2.18	“Constructional Plant” means all appliances or things of whatsoever nature required in or about the execution completion or maintenance of the works or temporary works by the contractor at his own cost and risk (as hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.
2.19	“Goods” shall mean plants, equipment or materials to be supplied under the Contract Documents.
2.20	“Temporary Work” shall mean all temporary works of every kind required in or about the execution, completion or maintenance of the work by the contractor at their cost and risk.
2.21	“Completion Time” shall mean the period by date/month specified in the acceptance of tender for handing over of the intended scope of work, erected equipment / plant, which are found acceptable by the engineer being of required standard and conforming to the specifications of the contract.
2.22	“Consignee” shall mean the authorised representative or officer of the Purchaser / BHEL to whom the plant, equipment and materials are required to be delivered in the manner indicated in the Contract Documents.
2.23	The “Specification” or Specification / Technical Specifications” shall mean all Specifications including technical specifications of the Works and the Tender Drawings and schedules attached thereto and any modification made thereof.
2.24	“Drawings” shall mean drawings referred to in the Contract Documents including modifications if any and such other drawings as may be from time to time furnished by the Contractor and approved by BHEL / purchaser.
2.25	“Site” shall mean the land and other places including existing roads, paths etc., put at the disposal of the Contractor by BHEL / purchaser in connection with the execution of the Contract.
2.26	“Tests on Completion” shall mean such tests as are prescribed in the specifications and/or other tests as mutually agreed upon by BHEL/ Purchaser and the Contract to be carried out by the Contractor on erection of the plant to prove satisfactory performance as per Specification.
2.27	“Acceptance Test / Performance Guarantee Test” shall mean such test as are required to determine and demonstrate guaranteed capacity, efficiency and operating characteristics of the Plant as stipulated in the contract Documents.
2.28	“Commissioning” shall mean the successful completion of trial operations and readiness of the contracted / ordered plant and materials for commercial use. This will include all consumables and inputs required for pre-commissioning.
2.29	“Initial Operation”, “Reliability Run” or “Trial Run” shall mean the first continuous operation of the plant by the Contractor covered under the Contract with sub-systems under varying loads to demonstrate satisfactory operation for a specified period which shall not be less than fifteen (15) days.
2.30	“Commercial Operation” shall mean the conditions of operation in which all the equipment covered under the Contract are officially declared by BHEL/ purchaser, to be available for continuous operation at different loads and including rated capacity. Such declaration by BHEL / purchaser will be issued within thirty days after successful trial run made by the Contractor.
2.31	“Service” shall mean furnishing of labour and services as per specifications and supervision of complete erection, testing and putting equipment and materials to be supplied into satisfactory operation, supervision of inland transportation, loading and unloading and storage at the site as defined in the Contract Documents.
2.32	“Warranty Period” shall mean the period during which the Contractor shall remain liable for repair or replacement of any defective part of the plant supplied, works done and services rendered under the Contract.
2.33	“Code” shall mean the applicable International and Indian standards as on the date of letter of intent and any subsequent modification thereof.
2.34	“Month” shall mean calendar month. “Day” or “Days” unless herein otherwise expressly defined shall mean calendar day or days of twenty four (24) hours each. A week shall mean continuous period of seven (7) days.
2.3	“Letter of Intent” / “Purchaser Order” shall mean BHEL’s letter or notification conveying his acceptance of the Tender subject to such conditions as may have been stated therein.

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2.36	“Writing” shall include any manuscript typed or handwritten or printed statement, including Telex, Cable and facsimile transmission under or over signature or seal as the case may be.
2.37	“Approved” or “Approval” shall mean as approved by or approval of the Purchaser/ BHEL.
2.38	Words incorporating “Persons” shall include firms, companies, corporations and other bodies whether incorporated or not.
2.39	“Words” incorporating the singular only shall also include the plural and vice-versa where the context requires.
2.40	“F.O.B” shall mean delivery free of expenses to the Purchaser / BHEL on board the vessel at the port of shipment.
2.41	“CIF Price” shall mean delivery free of expenses to the purchaser / BHEL on board the vessel at the port of entry including the insurance coverage.
2.42	“F.O.R. “ Destination” shall mean delivery free of expenses to the Purchaser / BHEL on rail wagons at destination Railway Station or the purchaser’s siding as may be named or / and by road transport at customer’s destination.
2.43	“F.O.R. Works” shall mean loaded and stowed or trimmed free of expenses to the purchaser / BHEL on board rail wagons at the Contractor’s Works siding or the nearest Railway station for transportation.
2.44	“Tonne” shall mean 1000 Kilogram weight. “Gallon” shall mean Imperial gallon, unless otherwise mentioned specifically.
2.45	“Final Acceptances” mean the BHEL’s/ purchaser’s acceptance of the work/plant completed in every respect as per terms of the contract Documents on expiry of the Warranty / guarantee / maintenance period.
2.46	Terms and conditions not herein defined shall have the same meaning as are assigned to them in the latest edition of Indian Sale of Goods Act/Indian Contract Act as applicable.
2.47	SINGULAR AND PLURAL Words importing the masculine gender or singular number shall also include the feminine gender and plural and vice versa where the context so requires.
2.48	HEADINGS OR NOTES The headings or notes in these conditions are solely for the purpose 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.
2.49	LANGUAGE All documentations and correspondence regarding the contract shall be in English language.
2.50	DOCUMENTS MUTUALLY EXPLANATORY Except if and to the extent otherwise provided by the contract the provisions of special Conditions of contract shall prevail over General Conditions of Contract and over those of any other documents forming part of the Contract. Subject to the foregoing the several documents forming the Contract are to be taken as mutually explanatory of one another but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the contractor instructions directing in what manner the work is to be carried out.
3.0	SCOPE ON CONTRACT The scope of work, if not otherwise mentioned in the contract, shall be on the basis of a single contractor’s responsibility, completely covering all Technical Specifications under the accompanying Technical Specification. Some of the salient features are hereunder.
3.1	Detailed design of all the equipment and subsystem and work as per specification.
3.2	Complete, manufacture of all the equipment / subsystem including shop, field testing and assembly as per specification.
3.3	Providing of special tools and tackles and services necessary for satisfactory execution of the contract.
3.4	Providing engineering drawings, data operation manual, etc.
3.5	Packing and transportations of the Goods from the manufacturer’s works to the site.
3.6	Receipt, storage, preservation and conservation of the Goods at the site as applicable.
3.7	Supply of spares.
4.0	CONTRACT PRICE (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT)
4.1	The contract price is the agreed sum of money stated in the contract documents to be paid to the contractor for the successful completion of the works in accordance with the terms of the contract documents. The contract price shall be for the entire scope of the work with

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	the break-ups as specified.
4.2	The individual item rates or lumpsum price as the case may be, in the schedule of this contract shall be deemed to be firm for the entire period of the Contract or extended period of contract and no escalation in the rates or price shall be permissible for any reason whatsoever unless otherwise specified.
4.3	The contract price shall not be varied in respect of the fluctuations in rate of wages or allowances payable to the labour or in the cost of materials, consumables, water, fuel, power or for anticipated profit or alleged losses or for any reason whatsoever,
5.0	TAXES AND DUTIES (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT)
5.1	EXCISE DUTY
5.1.1	Excise duty actually incurred by contractor against the despatch made from his factory constituting sale under the contract alone shall be reimbursed at actuals against requisite documentary evidence like clean invoice cum excise duty gate pass in original or certificate copy, if separately indicated in the prices bid. If excise duty is included in the price quoted by the contractor then he is not eligible for reimbursement of excise duty or statutory variation of excise duty.
5.1.2	The invoice cum excise duty gate pass should show the name of ultimate consignee as specified in the contract. If excise duty is paid under protest or dispute it shall not be eligible for reimbursement until the dispute is settled.
5.1.3	No excise duty shall be payable by BHEL on inputs bought out items, raw materials and components consigned directly to site from sources other than contractor's factory.
5.1.4	The contractor is required to ensure that excise duty is properly calculated and paid and available exemption and benefits are fully availed.
5.1.5	If required by BHEL the contractor will provide certificate, if modvat benefit has been availed on his inputs and have been passed on to BHEL.
5.1.6	If the contractor claims / obtains any refund of the excise duty paid and got reimbursed, the same shall be refunded to BHEL.
5.1.7	Excise duty shall be restricted to the amount and percentage shown in the price format. BHEL is not liable to reimburse if the excise duty shown by the contractor in his offer is incorrect.
5.1.8	The excise duty on self manufactured items of the contractor alone shall be reimbursed against submission of clean original excise duty invoice or true copy thereof duly attested by excise authorities. The payment of excise duty shall however be limited to the amount indicated in the price in the schedule. Statutory variation shall be limited to change in the tariff within the delivery specified in the order/contract only. Provisional / Conditional gate passes / excise duty invoices are not acceptable for reimbursement.
5.1.9	Contractors are required to ensure that excise duty including surcharge , if any, quoted are as per the existing tariff on the date of the offer and have availed all benefits as per existing rules.
5.1.10	EXCISE DUTY (IN CASE OF DEEMED EXPORT) In case of deemed export and order placed under similar financing arrangement, contractors are required to ensure that original gate passes and document to claim draw backs are made available to BHEL alongwith disclaimer certificate. In the absence of above the offer is liable to be loaded. In these cases, excise duty shall be billed separately with the above documents.
5.1.11	No statutory variation during extended period shall be allowed.
5.2	SALES TAX
5.2.1	Sales tax can be reimbursed only if the same is payable by the contractor to the respective authorities. In case any concessional provisions are applicable the same shall be availed by the bidder/ contractor.
5.2.2	Contractors are expected to meet all statutory requirements and ensure that the Sales Tax charged are not exempted under the respective Sales Tax Act. The bid/offer should clearly indicate the percentage and total amount. Concessional forms required should be clearly indicated in the bid/offer.
5.2.3	BHEL is registered in Kolkata vide registration number WB Sales Tax No - PS/2214, dated 14-12-1998.
5.2.4	Tenderers are to ensure that their offer includes all applicable taxes. In case of Intra-state sales tax. The same shall be specified.
5.2.5	Sales tax on direct sales by the contractor to BHEL shall be reimbursed, as per tariff applicable to the approved items but restricted to the amount shown in the price bid

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	separately. If it is shown as included in the quoted price. Then it shall not be eligible for reimbursement by BHEL.
5.2.6	BHEL proposed to make sale-in-transit “C” form shall be issued / exchanged against E1/E2 forms “C” form shall be issued based on financial year transaction. Contractors are required to submit their request for issue of “C” forms in the format enclosed.
5.2.7	Form “C” will be issued after the financial year against the issue of E-1/E-2 form. Contractors are required to give the details for claiming “C” form.
5.2.8	If documents are submitted through bank. Form-C shall not be insisted for retirement.
5.2.9	Contractors are expected to avail taxation benefit. The bid/offer should clearly indicate the percentage and total amount. Concessional forms requirement should be clearly indicated in the bid/offer.
5.3	OTHER TAXES Bidder/tenderer are required to include all other taxes applicable on the date of the offer/bid over and above ED. ST. This will include but not limited to Octroi, turnover, works contract tax, entry tax, consignment tax, income tax, etc as applicable.
5.4	CUSTOMS DUTY Contractor shall arrange for their own import licence if required since BHEL will not provide any import licence. The custom duty element for imported items shall be included in the basic price. No. variation in customs duty / exchange rate for imported items shall be payable by BHEL.
5.5	FREIGHT CHARGES Contractor shall be required to transport the items through transport contractor of repute and with due consent / approval of BHEL. Freight charges shall be payable by the contractor. However, all documents in proof of payment of freight charges are to be submitted along with the bills to BHEL.
6.0	PRICE VARIATION (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT)
6.1	The price shall remain firm, for any increase or decrease in order value upto +/- 30% BHEL shall have the right to increase / decrease quantity upto the above order value and tenderer shall be bound to accept the same at the same price without any escalation.
6.2	Transport: If for any reason, the contractor has to resort to a mode of transport other than what was contemplated by him at the time of tendering to keep up the completion schedule and consequently has to incur more expenditure, BHEL will not under any circumstances reimburse such extra expenditure and price will not exceed the firm contract / order price.
7.0	STATURORY VARIATIONS (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT)
7.1	It is the responsibility of the tenderer to inform himself of the correct rates of customs or other duties or taxes leviable on the on the materials at the time of tendering. If the rates assumed by the tenderer are less than the correct rates prevailing at the time of tendering the tenderer will be responsible for such errors.
7.2	If the rates assumed are higher than the correct rates prevailing at the time of tendering, the difference will be to the credit of BHEL.
7.3	Should, however, any statutory alternation be made based on the rate prevailing at the time of tendering, the difference for excise duty & sales tax only, either up or down, will be to the account of BHEL. No variations on customs duty / exchange rate / minimum wages, prices of controlled commodities or any other input shall be payable by BHEL.
7.4	Notwithstanding the above, where the actual completion of the supply occurs beyond the period stipulated in the order/contract, variations above referred to will be limited to the rates prevailing on the dates of the stipulated completion period only and for variations after the agreed completion period the tenderer alone shall bear the impact if it is upward revision and if it is downward revision BHEL shall be given credit to the extent. This will be without prejudice to the levy of penalty for delay in completion.
8.0	TERMS OF PAYMENT (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT)
8.1	SUPPLY
8.1.1	Ninety (90%) percent value of equipment supplied alongwith applicable 100% taxes and duties etc. for the consignment shall be paid against despatch documents on pro-rata basis. All bank charges shall be to the account of the contractor.
8.1.2	Balance ten (10%) percent payment shall be made after receipt and physical verification of materials at site by site engineer on pro-rata basis (against material receipt certificate (MRC) from site office) and on availability of extended security bank guarantee to cover the guarantee period.

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8.1.3	No advance payments shall be made.
8.2	SUPERVISION, ERECTION AND COMMISSIONING / SUPERVISION OF ERECTION & COMMISSIONING Hundred (100%) percent payment shall be made only after commissioning of the equipment, final acceptance and receipt of bank guarantee to cover guarantee period.
8.3	Recommended/ Mandatory Spares. Same as clause no 8.1 above.
9.0	DOCUMENTS FOR CLAIMING SUPPLY PAYMENT (FOR INDIGENOUS SUPPLIERS ONLY) (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT) Following documents shall be submitted for claiming supply payments in required number of sets.
9.1	Invoice.
9.2	LR/RR/GR
9.3	Delivery challan.
9.4	Packing list showing item-wise details, size, quantity/ number, net & gross weight, number of packages and their identification.
9.5	BHEL MDCC (Material Despatch Clearance Certificate).
9.6	QS note issued by BHEL inspection agency.
9.7	Copy of letter to Insurance company to cover items despatched under insurance policy.
9.8	Original material receipt certificate (MRC) from site office shall be required for claiming payment against receipt of material at site.
10.0	BANK CHARGES
10.1	All bank charges for documents through bank shall be to the account of contractor.
10.2	The address of BHEL banker is STATE BANK OF INDIA, N. S.ROAD BRANCH,KOLKATA
11.0	TIME (THE ESSENCE OF CONTRACT)
11.1	The time and date of completion of the work as stipulated in the contract Documents shall be deemed to be the essence of the Contract. The contractor shall commence the works and shall proceed with the same with due expedition and without delay except as may be expressly sanctioned or ordered by the Engineer. If the contractor fails to commence the work within the stipulated time. BHEL at his sole discretion will have the right to cancel the contract. In such an event the contractor's security deposit with BHEL will stand forfeited without any further reference to the contractor, without prejudice to any and all of the BHEL's other rights and remedies in this regard. The Contractor shall so organise his resources and perform so as to complete the work not later than the aforesaid date of completion.
11.2	The contractor shall submit a PERT Network showing various key phases of the work such as design, procurement, manufacturing, shipment, etc. within thirty (30) days after the date of Letter of intent/purchase order. This network shall also indicate the interface facilities to be provided by the owner / BHEL and the dates by which such facilities are needed by the contractor and also the programme for phase wise release of work site for construction work as may be needed by the contractor, as applicable.
11.3	The Contractor shall discuss the network so submitted with BHEL. The agreed network may be in the form as submitted or in revised form in line with the outcome of discussion and shall form a part of the contract documents.
11.4	The above PERT Network shall be reviewed and periodic review reports shall be submitted by the Contractor to BHEL as directed by him.
11.5	The Contractor shall make available to BHEL detailed manufacturing, erection, testing and commissioning and construction programmes, as applicable, in line with the agreed PERT Network in the form of PERT or Bar Chart as desired by BHEL within 30 days from the date of receipt of LO1/PO. During performance of the contract, such programmes shall be renewed, updated and submitted to BHEL as and when needed by him or periodically as specified by him. If in the opinion of BHEL proper progress is not maintained suitable changes shall be made in the Contractor's operation to ensure proper progress.
11.6	PROGRESS REPORTS AND PHOTOGRAPHS
11.6.1	The Contractor shall furnish eight (8) prints each of monthly progress reports as approved by BHEL and photographs of the work done. Photographs shall be taken when and where indicated by the Engineer or his representative. Photographs shall be approximately 100mm x 125mm in size including margin of 5 mm side for fixing. Adequate number of photographs shall be submitted indicating various stages of manufacture and / or installation as applicable. Each photograph shall contain the date, the name of the

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	contractor and the title of the view taken.
11.6.2	Monthly progress report shall be submitted. These shall detail the status of design, drawings, procurement of raw materials and manufacture of the equipment and delivery of the equipment. BHEL shall advised the contractor about the progress schedule and photographs he has to submit each month together with the names and address of persons to whom they are to be sent. The contractor shall also furnish actual progress against schedule and such other information as BHEL may require to satisfy himself about the timely manufacture and delivery of equipment and timely construction and erection work to suit the commissioning date. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measure wherever necessary.
11.6.3	The submission and acceptance of the photographs and / or reports shall not prejudice the rights of BHEL in any manner.
11.6.4	In the event of contractor's continued poor progress of work, BHEL shall at his option treat this as breach of the contract by the contractor. In such an event it shall be open to BHEL to have the work completed through any other agency or agencies and claim the difference in cost in addition to damages from the contractor without prejudice to any other right or remedy of BHEL under this contract.
11.6.5	The contractor shall be responsible, wherever applicable, for developing detail drawings to adopt equipment and materials to be supplied to the requirement indicated in the specification and shall submit a list of such drawings and programme for submission of these drawings and programme within 30 days from the date of LO1.
11.6.6	Within a reasonable time not exceeding 30 days from the date of LO1 the contractor shall also provide BHEL with the following drawings and date as applicable :
11.6.6.1	Eight (8) marked up copies of technical particulars conforming to the specification.
11.6.6.2	Outline drawings of all equipment together with weights and sufficient overall dimensions.
11.6.6.3	Other drawings and data as indicated in different sections of the tender documents.
11.6.6.4	The contractor shall within 3 weeks form the date of LO1 submit for approval of BHEL the original copies of Codes and Standards which shall govern the design, manufacture, construction, erection, testing, commissioning and trial operation of the plant as applicable under scope of contract.
11.7	MISTAKE IN DRAWINGS
	The Engineer shall have the right at all reasonable times to inspect at the office / premises of contactor all shop and / or detailed drawings of the works or any portion of the works. The Contractor shall be responsible for and shall pay for any alternations of the work due to any discrepancies, errors or omission in the drawings or other particulars supplied by him whether such drawings or particulars has been approved by the Engineer or not. Provided that such discrepancies, errors or omissions be not due to inaccurate information or particulars furnished to the contractor by the Engineer, in which event BHEL shall pay for any alternations of work necessitated by reason of inaccurate information supplied by the Engineer to the Contractor.
12.0	DELIVERY FAILURE TERMINATION/ LIQUIDATED DAMAGES (UNLESS SPECIFIED OTHERWISE IN SPECIAL CONDITION OF CONTRACT)
12.1	It should be clearly understood by the Contractor that time and the date of delivery of despatch stipulated in the order/contract is the essence of the contract, If the contractor fails to complete the order / contract within the time fixed in the order / contract, or within any extension of time granted by BHEL, it shall be lawful for BHEL to recover damages for breach or order / contract without prejudice to any other rights and / or remedies provided for, in the order / contract and hereunder. To be entitled to impose such damage, BHEL will not be required to prove that he has incurred such amount as actual damage.
12.2	DELAYED DELIVERY
12.2.1	This being a turnkey BOP package, if vendor fail to complete the total job of (supply & service parts) as per the completion period for the service part (as per of Vol-1D), BHEL shall have the right to recover from the contractor, as agreed liquidated damages a sum equivalent to half percent (1/2%) of the executed contract price(for the supply part) for the delayed portion per week or part thereof subject to a maximum of ten percent (10%) of the total executed contract price (i.e. sum total of supply & service part) if the contractor fails to install any part of equipment /item within the period fixed for installation of the same (as per Vol-1D). Note: 1. The cumulative LD for the supply & service part shall be limited to 10% of the executed

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	contract value (for the supply & service parts).	
	2. (applicable for supply of the Mandatory spares, if ordered separately only): Recovery shall be done as agreed liquidated damages a sum equivalent to half percent (1/2%) of the order /contract price (only for mandatory spares) for the delayed portion per week or part thereof subject to a maximum of ten percent (10%) of total order/contract price (for mandatory spares only) if the contractor has fails to deliver any part of equipment /item within the period fixed for delivery of the same as per Vol-1C.	
12.2.2	Purchase from elsewhere on account and at the risk of the contractor of the equipment /item not so delivered or others of a similar description without cancelling the order / contract in respect of the instalment not yet due for delivery or	
12.2.3	Cancel the order / contract or a portion thereof and if so desired purchase the equipment/item not so delivered at the risk and cost of the contractor and the contractor shall be liable to BHEL for any excess costs provided that the contractor shall continue the performance of the contract to the extent not cancelled under the provisions of this clause.	
12.2.4	Where action is taken under clause mentioned above at b & c, contractor shall be liable for any loss which BHEL may sustain on that account. The contractor shall not be entitled to any gain on such purchase and the manner and the method of such purchase shall be at the entire discretion of BHEL. It shall not be necessary for BHEL to serve a notice of such purchase on the contractor.	
13.0	COMPETENCE AND GUARANTEES	
13.1	Contractor shall have sound technical and financial capabilities and possess recognised experience in executing the works of similar kind and magnitude. The contractor shall properly fill in the various schedules and proforma prescribed in the tender documents. Non submission of the information in the prescribed schedules and proforma may lead to rejection of the bid.	
13.2	SECURITY DEPOSIT (SD)	
13.2.1	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.	
13.2.2	The amount of Security Deposit shall be as follows.	
	a) In the case of work upto ten lakh	10%
	b) In the case of work costing above Rs. 10 lakh upto Rs. 50 lakhs	Rs. 1[One] lakh plus 7.5% of the the amount exceeding Rs 10 lakhs.
	c) Above Rs 50 lakhs	Rs. 4 [Four] lakh plus 5% of the the amount exceeding Rs 50 lakhs.
13.2.3	The Security deposit may be deposited in any of the following form.	
13.2.3.1	The security deposit as indicated in letter of intent can be paid in the form of bank guarantee/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. The bank guarantee shall be from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act in the prescribed proforma, validity being upto completion of work as stipulated in letter of intent or stipulated otherwise in the proforma, whichever is later. The bank guarantee furnished towards security deposit should be kept valid by proper renewal till said work is actually completed	
13.2.3.2	50% of Security Deposit as indicated in the letter of intent can either 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 and balance 50% of the security deposit can paid either in cash/ other form of security or may be recovered by deduction from running bills @ 10% of the value of each running bills till the full Security Deposit is made up. The Bank Guarantee furnished towards Security Deposit should be kept valid by proper renewal till the said work is actually completed.	
13.2.3.3	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).	
13.2.3.4	The security deposit may be submitted by Fixed Deposit Receipt issued by Scheduled	

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	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.
13.2.4	Acceptance of security deposit against sl. No. 13.2.3.3 & 13.2.3.4 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.
13.2.5	If the value of the work done at any time exceeds accepted agreement value, the security deposit shall be correspondingly enhanced and the extra security deposit shall be immediately deposited by the contractor or recovered from payments due to him.
13.2.6	Regarding adjustment of Earnest Money deposit towards part of Security Deposit, refer clause under EMD above.
13.2.7	Failure to deposit security money within stipulated time may lead to forfeiture of Earnest Money and cancellation of award of work.
13.2.8	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.
13.2.9	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.
13.2.10	<p>"If the final price of successful bidder is lesser by 'more than 30%' of BHEL's estimate and the difference between the price of L-1 & L-2 is more than 10% of BHEL's estimate then only, 'Additional Security Deposit' will be required to be submitted by the successful bidder with value as follows:</p> <p>Additional Security Deposit = "30 % of (A-B)" limited to minimum 5% & maximum 10% of the 'Total Price/Contract Value', where,</p> <p>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)</p> <p>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.</p> <p>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."</p>
13.2.11	RETURN OF SECURITY DEPOSIT
	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.
13.3	PERFORMANCE BOND
13.3.1	In addition to the security deposit the contractor shall provide to BHEL guarantee of an approved nationalised bank for an amount equal to 5% of the awarded/executed contract price (as per LOI/RA bills) as Performance Bond (under the terms of a bond) within 30 days from the date of LOI (Letter of Intent) and terms of the said bond shall be such as shall be approved by BHEL. The bond shall remain valid until 6 (SIX) month after the expiry of warranty / guarantee period. The obtaining of such guarantee and the cost of bond to be so entered into shall be at the expense in all respects to the contractor.

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13.3.2	BHEL reserve the right of forfeiture of the above bond in addition to other claims and damages in the event of the contractor's failure to fulfil any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserve the right to set off this bond against any claims of any other contract with BHEL.
14.0	DELIVERY TERMS
	When the goods are ready for shipment BHEL / owner should be notified by the contractor through Fax or Telex. Notification of delivery or despatch in regard to each and every consignment shall be made to the owner/BHEL immediately after despatch or delivery ensuring arrangements for its receipt at the site at least 48 hours ahead of actual delivery. The contractor shall further supply to the consignee a priced invoice and packing list of all goods delivered or despatched by him and other shipping particulars. All packages, containers, bundles and loose materials forming part of each and every consignment shall be described fully in the packing list, and full details of the contents of packages and quantity of goods shall be submitted to enable the consignee to check the goods on arrival at destination.
15.0	SHOP ASSEMBLY AND INSPECTION
15.1	Shop assembly to the largest extent feasible shall be performed by the contractor to assure proper fitting of the various parts and for checking the correctness of clearances and dimensions. Parts thus assembled shall be match – marked for reassembly at the site. Prior to be dismantled for shipment. A detailed description of the intended shop assemblies shall be submitted along with the Quality Assurance Plan.
15.2	No Goods shall be shipped before all tests and inspection have been carried out according to the approved Quality Assurance Plan unless otherwise instructed by BHEL.
15.3	The acceptance of any Goods prior to shipment shall in no way relieve the contractor of any of his responsibilities for meeting all the requirement of the specification and shall not prevent subsequent rejection if such Goods are found to be defective.
15.4	BHEL/ owner and his duly authorized representative shall have the power at all reasonable times to inspect drawings of any portion of the work or examine the materials and workmanship of the equipments/ items during its manufacture
15.5	Such inspection, examination and testing shall not relieve the contractor from any obligation under the contract.
15.6	BHEL engineer shall on giving seven (7) days notice in writing to the contractor setting out any ground of objection which he may have in respect of the plant/equipment /work, be at liberty to reject any drawings and all or any plant or workmanship, subject to any of the said ground of objection, which in his opinion are not in accordance with the contract / order. The contractor shall give due consideration to such objection and shall either make the modifications that may be necessary to meet the said objections or shall satisfy the engineer that no modifications are necessary to comply with the contract/order.
15.6	The contractor shall give the engineer and his duly authorized representatives notice of any material being ready for testing, and the engineer or the said representative shall (unless the inspection of tests voluntarily waived) on giving reasonable previous notice in writing to the contractor attend at the contractor's premises (as the case may be) within twenty (20) days of the date on which the material is notified as being ready, failing which the contractor may proceed with the tests which shall be deemed to have been made in the engineer's presence. All standard shop tests physical and chemical tests required by the standards or as may be prescribed or approved by the engineer reserves the right to waive any of the above tests requirement and to prescribe new tests required if necessary to expedite the work or to conform to the latest and best practice. Definition, method of measurement, calibration of inspection, measuring and test equipments and required procedure as referred in the above standard and / or those approved by the engineer and equivalent shall be followed. The contractor shall forthwith forward to the engineer duly certified copies of the test certificates in quadruplicate for approval. Further copies of the shop test certificate shall be bound with the instruction manuals.
15.7	In all cases where the order/ contract provided for tests/ inspections whether at the premises or works of the contractor or any sub-contractor the contractor, except where otherwise specified shall provide free of charge to BHEL such labour, materials, electricity, fuel, water, stores, apparatus, inspection measuring and test equipments as may reasonably be required to carry out efficiently such tests of the equipment/ plant, in accordance with the order/ contract and shall give facilities to the engineer or his authorised representative to accomplish such testing.
15.8	The contractor shall maintain & ensure necessary safety measures as required for inspection and tests like HV test, Pneumatic test, Hydraulic test, Load test Spring test,

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	Bend test etc, of his/his subcontractors works to enable inspection Agency for performing inspections. If any test equipment is found not complying with proper safety requirements, then the inspection agency may withheld inspection, till such time desired safety requirements are met.
15.9	INSPECTION MEASURING AND TEST EQUIPMENTS (IMTE)/ MMD
15.9.1	Inspection measuring and test equipments (IMTE) whether used by the contractor or his sub-contractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE shall be in sound condition during usage.
15.9.2	In addition to above, contractor shall ensure the following.
15.9.2.1	Measurement uncertainly is known and consistent with required measurement capability of the IMTE.
15.9.2.2	Selection of IMTEs is compatible with the necessary accuracy precision of required measurement.
15.9.2.3	IMTEs are calibrated at the required internal against certified equipments having known valid relationship to nationality recognised standard/ recognised calibration labs.
15.9.2.4	Calibration records are available and traceable to the particular IMTE.
15.9.2.5	In case during recalibration the IMTE is found out of calibration, report on action taken to validate the previous results along with both calibration records of the IMTE should be furnished to BHEL. NOTE: BHEL decision on acceptability of the product in such case shall be binding.
15.9.2.6	IMTEs are stored, handled and preserved such that accuracy and fitness are maintained and safeguarded from adjustments.
15.9.2.7	Responsibility of usage of valid and calibrated IMTEs by sub-contractors shall be of the contractor.
15.9.2.8	In case calibration records are required by owner/ BHEL, copies of the same shall be furnished.
16.0	MATERIALS AND WORKMANSHIP
16.1	All Goods to be supplied and all works to be done by the Contractor under Contract shall be manufactured and executed in the manner stipulated in the specification or where not specified, to the satisfaction of the Engineer.
16.2	All materials used in the manufacture of the plant/equipment/system shall be selected from the best available for the purpose considering strength, durability and best engineering practice, free from defects and imperfection of recent manufacture and unused. Liberal factors of safety shall be used throughout the design and specially in the design of all parts subject to alternating stresses or shocks.
16.3	All the work shall be performed and completed in a thorough work-man like manner and shall follow the best modern practice in the manufacture of high grade equipment notwithstanding any omission in the Specification.
16.4	Castings shall be free from blow holes, flaws, cracks or other defects and shall be smooth, close – grained and of true forms and dimensions. No plugged or filled –up holes or other defects will be allowed. Such castings are liable to be rejected. However, the Contractor may rectify minor casting defects by welding or other method in accordance with the standard manufacturing practice provided such rectifications does not affect the strength of the casting or impair with the efficient working of the Plant and prior approval of BHEL is obtained for the same.
17.0	COMPLETENESS OF EQUIPMENT
17.1	The equipment shall be completely installed in every respect with all mountings, fixtures and standard accessories which are normally supplied even through not specifically detailed in the Specification. The Contractor shall not be eligible for any extra payment in respect of such mountings, fittings, fixtures and accessories if needed for safe operation of the equipment as require as per applicable codes of the country through they may not have been included in the Contract.
17.2	Parts of all similar equipment supplied shall be interchangeable with on another.
17.3	All the equipment supplied under this contract shall be subject to BHEL/owner's approval according to applicable stipulations set-forth in the specifications.
18.0	REJECTION OF DEFECTIVE PLANT
18.1	If the completed plant or any portion thereof before it is taken over under clause taking over or during the guarantee / warranty period, be found defective or fails to fulfil the requirements of the contract, the Engineer shall give the contractor notice setting forth particulars of such defects or failure, and the contractor shall forthwith make the defective plant good or alter the same to make it comply with the requirements of the contract. Should he fail to do so within a reasonable time, BHEL after giving seven (7) days written

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	notice may reject and replace at the cost of the contractor the whole or any portion of the plant, as the case may be, which is defective or fails to fulfil the requirements of the contract. The contractor's full and extreme liability under this clause shall be satisfied by the payment to BHEL of erection plus difference, if any between the replacement price of the equipment including charges for erection and supervision of erection and the original contract price including charges for erection and supervision of erection in respect of such defective plant.
18.2	In the event of such rejection, BHEL shall have the right to operate any and all equipment as long as it is in operating condition, whether or not, such equipment has been accepted as complete and satisfactory to enable him to obtain necessary replacement except that this shall not be constructed to permit operation of any equipment which may become damaged by such operation before any required alterations or repairs and /or replacements have been made. All repairs or alterations or replacements required of the contractor shall be made by the contractor at such times as directed and in such a manner as will cause the minimum interruption in the use of the equipment. Should the contractor not so replace the rejected plant within the time frame as directed by the engineer upto the requirement of the specification, the contractor's full and extreme liability under this clause will be satisfied by the repayment of all money paid by BHEL to him in respect of such plants.
18.3	Nothing in this clause shall be deemed to deprive BHEL or, effect any right under the contract which he may otherwise have in respect of such defects or deficiencies or in any way relieve the contractor or his obligation under the contract.
19.0	TAKING OVER Upon successful completion of all the tests to be performed at the site on equipment, systems and material furnished and erected by the contractor and on completion of successful trial run, BHEL shall issue to the contractor a taking over certificate. Issuance of such certificate shall not be reasonably withheld on account of minor omissions or defects which do not affect the satisfactory operation and / or causes any serious risk to the equipment and systems provided the contractor gives an undertaking to rectify such defects / omissions within a reasonable period time. However, until a final acceptance certificate is issued on completion of warranty / guarantee period by BHEL/owner, the contractor shall not be relieved of any of his obligations, duties, responsibilities under the terms and conditions of the contract including insurance as specified elsewhere in the contract documents. The taking over by BHEL / the owner may be for each unit completed in all respects for satisfactory operation at the discretion of BHEL/ the owner.
20.0	GUARANTEE/ WARRANTY
20.1	The contractor shall warrant that the equipment / item supplied shall be free from all defects and faults in design, material, workmanship and manufacture and shall be of the highest rate and consistent with the established and generally accepted standards for stores of the type ordered in full conformity with the order/contract, specifications, drawings or samples, if any Contractor shall be responsible for the quality of products supplied by its sub-contractors.
20.2	The contractor shall provide guarantee / warranty in respect of the equipment, materials and services furnished by him as enumerated in section "Special Condition of Contract" of this tender document.
20.3	The contractor shall, if required, replace, or repair the equipment/item of such portion thereof, as is rejected by BHEL free of cost at the site or at the option of BHEL the contractor shall pay to BHEL value thereof at the order/contract price and such other expenditure and damages, as may arise by reason of the breach of the condition therein specified.
20.4	All replacements and repairs that BHEL shall call upon the contractor to deliver or perform under the guarantee shall be delivered free cost and performed promptly and satisfactorily by the contractor within three months. If the contractor so desires and BHEL agrees subject to import control regulation, the replaced parts can be taken over by him or his representative or the same can be arranged to be despatched by the contractor or his representative at contractor's cost as he deems fit within a period of three months from the date of replacement of equipment/ item/ parts.
20.5	The cost of any special or general overhaul rendered necessary during guarantee / warranty period due to defects in the plant or, defective work carried out by the contractor the same shall be borne by the contractor.
20.6	If for rectification or replacement of any part of equipment or work due to defective materials, manufacture or design or workmanship, the services of the contractor's personal

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	are requisitioned within the guarantee/ warranty period, these services shall be made available free any cost to BHEL/ owner.
20.7	All the replaced equipment/ item shall also be guaranteed as per provision of guarantee/ warranty.
21.0	INSURANCE
21.1	BHEL shall arrange for insuring the materials / properties of BHEL/Customer covering the risks during transit, storage, erection and commissioning.
21.2	It is the sole responsibility of the contractor to insure the workmen, his properties including tools and plants against accident and injury while work as required by relevant rules and to pay compensation, if any, to workmen as per workmen's compensation Act. This policy shall also cover the contractor against claims for injury, disability, disease or death of his or his sub-contractor's employee, which for any reasons are not covered under the Workmen's Compensation Act & Employee's liability, the liability of which shall not be less than statutory provisions.
21.3	All the rules and regulations of the purchaser/ BHEL in the area of project which are in force from time to time will have to be followed by the contractor.
21.4	If due to negligence and / or non-observance of safety and other precautions and accident/ injury occurs to any other person/ public, the contractor shall have to pay necessary compensation and other expenses. If so decided by the appropriate authorities.
21.5	If due to contractor's carelessness, negligence or non-observance of safety precautions damage to BHEL's/ owner'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 along with Engineers report. In the event of loss/ theft of BHEL's/ purchaser's property while in the custody of the contractor, it will be the responsibility of the contractor to lodge an FIR with 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.
21.6	The contractor shall be responsible for furnishing all the despatch details including invoice value, plant / components despatched, packing slip, LR/RR/CR copy, shipping details etc. to underwriter and BHEL, to cover no. to be intimated to the contractor afterwards.
21.7	Failure to comply the above on time and in case any loss / damage occurs in transit, the contractor shall be responsible for making good such loss / damage.
21.8	Save provisions as stated above the contractor at his cost shall arrange, secure and maintain insurance as may be necessary to protect his interests and the interests of BHEL against all risk and the responsibility to maintain such insurance coverage at all times during the period of contract shall be that of the contractor alone. Contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations.
22.0	NO WAIVER OF RIGHTS Neither the inspection by the BHEL or any other official, employee or agent nor any order by BHEL for payment of money or any payment for or acceptance of the whole or any part of the scope under this contract by BHEL, nor any extension of time, nor any possession taken by BHEL shall operate as a waiver, of any provision of the contract or of any power herein reserved to BHEL or any right to damages herein provided nor shall any waiver of any breach in the contract / order be held to be a waiver or any other subsequent breach.
23.0	MATERIAL DESPATCH CLEARANCE CERTIFICATE (MDCC) When the tests have been satisfactorily completed at the contractor's work, the Engineer shall issue a certificate to that effect within fifteen (15) days after completion of test, but if the tests were not witnessed by the engineer or his representative, the certificate would be issued within fifteen (15) days of the receipt of the test certificates by the Engineer. No plant / equipment shall be transported before such a certificate has been issued. The satisfactory completion of these tests or the issue of this certificate, shall not bind BHEL to accept the plant / equipment should it, on further test after erection, be found not to comply with the order / contract provisions.
24.0	PACKING
24.1	The packing shall be in conformity with specification and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.
24.2	The packing shall be capable of withstanding the rigours of transit and handling at various points / ports.

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24.3	In case of shipment by sea the packing shall be sea worthy of international standard.
24.4	Packing list shall also be submitted along with advance set of documents for claiming payment indicating following. Packing size. Gross weight and set weight of each package.
25.0	SHORTAGE/ DAMAGE
25.1	In case of shortages/ damages noticed on receipt of materials at site, the contractor should replenish the same immediately. Replenishment of damages arising out of faulty and insufficient packing will be to the cost of contractor and shortages out of sound cases, if not accepted by under writer, will have to be replenished free of cost by the contractor.
25.2	In case of faults, deficiencies in materials, components assemblies, subassemblies etc, these are to be supplied free of cost to enable the equipment to be put in order.
26.0	INTER-CHANGEABILITY
26.1	All similar components / parts of similar equipment supplied shall be interchangeable with one another.
26.2	Even though all the work and materials necessary to the satisfactory completion of the works may not be detailed in the specifications and schedules, their cost will be considered to be within the order / contract and no extra charges will be accepted.
27.0	DEFAULT BREACH OF CONTACT, INSOLVENCY AND RISK PURCHASE
27.1	If the contractor fails to deliver the equipment / plant or any instalment thereof within the period (s) fixed for such delivery or at any time repudiates or otherwise abandons the order /contract before expiry of such period or otherwise fails to perform the order/contract or commits any breach of the order / contract not herein specifically provided for or if the contractor being an individual or if a firm on a partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any insolvency Act for the time composition under any insolvency Act for the time being in force or make any assignment of the order / contract or enter into any assignment of the order/contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the partnership Act or if the contractor being a company is wound up voluntarily or by order of a court or a Receiver. Liquidator or Manager on behalf of the debenture holders/ creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder / creditors to appoint a receiver, liquidator or manager, BHEL without prejudice to his right to recover any expenses, losses or damages to which BHEL may be put to incur or sustain by reason of the contract shall be entitled to cancel the order/contract on whole or portion thereof without compensation to contractor and if so desires, he may procure upon such terms and in such manner as he deems appropriate items not so delivered or others of a similar description where items exactly complying with particulars are not, in the opinion of BHEL, which shall be final, readily procurable, at the risk and cost of the contractor and the contractor shall be liable to BHEL for any excess costs provided that the contractor shall continue the performance of the order/contract to the extent not cancelled under the provisions of this clause. Provided also that the contractor shall not be entitled to any gain on repurchase etc.
27.2	NEGLIGENCE
	If the Contractor shall neglect to execute the work with due diligence and expedition or such refuse or neglect to comply with any reasonable orders given to him in writing by BHEL in connection with the work, or shall contravention the provisions of the contract BHEL may give notice in writing to the Contractor calling upon him to make good the failure, neglect or contravention complained of, Should the Contractor fail so comply with such notice within a period considered reasonable by BHEL from the date of such notice service thereof, in the case of a failure, neglect or contravention capable of being made good within that time, or otherwise within such time as may be in the opinion of BHEL be reasonably necessary for making it good, then and in such cash BHEL shall the option and be at liberty to take the work wholly or in part, out of the Contractor's hand and may carry on the work envisaged in the Contract either by himself or his agents or may re-contract with any other person or person to execute the same or any part thereof and provide, as applicable, any other materials, tools, tackle or labour for the purpose or completing the works or any parts thereof. In such event BHEL shall without being responsible to the Contractor for normal wear and tear or the same, be entitled to seize and take possession and have free use of all materials, tools, tackle, or other things which may be on the Site, for use at any time in connection with the work to the exclusion of any

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	right of the Contractor over the same and BHEL shall be entitled to retain and apply any balance sum which may otherwise be then due on the contract by him to the contractor or such part thereof as may be necessary to the payment of the cost of execution of such work as aforesaid . If the cost of completing the works or executing a part thereof as aforesaid shall exceed the balance due to the contractor, the contractor shall pay such excess.
28.0	FORECLOSURE OF CONTRACT If at any time after acceptance of the Tender the owner/BHEL shall decide to abandon or reduce the scope of the work for any reason whatsoever and hence not require the whole or any part of the work to be carried out, BHEL shall give notice in writing to that effect to contract and the Contractor shall have no claim to any payment of compensation or otherwise, whatsoever, on account of any profit or advance which he might have derived from the execution of the works in full but which he could not derive in consequence of the foreclosure of the whole or part of the work. The contractor shall have no claim for compensation against certificate vouchers or explanations, to enable the contractor to properly identify such claims. Such claims shall be paid by the contractor within fifteen (15) days of the receipt of the corresponding bills and if not paid by the contractor within the said period. BHEL may then deducted the amount from any money due or becoming due by him to the contractor under the contract or may be recovered by actions of law or otherwise, if the contractor fails to satisfy BHEL of such claims.
30.0	ASSIGNMENT AND SUB-CONTRACTING
30.1	ASSIGNMENT The Contract shall not assign or transfer the Contract or any part thereof or any benefit or any obligation thereof or interest therein or there under (otherwise than by a charge in favour of the Contractor's Bankers of and moneys due to become due under this contract) without the prior written consent of BHEL.
30.2	SUB-CONTRACTING Subcontracting of work, normally should not be permitted. However in case of unavoidable instances, the contractor may, after informing BHEL and getting his written approval along with approval of the owner, assign or subcontract any part of the contract other than for raw materials, for minor details or any part of the plant for which details or any part of the plant for which makes are identified in the contract. BHEL shall not be liable in any way, in case such approval for sub-contracting is not permitted by the owner. Sub-contractor of the equipment not identified in the contract or any change in the identified sub-contractor shall be subject to approval by BHEL and the owner. The experience list of the equipment sub-contractor under consideration by the contractor for this contract shall be furnished to BHEL, for approval prior to procurement of all such items / equipment such assignments/ subcontracting shall not relieve the contractor from any obligation, duty or responsibility under the contract. Any assignment as above without prior written approval of BHEL and the purchaser shall be null and void. For components/equipments procured by the contractor for the purposes of the contract after obtaining written approval of BHEL/ the owner, the contractor's purchase specifications and enquiries shall call for quality plans to be submitted by his subcontractor alongwith their proposals. The quality plans called for from the subcontractor shall set out during the various stages of manufacture and installation, the quality practices and procedures followed by the sub-contractor quality control organisation, the relevant reference documents, standards used, acceptance levels inspection of documentation raised, etc. Such quality plans of the sub-contractor shall be discussed and finalised in consultation with BHEL and shall form a part of the contract between the contractor and the sub-contractor, the contractor along with the subcontractor and BHEL shall furnish a joint undertaking to the owner for guaranteed performance or the equipment and subsystems. The contractor should desist from seeking approval for two-tier sub-contracting which may not be permitted by BHEL/the owner.
31.0	FORCE MAJEURE The Following shall amount to force majeure.
31.1	Acts of God, acts of any Government, war, sabotage, riots civil commotion, police action, revolution, flood, fire, cyclone, earthquake, epidemic and other similar causes over which the contractor has no control.
31.2	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 or time equal to the period of delay provided that on the occurrence of any such contingency the contractor immediately reports of BHEL in writing the causes or delay and contractor

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	shall not be eligible for any compensation.
32.0	RISK IN STORES The contractor shall perform the order / contract in all respects in accordance with the terms and conditions thereof. The equipment / plant and every constituent part thereof, whether in the possession or control of the contractor his agents or servants or a carrier, or in the joint possession of the contractor his agent or servants and BHEL, his agents or servants shall remain in every respect at the risk of the contractor until their actual delivery to the consignee at the stipulated place or destination or where so provided in the acceptance of offer until their delivery to a person specified by the BHEL as inter in consignee for the purpose of despatch to the consignee. The contractor shall be solely responsible for all loss destruction damage or deterioration of or to the plants / equipment / items from any cause whatsoever while the same, after approval by the engineer, are awaiting despatch or delivery or are in the course or transit from the seller / contractor to the consignee or interim consignee as the case may be.
33.0	CONSIGNEE'S RIGHT OF REJECTION Notwithstanding any approval which BHEL or the engineer may have given in respect of the plants / equipment / items or any materials or other particulars or the work or workmanship involved in the performance of the order / contract (whether with or without any test carried out by contractor or the engineer or under the direction of the engineer), and notwithstanding delivery of the same where so provided to the interim consignee, it is shall be lawful for the consignee, on behalf of BHEL, to reject the plants / equipments / items or any part, portion or consignment thereof within thirty (30) days after actual delivery, thereof to him at the stipulated place or destination, if such plants / equipment or part, portion of consignment thereof is not in all respects in conformity with the terms and conditions of order / contract whether on account of any loss, storage, deterioration or damage before despatch or delivery or during transit or otherwise, howsoever.
34.0	SETTLEMENT OF DISPUTE AND ARBITRATION
34.1	If any dispute or differences of any kind whatsoever shall arise between BHEL and the contractor, arising out of the contract for the performance of the work whether during the progress of termination, abandonment or breach of the contract, it shall in the first place be referred to and settled by the Designated Engineer (nominated by BHEL for settlement of the disputes arising out of this contract) who within a reasonable period after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the contractor who shall proceed with the work with all due diligence, whether he or BHEL required arbitration as hereinafter provided or not.
34.2	If after the Designated Engineer has given written notice of this decision to the party, no claim to arbitration has been communicated to him by the party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the contractor being dissatisfied with any such decision or if amicable settlement can not be reached then all such disputed issues shall be referred to the sole arbitration of the person appointed by BHEL.
34.3	Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, 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, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL Power Sector Region issuing the Contract. It shall not be open to the Contractor to object to such arbitrator only on the ground that such arbitrator is an employee/ex-employee of BHEL or has dealt with or has expressed any opinion on any issue touching upon the Contract. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Kolkata (the place from where the contract is issued)
34.4	In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

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	<p>In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either Party for arbitration to the sole arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of</p> <p>The arbitrator shall be binding upon the Parties to the dispute, provided, however, any Party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively.</p>
34.5	The cost of arbitration shall be borne equally by the Parties.
34.6	Notwithstanding the existence or 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.
35.0	CONTRACT AGREEMENT, EFFECT AND JURISDICTION
35.1	The contractor shall within 60 days from the date of LOI/P.O. but in any case before submitting his first bill for payment enter into and execute a contract agreement (to be prepared at the cost of the contractor). In the event of the failure of the contractor to execute the contract agreement within the time specified above, BHEL may cancel the LOI and forfeit his SD unless this period is extended by BHEL.
35.2	The agreement will be signed in seven (7) originals and the contractor shall be provided with one (1) signed original and the rest will be retained by BHEL. These General conditions together with the specifications, tenders drawings and technical particulars, tender data with subsequent agreed modification thereof. Tender, all correspondences with BHEL and signed agreement and other supporting documents shall constitute the contract document(s) No variation or modification of terms and conditions of the contract documents or waiver of any of these terms and conditions shall be deemed valid unless agreed in writing and signed by the BHEL and the Contractor.
35.3	The failure of either party to endorse at any time of the provisions of the contract or any right thereto or to an option herein provided shall in no way be construed to be a waiver of such provisions, rights or option or in any way to affect the validity of the Contract. The exercise by either party of any of his rights herein shall not preclude or prejudice either party from exercising the same or any other right in may have hereunder.
35.4	The contract shall in all respects be deemed to be and shall be construed and shall operate as an Indian contract as defined in the Indian Contract Act 1972 and all payments there under shall be made in Indian Rupees unless otherwise specified.
35.5	The Contract shall be considered to come into force on the date of notification of Award by the BHEL to the Contractor which may be in the form of a Fax. of Award or Letter of Intent / purchase order.
35.6	The law applicable to the Contract, shall be the law in force in India. The Courts of Kolkata under this contract shall have exclusive Jurisdiction in all matters arising under this contract, including Arbitration Awards.
36.0	DIRECT TAX
36.1	BHEL shall not be liable towards income tax of whatever nature including variations thereof arising out of this order/contract as well as tax liability of the contractor and his personnel.
36.2	Deductions of tax at source at the prevailing rate shall be effected by BHEL before payment as a statutory obligation.
37.0	PATENT RIGHTS
37.1	The Contractor shall defend any claim which alleges in a suit of proceeding against BHEL that equipment or any part thereof constitutes an infringement of any patent, if notified promptly in writing and given authority, information and assistance for the defence and the Contractor shall pay all damage and costs awarded against BHEL in such suit or proceeding for the patent infringement and the use of equipment or part is prohibited, the contractor shall, at his own expenses either procure for BHEL the right to continue using the equipment or replace the same with a non-infringing equipment, or modify it so that it becomes non-infringing, or move the equipment and refund the Contract Price plus the transportation and installation costs thereof.

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37.2	The contractor shall indemnify BHEL from and against all claims and proceeding for or on account of infringement or alleged infringement of any patent rights, design trade mark or name or other protected rights in respect of execution of the contract.
38.0	INDEMNIFICATION OF BHEL The Contractor shall insure all his personnel, tools and tackles, drawings etc. and shall also take a third party liability cover to indemnify BHEL of all liabilities such may come up due to any act or omission on the part of Contractor, his agent, representative, or sub-contractor(s) and cause harm/damage to other contractor / representatives of the owner / BHEL or all or anybody rendering service to the owner/BHEL or is connected with the owner's /BHEL's work in any manner whatsoever. The Contractor shall necessarily indemnify BHEL in all these respects and the indemnification and insurance policy shall be subject to approval of the owner / BHEL.
39.0	PREVENTION OF EXTRAORDINARY TRAFFIC AND PROTECTION OF HIGHWAY The Contractor shall use every reasonable means to prevent any of the highways of bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the contractor or any or his sub-contractors and in particulars shall select routes, choose and use vehicles and restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of Plant and material from and to the site shall be limited as far as reasonably possible and so that no damage or injury may be occasioned to such highways and bridges. Should it be found necessary for the Contractor to move one of more loads or construction plant machinery or reconstructed units or parts of units or work as applicable over part of a highway or bridge and that the moving or such load must in all probability damage the damage highway or bridge unless means of protection of strengthening are carried out then the contractor shall before moving the load on to such highway or bridge. Carryout such protection or strengthening at his own cost. If during the execution of the works or at anytime thereafter BHEL or purchaser shall receive any claim arising out of the execution of the works in respect or damage or injury to highways or bridges, he shall immediately notify the same to the contractor and thereafter the contractor shall negotiate the settlement of and pay all sum due in respect of such claim and shall indemnify BHEL in respect thereof and in respect or all claims demands, cost charges and expenses in relation thereto.
40.0	MEMBERS OF STAFF ETC NOT PERSONALLY LIABLE Neither any member of BHEL's staff nor the Engineer, nor the Engineer's representative shall be in any way personally liable for the acts or obligations under the contract or answerable for any default or omission on the part of BHEL in the observance or performance of any of the acts, matters, or things which are herein contained.
41.0	POWER TO VARY OR OMIT WORK
41.1	No alternations, amendments, omissions, additions, suspensions or variation of the work (hereinafter referred as "variations") under the contract shall be made by the contractor except as directed in writing by BHEL. But BHEL shall have full power, subject to the provision hereinafter contained from time to time during the execution of the contract by notice in writing to instruct the contractor to make such variation without prejudice to the contract and the contractor shall carry out such variations and be bound by the same conditions as far as applicable, as though the said variations occurred in the contract Documents.
41.2	If any suggested variations would in the opinion of the contractor, if carried out, prevent him from fulfilling any of his obligations or guarantee under the contract he shall notify BHEL thereof in writing and BHEL shall decide forthwith whether or not the same shall be carried out and if BHEL confirms his instruction, the contractor's obligations and guarantee shall be modified to such and extent as may be justified.
42.0	SUSPENSION OF WORK
42.1	BHEL reserves the right to suspend and reinstate execution of the whole or any part of the work without invalidating the provision of the contract. Orders for suspension or reinstatement of the work will be issued by BHEL to the contractor in writing. The time for completion of the work be extended for a period equal to duration of the suspension.
42.2	Any necessary demonstrable costs incurred by the contractor as a result of such suspension of the work will be paid by BHEL, provided such costs are substantiated to the satisfaction of BHEL/owner. BHEL shall not be responsible for any liabilities is suspension or delay is due to some default on the part of the contractor or his sub-contractor.
43.0	LIST OF STANDARDS FOR REFERENCE
43.1	International Standards Organisation (ISO).
43.2	International Electro-technical Commission (IEC).

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43.3	American Society of Mechanical Engineers (ASME).
43.4	American National Standards Institute (ANSI).
43.5	American Society for Testing and Materials (ASTM).
43.6	American Institute of Steel Construction (AISC).
43.7	American Wilding Society (AWS).
43.8	Architecture Institute of Japan (AIJ).
43.9	National Fire Protection Association (NFPA).
43.10	National Electrical Manufacturer's Association (NEMA).
43.11	Japanese Electro-Technical Committee (JEC).
43.12	Institute of Electrical and Electronics Engineers (IEEE).
43.13	Federal Occupation Safety and Health Regulations (FOSHA).
43.14	Instrument Society of America (ISA).
43.15	National Electric Code (NEC).
43.16	Heat Exchanger Institute (HEI).
43.17	Tubular Exchanger Manufacturer's Association (TEMA).
43.18	Hydraulic Institute (HIS).
43.19	International Electro-Technical Commission Publications.
43.20	Power Test Code for Steam Turbines (PTC).
43.21	Application German Standards (AGS).
43.22	Application British Standards (ABS).
43.23	Application Japanese Standards (AJS).
43.24	Electric Power Research Institute (EPRI).
43.25	Standard of Manufacturer's Standardisation Society (MSS).
43.26	Bureau of Indian Standards Institute (BIS).
43.27	Indian Electricity Rules.
43.28	Indian Boiler Regulations (IBR).
43.29	Indian Explosives Act.
43.30	Indian Factories Act.
43.31	Tariff Advisory Committee (TAC) Rules.
43.32	Emission regulation of Central Pollution Control board (CPCB).
43.33	Pollution Control regulations of Dept of Environment Govt of India.
43.34	Central Board of Irrigation and Power (CBIP) Publications.
43.35	Any other statutory Codes/ Standards/ Regulations.

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FORMS & PROCEDURES

FOR

**“PROVIDING OF READY MIX CONCRETE (RMC) FOR 1X660 MW,
UNIT-5, SAGARDIGHI TPS PROJECT, WBPDC, WEST BENGAL”.**

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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: will be released later

FORMS & PROCEDURES

Form No: F-01 (Rev 00)

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER (To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Submission of Offer against Tender Specification No:

I/We hereby offer to carry out the work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited, Power Sector-....., in accordance with the terms and conditions thereof.

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

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

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

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

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

Authorised Representative of Bidder

Signature :

Name :

Address :

Place:

Date:

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Form No: F-02 (Rev 00)

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER

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

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration by Authorised Signatory**

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

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

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

Yours faithfully,

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

Date:

Enclosed : Power of Attorney

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Form No: F-03 (Rev 00)

NO DEVIATION CERTIFICATE

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

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **No Deviation Certificate**

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

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

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

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

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

Thanking you,

Yours faithfully,

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

FORMS & PROCEDURES

Form No: F-04 (Rev 00)

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS (To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

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

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

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

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

Yours faithfully,

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

Date :

Place:

FORMS & PROCEDURES

Form No: F-05 (Rev 00)

DECLARATION FOR RELATION IN BHEL

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

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:

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

Tick(✓) any one as applicable:

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

OR

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

(i)

(ii)

Signature of the Authorised Signatory

Note:

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

FORMS & PROCEDURES

Form No: F-06 (Rev 00)

NON DISCLOSURE CERTIFICATE

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

NON DISCLOSURE CERTIFICATE

I/We understand that BHEL PS __ is committed to Information Security Management System as per their Information Security Policy.

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

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

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

Date:

FORMS & PROCEDURES

Form No: F-07 (Rev 00)

BANK ACCOUNT DETAILS FOR E-PAYMENT

(To be given on Letter head of the Company /Firm of Bidder, and **ENDORSED (SIGNED & STAMPED) BY THE BANK** to enable BHEL release payments through Electronic Fund Transfer (EFT/RTGS))

1. Beneficiary Name :

2. Beneficiary Account No. :

3. Bank Name & Branch :

4. City/Place :

5. 9 digit MICR Code of Bank Branch :

6. IFSC Code of Bank Branch :

7. Beneficiary E-mail ID :
(for payment confirmation)

NOTE: In case Bank endorsed certificate regarding above has already been submitted earlier, Kindly submit photocopy of the same

FORMS & PROCEDURES

Form No: F-08 (Rev 00)

FORMAT FOR SEEKING CLARIFICATION

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

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Request for Clarification**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

Sl no	Reference clause of Tender Document	Existing provision	Bidder's query	BHEL's clarification
1				
2				
3				

Yours faithfully,

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

FORMS & PROCEDURES

FORMS & PROCEDURES

Form No: F-09 (Rev 00)

CAPACITY EVALUATION OF BIDDERS FOR CURRENT TENDER

SL NO.	DESCRIPTION OF WORK (Similar to Tendered Scope)	WORK ORDER REF & DATE	CONTRACT VALUE (Rs. LACS)	CUSTOMER NAME & ADDRESS	CURRENT STATUS OF THE JOB ALONG WITH LATEST MILE STONE COMPLETED	%AGE OF WORK COMPLETED	VALUE OF BALANCE WORK (Rs. Lacs)
1							
2							
3							
4							
5							

NOTES:

1. BIDDERS ARE REQUIRED TO FURNISH ALL THE JOBS OF SIMILAR NATURE WHICH THEY ARE EXECUTING (IN PROGRESS) AT THE TIME OF SUBMISSION OF TENDER, AS PER ABOVE FORMAT.

2. BIDDERS HEREBY UNDERTAKE THAT THEY HAVE FURNISHED THE DETAILS SOUGHT AS PER POINT NO. 1 IN TOTALITY AND THAT THE DETAILS FURNISHED IS COMPLETE IN ALL RESPECT.

3. BHEL WILL TAKE APPROPRIATE ACTION AS DEEMED FIT , IN CASE, IT IS FOUND AT A LATER DATE THAT THE CONTRACTOR HAD SUPPRESSED THE FACTS AND HAVE NOT FURNISHED THE CORRECT & COMPLETE INFORMATIONS.

Signature

DATE :

PLACE:

Name, Designation & Seal of Bidder

FORMS & PROCEDURES

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Power Sector – Region

CONTRACT AGREEMENT

AGREEMENT NO. _____

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

SIGNATURE OF CONTRACTOR

(SIGNATURE OF BHEL OFFICER)

FORMS & PROCEDURES

CONTRACT AGREEMENT

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

AND

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

WHEREAS M/s -----state that they have acquired and possess extensive experience in the field of -----

And Whereas in response to an Invitation to Tender No. ----- issued by BHEL for execution of ----- the contractor submitted their offer No.- ----- dated -----And whereas BHEL has accepted the offer of the Contractor on terms and conditions specified in the Letter of Intent No.----- dated -----read with the references cited therein.

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

1. That the contractor shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter of Intent dated -----and such other instructions, Drawings, Specifications given to him from time to time by BHEL.
2. The Contractor is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid upto ----- for a sum of Rs.----- towards satisfactory performance and completion of the Contract.
3. The Contractor has furnished a Bank Guarantee bearing no.-----dated ----- for a sum of Rs.----- executed by ----- in favour of BHEL towards Security Deposit valid upto -----

OR

The Contractor has furnished to BHEL an initial Security Deposit of Rs.-----in the form of cash / approved Securities/ B.G No.----- dated ----- for Rs.----- executed by ----- in favour of BHEL valid upto ----- and has agreed for recovery of the balance security deposit by BHEL @ 10% of the value of work done from each running bill till the entire Security Deposit is recovered.

OR

FORMS & PROCEDURES

The contractor has furnished to BHEL an initial Security Deposit of Rs.----- (Rs.----- vide Bank draft No.----- dated ----- and by adjusting EMD of Rs.----- submitted vide Bank draft No.----- dt.-----) and has agreed for recovery of balance Security Deposit by BHEL @ 10% of the value of work done from each running bill till the entire security deposit is recovered.

4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Contractor fails to obtain such extension(s) from the Bank, the Contractor, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the contractor further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----

OR

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

5. That in consideration of the payments to be made to the Contractor by BHEL in accordance with this Agreement the Contractor hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and the documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorised by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.
8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of intent has been issued to the Contractor.

FORMS & PROCEDURES

10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.
14. That it is hereby agreed by and between the parties that non-exercise, forbearance or omission of any of the powers conferred on BHEL and/or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.
15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.

16. The following documents

1. Invitation to Tender No-----
and the documents specified therein.
2. Contractor's Offer No-----
dated-----.
3. _____
4. _____
5. _____
6. Letter of Intent No _____ dated _____.
7. _____

shall also form part of and govern this Agreement.

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

WITNESS

(CONT

RACTOR)

FORMS & PROCEDURES

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

2.

WITNESS (For and on behalf of BHEL)

1.

2.

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.

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

We, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its 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 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)
 - 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.

BANK GUARANTEE FOR ADVANCE

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 called "the Contractor" which expression shall include its successors and permitted assigns) a contract Ref No.....dated²valued at Rs.....(Rupees -----) for <Nature of Work> ³(hereinafter called the 'Contract')

AND WHEREAS the Employer has agreed to advance to the Contractor, a sum of Rs..... (Rupees..... only), equivalent to _____% of the said value of the Contract (hereinafter called "the said Advance"), upon the condition, that the said Advance shall be secured by undertaking guarantee for Rs ----- (Rupees -----)⁴ from a Bank as hereinafter appearing.

We,, (hereinafter referred to as the Bank), having registered/Head office at and a branch at being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer without any demur, merely on your first demand any sum or sums upto a maximum amount but not exceeding Rs ----- (Rupees -----).

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 hereunder 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 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.

This Guarantee shall remain in force upto and including.....⁵ and shall be extended from time to time on the request of the Employer for such period as may be desired by the Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the 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 hereof. However, 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.

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 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
(Name of the Bank)

Date.....

Place of Issue.....

¹ NAME OF 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)**
 - 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.

FORMS & PROCEDURES

Form No: F-13 (Rev 00)

FORM for EXTENSION OF VALIDITY OF BANK GUARANTEE

1. To be typed on non judicial Stamp Papers of value as applicable in the State of India from where the BG has been issued or the State of India where the BG shall be operated
2. The non judicial stamp papers shall be purchased in the name of the Party on whose behalf the BG is being issued or the BG issuing Bank

BANK GUARANTEE No:

Date:.....

To

(Write Designation and Address of Officer of BHEL inviting the Tender)

Dear Sir

Sub : Validity of Bank Guarantee No:..... Dated for
..... Rs in favour of yourself, expiry date, on
account of M/s in respect of Contract
Number....., (herein after called the Original bank Guarantee)

At the request of M/s....., we Bank, having its
branch Office at and having Head office at, do
hereby extend our liability under the above mentioned Bank Guarantee number..... dated
..... for a further period ofMonths/years from to expire on
.....

Except as provided above, all other terms and conditions of the Original Bank Guarantee No
..... Dated..... shall remain unaltered and binding on us.

Kindly treat this extension as an integral part of the original Bank Guarantee to which it would be attached.

Yours faithfully

Signature.....

Name & Designation.....

Power of Attorney/Signing Power No

Seal of Bank

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

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

Project		Vendor			Package/Unit	
Sl. No.	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents
#2.01	Cumulative number of days of delay in submission of Plan FOR THE MONTH supported by deployment plan of Major T&Ps and Manpower (as per Form F-14) and relevant construction/layout drawings - like A4 plan / elevation views of plan status for structures / pressure parts/Civil Works, Piping isometrics for piping, Layout / PID / System reference sketch, Unloading / storage plans etc.as applicable.	PERFORMANCE	5		Number of days delayed from second working day of the month	Daily Log Book entry/Incident Registers/letter references
#2.02	Percentage of timely submission of Daily Reports for Progress of work, Resources, Consumables etc.	PERFORMANCE	1.5		Percentage of timely submission of daily reports/ Scheduled date is successive next day for each day	Daily Log Book entry/Incident Registers/letter references
#2.03	Number of days delayed for submission of FQP log sheets / protocols / Monthly Progress Reports for the work executed during the month under measurement	PERFORMANCE	1.5		Number of days delayed/Scheduled date is first 2 working days of next month	Daily Log Book entry/Incident Registers/letter references
#2.04	Percentage Shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month as per Form-14	PERFORMANCE	35		As per Part-A of Form-14	Progress review formats
#2.05	Number of days delayed in submission of Running bills with complete supporting documents (including updated reconciliation statement of BHEL issued material) for the month	PERFORMANCE	2		Number of days delayed / Scheduled date is 7th day of next month	Daily Log Book entry/Incident Registers/letter references
#2.06	Number of times the Top Management of contractor did not respond to critical issues of site, for the month	PERFORMANCE	1		Total number of instances	Daily Log Book entry/Incident Registers/letter references
#2.07	Cumulative number of days in the month the works were stopped / refused on interpretation of contract clauses/scope due to tendency of taking undue advantage by interpreting contract clauses in their favour	PERFORMANCE	2		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#2.08	Number of times rework was refused by contractor	PERFORMANCE	1		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

Project		Vendor			Package/Unit	
Sl. No.	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents
#2.09	Cumulative number of days in the month recording / logging was not done in daily log / history register / hindrance register / soft form in a PC maintained at BHEL Site Office	PERFORMANCE	1		Cumulative number of days recording or logging was not done / all days of the month	Daily Log Book entry/Incident Registers/letter references
#3.01	Percentage of Manpower Deployed w.r.t. Plan for the month as per Form-14.	RESOURCES	7		As per Part-B2 of Form-14	Daily Log Book entry/Incident Registers/letter references
#3.02	Percentage of T&P Deployed w.r.t. Plan for the month as per Form-14.	RESOURCES	7		As per Part-B1 of Form-14	Daily Log Book entry/Incident Registers/letter references
#3.03	Cumulative number of major instances in the month hampering / affecting progress of work due to breakdown or non-availability of major T&P and MME for the work, under the scope of Contractor	RESOURCES	3		Cumulative number of instances	Daily Log Book entry/Incident Registers/letter references
#3.04	Cumulative number of major instances in the month hampering / affecting progress of work due to non-availability of Consumables/ use of improper consumables under the scope of contractor	RESOURCES	3		Cumulative number of instances	Daily Log Book entry/Incident Registers/letter references
#4.01	Number of non-compliances during the month for Statutory requirements like validity of Labour Licence, Insurance Policy, Labour Insurance, PF, BOCW Compliance etc. and any other applicable laws/ Regulation, Electrical Licence, T&P fitness certificate, Contractors' All Risk Policy etc. as applicable	SITE INFRASTRUCTURE & SERVICE	1		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references
#4.02	Cumulative number of days in a month poor illumination is reported at storage area, erection area, pre-assembly area and other designated areas by BHEL site.	SITE INFRASTRUCTURE & SERVICE	0.5		Total number of non-compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.03	Cumulative number of days of non-availability of well-maintained toilets facilities for workers (separate for men and women) and non-availability of potable drinking water stations for workers in specified areas.	SITE INFRASTRUCTURE & SERVICE	1		Total number of non-compliances/random checks	Daily Log Book entry/Incident Registers/letter references

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

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

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

Project		Vendor			Package/Unit	
Sl. No.	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents
#6.06	Number of times written(email, letters etc.) warning issued for non-availability/ use of improper Fall protection and rescue arrangement as lifeline, fall arrestors, safety net, hand-railings, covered floors, man-basket, rescue basket & kit etc. by the contractor	HSE & SA	2		Total number of non-compliances	Daily Log Book entry/Incident Registers/letter references
#6.07	Number of times punitive fines imposed for unsafe practices as per contract like non-availability/use of PPEs as safety shoes, helmets, goggles, gloves, lifeline, safety belts etc.	HSE & SA	1		Total number of non-compliances	Non-compliance intimation documents from BHEL site
#6.08	Percentage compliance to Emergency preparedness and response plan: Portable Fire-extinguishers, Buckets, Fire-wardens, display of emergency numbers, mock-drills, Hazard Identification and Risk Assessment(HIRA) etc.	HSE & SA	1		Compliance should be 100% as per HSE Plan or as finalized in Safety Meetings	Non-compliance intimation documents from BHEL site
#6.09	Number of times the agency has defaulted on display of safety posters / safety slogans / safety barriers/emergency numbers etc. in identified areas	HSE & SA	0.5		Total number of instances	Non-compliance intimation documents from BHEL site
#6.10	Non compliances observed during HSE and Safety Audit	HSE & SA	0.5		Total number of non-compliances	Non-compliance intimation documents from BHEL site, Audit Reports
#6.11	Cumulative number of days in the month, non-availability of First Aid Kit, First Aider & Emergency Vehicles/Ambulance.	HSE & SA	0.5		Cumulative number of days	Non-compliance intimation documents from BHEL site
#6.12	Number of days taken for submission of Root Cause analysis (RCA) for the accident from the cut-off date intimated by BHEL for submission of RCA	HSE & SA	0.5		Number of days delayed/Scheduled date is cut-off date intimated by BHEL	Daily Log Book entry/Incident Registers/letter references
#6.13	Non conductance of training (induction, job specific, height work etc.), tool box meeting and health check-up as per Contract requirements	HSE & SA	0.5		Number of incidences of non-conductance during the month	Daily Log Book entry/Incident Registers/letter references
Total			100			

Project		Vendor		Package/Unit		
Sl. No.	Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents
	Less Deduction in Score Due to Major Accidents (Fatal, Permanent Disability or bodily injury by which person injured is prevented to resume to work within 48 hours or more after accident,, Major Damage to Equipment etc.) attributable to the contractor @ 3 points/ accident					
	Less Deduction in Score Due to Minor Accidents attributable to the contractor @ 1 point/ accident					
	Less Deduction in Score Due to not Maintaining of Labour Colony (if applicable) as per BHEL HSE policy @2 points in a month on verification any day					
Final Score						

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

Note:

- 1) It is only indicative and shall be as per the online format issued by BHEL time to time.
- 2) No request will be entertained after specified date of current month w.r.t. changes requested in the scores of immediate previous month.

FORMS & PROCEDURES

Form No: F-19 (Rev 00)

MILESTONE COMPLETION CERTIFICATE (issued by BHEL on the specific request of Contractor)

Ref :

Date:

To,

(Name & address of Contractor)

Dear Sir,

References

1. Contract No:
2. Job Description:

This is to hereby confirm that the following Milestone Activity has been achieved in respect of the Contract /Job under reference

Sl No	Milestone Activity	Remarks

This certificate is issued as per your request vide letter no
without any prejudice to the rights of BHEL in line with the terms and conditions of the
above referred Contract

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Construction Manager/Head (Subcontracts)

FORMS & PROCEDURES

Form No: F-20 (Rev 01)

CONTRACT COMPLETION CERTIFICATE (Issued by BHEL/HQ on the specific request of Contractor)

Ref :

Date:

To Whom so ever it may concern

1	DESCRIPTION OF WORK	
2	NAME AND ADDRESS OF THE CONTRACTOR	
3	CONTRACT NO	
4	CONTRACT VALUE	
5	LETTER OF INTENT NO & DATE	
6	CONTRACT PERIOD//CONTRACT DURATION	
7	DATE OF START/COMPLETION	
8	FINAL EXECUTED VALUE	
9	PERFORMANCE	GOOD SATISFACTORY UNSATISFACTORY

This certificate is issued as per your request vide letter no
without any prejudice to the rights of BHEL to use this certificate for evaluation of your offers for future tenders

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Head (Subcontracts)

FORMS & PROCEDURES

Form No: F-21 (Rev 00)

INDEMNITY BOND

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

This Indemnity Bond executed by <name of company> having their Registered Office at <xxxxxxxxxxx> in favour of M/s Bharat Heavy Electricals Limited, a Company incorporated under the Companies Act, 1956, having its Registered Office at BH EL House, Siri Fort, Asiad, New Delhi - 110049 through its Unit at Power Sector _____ Region, _____ State.
(Hereinafter referred to as the Company)

And whereas the Company has entered into a Contract with M/s xxxxxxxxx, the executants of this Deed (hereinafter referred to as the Contractor) as its contractor in respect of the work of "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx".

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

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

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

FORMS & PROCEDURES

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

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

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

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

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

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

Signed for and on behalf of
M/s xxxxxxxxxxxxxxxxxxxx

Witness:

- 1
- 2

FORMS & PROCEDURES

Form No: F-22 (Rev 00)

CONSORTIUM AGREEMENT

(To be executed on Rs. 50/- Non – Judicial Stamp Paper)

THIS AGREEMENT is made and executed on this _____ day of _____, by and between (1) M/s _____, (The First Party, i.e, the Bidder) a company incorporated under the Company's Act 1956, having its registered office at _____ (herein after called the "Bidder", which expression shall include its' successors, administrators, executors and permitted assigns) and (2) M/s _____, (The Second Party, i.e, the associates), a company incorporated under the Company's Act 1956, having its registered office at _____ (herein after called the " Associates", which expression shall include its' successors, administrators, executors and permitted assigns).

WHEAEAS the Owner, Bharat Heavy Electricals Ltd, a Government of India Undertaking, proposes to issue / issued an NIT (herein after referred to as the said NIT) inviting bids from the individual Bidders for undertaking the work _____ of _____ at _____ (herein after referred to as the said works).

WHEREAS the said NIT enables submission of a bid by a Consortium subject to fulfillment of the stipulations specified in the said NIT.

AND WHEREAS M/s _____ (The First Party, i.e, the Bidder) will submit its proposal in response to the aforesaid invitation to _____ bid by the Owner for _____ as detailed in the Bid doc. no. < TENDER REF----->

FORMS & PROCEDURES

AND WHEREAS M/s _____ (The First Party, i.e the Bidder) itself is meeting all the qualifying requirements except the qualifying requirements of _____ (as detailed in the NIT) and in order to fully meet the qualifying requirements of NIT, this tie-up agreement is _____ being entered into with M/s _____ (The Second Party, the Associates) , who fully meet the balance part of the said works _____ (_____).

WHEREAS the First Party and the Second Party are contractors engaged in the business of carrying out various items of works. WHEREAS the two parties have agreed to constitute themselves into a consortium for the purpose of carrying out the said works, and that the consortium will be continued till the completion of the works in all respects.

WHEREAS the parties have agreed to certain terms and conditions in this regard:

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. First and Second parties hereby constitute themselves into a Consortium for the purpose of bidding and undertaking the said works pursuant to the said NIT as hereinafter stated.
2. The First Party will be the leader (Lead Partner) and will be responsible for the entire works.

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CONSORTIUM AGREEMENT

3. The First Party shall undertake the following part(s) of work detailed in _____ the NIT namely

4. The Second Party shall undertake the following part(s) of work detailed _____ in the said NIT namely

5. The parties hereby declare and confirm that each of them will fulfill the required minimum qualifying requirements as prescribed in the said NIT for the works agreed to be undertaken by them as stated here-in-above.
6. It is also agreed between the parties hereto that all of them shall be individually and severally responsible for the completion of the said works as per the schedule. Further, if the Employer/Owner sustains any loss or damage on account of any breach of the Contracts, we the, Consortium partners individually and severally undertake to promptly indemnify and pay such losses / damages caused to the Employer/Owner on its written demand without any demur, reservation, contest or protest in any manner whatsoever.
7. The parties hereby agree and undertake that they shall provide adequate finances, suitable Tools, Plants, Tractors, Trailers, other transportation equipment, other Tools & Plants, Measuring & Monitoring Equipments (MMEs), Men and Machinery etc. for the proper and effective execution of the works to be undertaken by them as specified here-in-above.

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8. It is agreed interse between t he parties hereto that all the consequences liabilities etc., arising out of any default in the due execution of the said works shall be borne by the party in default, that is by party in whose area of works default has occurred, provided however, so far as M/s Bharat Heavy Electricals Limited is concerned, all the parties shall be liable jointly and severally.

IN WITNESS HEREOF the parties above named have signed this agreement on the day month and year first above written at _____(Place) .

WITNESS

For

1. NAME (FIRST PARTY)

2. OFFICIAL ADDRESS

WITNESS

For

1. NAME (SECOND PARTY)

2. OFFICIAL ADDRESS

[The successful bidder shall have to execute the " JOINT DEED OF UNDERTAKING " in the format to be made available by BHEL at the time of awarding].

FORMS & PROCEDURES

Form No: F-23 (Rev 00)

REFUND OF SECURITY DEPOSIT

To,
The Construction Manager
BHEL Site Office

Dear Sir,

Sub : **Refund of Security Deposit**

Ref : Contract No:

Work:.....

I/We have submitted Final Bill in respect of the above Contract/Work vide our letter no:.....
dated In line with Tender conditions (GCC clause no 1.11), kindly arrange to
release/refund the Security Deposit along with Final Bill payments.

The details of Security Deposit are as below:

1. Cash Portion :
2. BG Portion :

Thanking You

Date: _____

Authorised representative of Contractor

To be filled up by BHEL

1. Security Deposit to be refunded:
 - a. Cash Portion:
 - b. BG Portion :
2. Less
 - a. Amount spent by BHEL on behalf of Contractor:
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Other recoveries for Services etc
 - d. Any other recoveries
 - e. Total of 'a' to 'd':
3. Net Amount to be released (1-2) :
4. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Contract Guarantee period of Months commenced wef : _____
 - c. All objections raised so far have been settled
 - d. A note for refund of Security Deposit has been made in the Measurement Book

Signature of BHEL Engineer

Construction Manager

Date:-----

FORMS & PROCEDURES

Form No: F-24 (Rev 00)

REFUND OF GUARANTEE MONEY

BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR, _____ REGION

Ref No:

Date:

1. Name and Address of Contractor :
2. Contract Agreement/LOI No :
3. Date of Contract Agreement/LOI :
4. Name of the Work undertaken :
5. Date of commencement of the Work :
6. Date of Completion of the Work :
7. Period of Maintenance :
(Guarantee Period)
8. Date on which the Final Bill was paid :
9. Last date of making good the defect :
during Maintenance Period
10. Expenditure incurred by BHEL during :
Maintenance Period, if any, recoverable
11. Date on which Guarantee Money refund:
falls due as per Contract
12. Amount of Guarantee Money to be refunded:
13. Less Amounts recoverable (with details)
 - a. Amount spent by BHEL on maintenance :
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Court dues/penalties/compensation :
 - d. Other recoveries for Services, etc :
 - e. Total of 'a' to 'd' :
14. Net Amount recommended for release (12-13) :

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Signature of BHEL Engineer

Date: _____

CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR

I/We have no claim or demand outstanding against BHEL _____, for the work done or for labour or material supplied or any other account arising out of or connected with the Contract Agreement/LOI (No _____ dated _____) and the payment of this bill shall be in full and final settlement of all my/our claims and demands including the 'Deposits' of the Contract Agreement/LOI referred to.

Signature of Contractor

Date: _____

CERTIFICATE TO BE FURNISHED BY SENIOR ENGINEER/CONSTRUCTION MANAGER

1. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Maintenance period (Contract Guarantee period) is over and the Contractor has carried out the works required to be carried out by him during the period of maintenance (Guarantee) to our satisfaction, and all expenses incurred by the Company on carrying out such works have been included for adjustment
 - c. All objections raised so far have been settled
 - d. A note for refund of Guarantee Amount has been made in the Measurement Book and Contract Agreement/Work Order

Signature of BHEL Engineer

Construction Manager

Date: _____

FOR USE IN ACCOUNTS DEPARTMENT

Passed for Rs _____ (Rupees _____ only)

Accountant

Accounts Officer

ACKNOWLEDGE BY THE CONTRACTOR

Received Rs _____ in full and final settlement of my/our claim

Signature of Contractor

Date: _____

FORMS & PROCEDURES

Form No: F-25 (Rev 00)

POWER OF ATTORNEY for SUBMISSION OF TENDER/SIGNING CONTRACT AGREEMENT

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

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

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

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

Dated at _____, this _____ day of _____

Director/CMD/Partner/Proprietor

Signature of Mr.....(Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness

Notary Public

FORMS & PROCEDURES

Form No: F-26 (Rev 00)

ANALYSIS OF UNIT RATES QUOTED

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

Offer Reference No:.....

Date:.....

To,
(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Analysis of Unit Rates Quoted

Ref : Tender Specification No:

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

SN	DESCRIPTION	% OF QUOTED RATE	REMARKS
01	SITE FACILITIES VIZ., ELECTRICITY, WATER OTHER INFRASTRUCTURE.		
02	SALARY AND WAGES + RETRENCHMENT BENEFITS		
03	CONSUMABLES		
04	T&P DEPRECIATION & MAINTENANCE		
05	ESTABLISHMENT & ADMINISTRATIVE EXPENSES		
06	OVERHEADS		
07	PROFIT		
	TOTAL	100%	

Yours faithfully,

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

FORMS & PROCEDURES

Form WAM 6

BHARAT HEAVY ELECTRICALS LIMITED
DIVISION.....

Running Account Bill

(Para 4.31.1 of Works Accounts Manual)

Name of the Contractor:
Name of the Work:
Sanctioned Estimate:
Code No:
Contract Agreement No :

Dated:

Departmental Bill no:
Division:
Date of written order to commence the work :
Date of commencement of the Work:
Due date of completion as per Agreement:

Date:
Sub-Division:

1. ACCOUNT OF WORK EXECUTED

On account payment for work not previously measured**	Item No of	Description of Work	Quantity as per agreement	Quantity executed up to date	Rate	Unit	Payment on the basis of actual measurement up to date	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill	Remarks		
----- Total As per Running Account bill Rs.	since last running account bill Rs.	Total up to date Rs.			Rs.	P.	Rs.	P.	Rs.	P.		
1	2	3	4	5	6	7	8	9	10	11	12	13

- * *1. Whenever payment is made on 'on account' basis without actual measurements the amount in whole rupees should be entered in columns 1 to 3 only and not in columns 7 to 12.
2. whenever there is an entry in column 12 on the basis of actual measurement, the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total up to date in column 4 may become nil.

FORMS & PROCEDURES

Form WAM 6 (contd...)

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total value of work done up to date (A) ...

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

Net value of work done since last (C) ...

Rupees (in words)

.....only.

FORMS & PROCEDURES

Form WAM 6 (contd...)

II.MEMORANDUM OF PAYMENTS

		I		II	
		Rs.	P.	Rs.	P.
1.Total value of work actually measured as per Account No. I. Column 10	(A)	.....		.....
2.Total up to date 'on account' payment for work covered by approximate Or plan measurements as per Account No. I, Column 3	(B)	.....		.....
3.Total up to date secured advances on security of materials as per column 8 Of the enclosed Account (Form WAM 10)	(C)	.....		.....
4.Total up to date payments [(A) + (B) + (C)]	(D)	.....		.....
5.Total amount of payments already made as per Entry (D) of last Running Account Bill No..... Dated.....forwarde to the Accounts Office on	(E)				
6.Balance [(D)-(E)]		.....		
7.Payments now to be made:					
a) by cash/cheque				.....
b) by deduction for value of materials supplied					
c) by BHEL vide Annexure A attached				
d) by deduction for hire of tools and plant vide					

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Annexure B attached	
e) by deduction for other charges vide Annexure C		
Attached	
f) by deduction on account of security deposit	.....
h) by deduction on account of Income Tax	.....	.....

Note: Amounts relating to items 4 to 6 above should be entered in column II and those relating to item 7 in column I. The amount shown against item 6 and the total of item 7 should agree with each other.

III. CERTIFICATE OF THE ENGINEER IN CHARGE

Form WAM 6 (contd...)

1. The measurements on which the entries in column 7 to 12 of Part I of this Bill (Account of work executed) are based were made by.....and are recorded at pages.....of
 (Name and Designation)

Measurement Book No

2. Certified that the methods of measurement are correct and the work has been carried out in accordance with the terms and conditions, schedules, specifications and drawings etc, forming part of the contract agreement, subject to deviations included in the deviation statement (Annexure D).

3. Certified that in addition to and quite apart from the quantities of work actually executed as shown in column 10 of Part I, some work has actually been done in connection with several items and the value of the such work is, in no case, less than 'on account' payments as per column 3 of Part I, made or proposed to be made, for the convenience of the contractor in anticipation of, and subject to the results of, detailed measurement which will be made as soon as possible.

Signature of Contractor

Signature of Engineer in charge

Date:

Designation:

Date:

FORMS & PROCEDURES

IV. CERTIFICATE OF THE SENIOR ENGINEER

1. Certified that measurements have been check measured to the prescribed extent by at site and also by the undersigned and the relevant entries have been intialled in the Measurement book. (vide pages.....)
(Name and Designation)
2. Certified that all the measurements recorded in the measurement book have been correctly billed for
3. Certified that all recoberable amounts in respect of materials tools and plant etc, and other charges have been correctly made vide Annexures A to C attached.
Certified for payment * of Rs..... (Rupees.....only)
To be paid in cash/by cheque in the presence of

ALLOCATION			
The expenditure is chargeable as under and to be included in the accounts for.....20.....	Debit (Gross amount)	Credit (Deductions)	
Ledger Head	Rs. P.	Rs.	P.
Total			

* Here specify the net amount payable.

Signature of Senior Engineer
Date:

Form WAM 6 (contd...)

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Accounts Bill No Dated..... Entered in Journal Book vide entry No..... Dated..... Passed for.....Rs..... Less Deductions.....Rs..... Net Amount Payable.....Rs..... (Rupees.....only) Payable to Shri/M/s.....by cheque/cash Entered in Contractor's Ledger No.....Page.....	ALLOCATION Estimate No: Code no: Name of the Work: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Ledger Head</th> <th style="text-align: center;">Debit (Gross amount)</th> <th style="text-align: center;">Credit (Deductions)</th> </tr> <tr> <th></th> <th style="text-align: center;">Rs. P.</th> <th style="text-align: center;">Rs. P.</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> </tr> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">-----</td> </tr> </tbody> </table>	Ledger Head	Debit (Gross amount)	Credit (Deductions)		Rs. P.	Rs. P.	-----	-----	-----	-----	-----	-----
Ledger Head	Debit (Gross amount)	Credit (Deductions)											
	Rs. P.	Rs. P.											
-----	-----	-----											
-----	-----	-----											

FORMS & PROCEDURES

Assistant Date:	Accountant Date:	Account Officer Date:	Total	-----	-----
--------------------	---------------------	--------------------------	-------	-------	-------

VI. Received Rs.....(Rupees.....only) as per
Memorandum of Payments on account of this work.

Signature of witness Address :	Revenue	Stamp Signature of Contractor Date:
-----------------------------------	---------	---

VII. ENTRIES TO BE MADE BY TREASURY SECTION

Cash Book entry No. and date:	Amount paid	Rs.....
	Amount unpaid	Rs.....
	Total	Rs.....

Signature of Cashier
Date:

Form WAM 6 (contd...)

ANNEXURE A

FORMS & PROCEDURES

Statement showing details of materials issued to the contractor Shri/M/s.....

In respect of Contract Agreement NoDated.....

Sl. No.	Stores issue Voucher No. and date	Issue voucher No. and date allotted by stores to the SIV	Description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverable from the contractor or supplied free	If recoverable from the contractor				R E M A R K S	
							Rate at which recoverable	Amount recoverable	Amount recovered up to previous bill	Balance now recovered		
							Rs. P.	Rs. P.	Rs. P.	Rs. P.		
1	2	3	4	5	6	7	8	9	10	11	12	
Total												

Signature of contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

FORMS & PROCEDURES

Form WAM 6 (contd...)

ANNEXURE B

Statement showing tools and plant issued to the contractor Shri/M/s.....

In respect of Contract Agreement NoDated.....

Sl. No	Description of tools and plant issued	Period for which Issued	Rate at which recovery Is to be Made	Amount recover-able	Amount recovered upto previous bill	Balance now recovered	Remarks
			Rs. P.	Rs. P.	Rs. P.	Rs. P.	
1	2	3	4	5	6	7	8
Total							

Signature of contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

FORMS & PROCEDURES

Form WAM 6 (contd...)

ANNEXURE C

Statement showing details of other recoveries to be made from the contractor Shri/M/s.....

In respect of Contract Agreement NoDated.....

Sl. No	Particulars	Unit	Quantity	Rate		Amount recover- able		Amount recovered upto pre- vious bill		Amount now recovered	Remarks
				Rs.	P.	Rs.	P.	Rs.	P.		
1	2	3	4	5	6	7	8	9	10	11	12

1. Water Charges
2. Electricity charges
3. Seignorage charges
4. Medical charges
5. Cost of empty gunny bags and
Empty containers not returned
- 6.
- 7.
- 8.
- 9.

FORMS & PROCEDURES

10.

Total

Signature of contractor

Signature of Engineer in Charge

Signature of Senior Engineer

Date:

Date:

Date:

FORMS & PROCEDURES

Form WAM 6 (contd...)

ANNEXURE D

Name of the Contractor:
Name of the Work:

Contract Agreement No:
Date:

Sl. No.	Description of item	Unit	Quantity as per Agreement	Quantity as executed	Quantity further anticipated	Total quantity anticipated on completion	Rate as per agreement Rs. P.	
1	2	3	4	5	6	7	8	

Rate as the executed with any Rs. P.	Amount as per agreement Rs. P.	Amount as executed Rs. P.	Amount further anticipated Rs. P.	Total amount anticipated on completion Rs. P.	Difference ----- Excess savings Rs. P. Rs. P.				Reason for deviation authority, if
9	10	11	12	13	14	15	16	16	

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

FORMS & PROCEDURES

II MEMORANDUM OF PAYMENT												
										Rs.	P	
1	Total Value of work actually measured as per Account no I coloumn 10 (A)											
2	Deduct amount of paym,ents already made as per last running account bill No Dated..... Forwarded to the Accounts Office on (B)											
3	Payments now to be made { (A) - (B)} (C)											
4	Deduct ammounts recoverable from the contractor on account of :										Rs	P
	a	Material suplied by BHEL vide annexure A attached										
	b	Hire of Tools & Plants vide Annexure B attached										
	c	Other charges vide Annexure C attached										
	d	Income Tax										
	Total deduction											
5	Balance											
6	Refund of 50% of security deposite on completion of work											
7	Net am amount to be paid to the Contractor											
III. CERTIFICATE OF THE ENGINEER IN CHARGE												
1	The measurement on which the entries in coulms 7 to 12 of Part I of this bill (Account of work executed) are based were made by (Name and designation)											
2	A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.											
	Date:										Signature of Engineer in charge	
											Designation	

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE											
Account Bill no..... Dated						ALLOCATION					
Entered in Journal book vide entry No..... Dated.....						Estimate No:			Code No		
Passed for.....Rs.....						Name of the Work					
Less Deductions.....Rs.....											
(Rupees.....Only)						Ledger Head			Debit		Credit
Payable to Shri/M/s..... by cheque/cash						(Gross Amount)			Rs		P
Entered in contractors' Ledger no..... Page									Rs		Rs
Assistant				Accountant		Accounts officer		Total			
Date:				Date:		Date:					
VI. Received Rs.....(Rupees.....Only) in full and final settlement of all moneys due under this contract and I / we have no further claims of this contract.											
Signature of Witness											
Address											
Revenue Stamp											
Signature of Contractor											
Date:											
VII . ENTRIES TO BE MADE BY TREASURY SECTION											
Cash book entry no and date :						Amount Paid Rs.....					
						Amount unpaid Rs.....					
						Total Rs.....					
Signature of Cashier											
Date:											

BHARAT HEAVY ELECTRICALS LIMITED DIVISION..... .....And Final bill (Para 4.3.2 Of Works Accounts Manual)												
Name of Contractor			Departmental Bill no				Date					
Name of the Work			Division				Division					
Sanctioned Estimate			Date of written order to commence the work									
Contract Agreement/work Order No			Date of commencement of work									
			Due date of completion as per agreement									
			Date of actual completion of the work									
I. ACCOUNT OF WORK EXECUTED												
On Account payment for the work not previously measured **												
Total as per last running account bill Rs.	Since last running account bill Rs	Total up to date Rs	Item No of the agreement/work order	Descripti on of work	Quantity as per agreement	Quantity executed up to date	Rate Rs. P	Unit	Payment on the basis of actual measurement up to date Rs P	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill Rs P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13

BHARAT HEAVY ELECTRICALS LIMITED,
 POWER SECTOR - EASTERN REGION, KOLKATA
 TENDER NO: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total Value of Work Done up to date	(A)	
Deduct Value of work shown on the last running account bill	(B)	
Net value of work done since last running account bill	(C)	

Rupees (In Words).....Only

II MEMORANDUM OF PAYMENT

		Rs.	P
1	Total Value of work actually measured as per Account no I column 10	(A)	
	Deduct amount of paym,ents already made as per last running account bill No Dated.....		
2	Forwarded to the Accounts Office on	(B)	
3	Payments now to be made { (A) - (B)}	(C)	
4	Deduct ammounts recoverable from the contractor on account of :	Rs	P
	a Material suplied by BHEL vide annexure A attached		
	b Hire of Tools & Plants vide Annexure B attached		
	c Other charges vide Annexure C attached		
	d Income Tax		
	Total deduction		
5	Balance		
6	Refund of 50% of security deposite on completion of work		
7	Net amount to be paid to the Contractor		

III. CERTIFICATE OF THE ENGINEER IN CHARGE

The measurement on which the entries in coulms 7 to 12 of Part I of this bill (Account of work executed) are based were made by

-
- 1 (Name and designation)
 - 2 A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.

Date:

Signature of Engineer in charge
Designation

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Account Bill no.....	Dated		ALLOCATION	
Entered in Journal book vide entry No.....	Dated.....	Estimate No:		Code No
Passed for.....	Rs.....	Name of the Work		
Less Deductions.....	Rs.....			
(Rupees.....Only)		Ledger Head	Debit	Credit
Payable to Shri/M/s.....	by cheque/cash		(Gross Amount)	(Deduction)
Entered in contractors' Ledger no.....	Page		Rs P	Rs
		
Assistant	Accountant	Accounts officer	Total	
Date:	Date:	Date:		

VI. Received Rs.....(Rupees.....Only) in full and final settlement of all moneys due under this contract and I / we have no further claims of this contract.

Signature of Witness
 Address

Revenue Stamp
 Signature of Contractor
 Date:

VII . ENTRIES TO BE MADE BY TREASURY SECTION

Cash book entry no and date :	Amount Paid Rs.....
	Amount unpaid Rs.....
	Total Rs.....

Signature of Cashier
 Date:

ANNEXURE A
 Part I

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

SI No	Stores Issue voucher No and date	Issue voucher No and date allotted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity incorporated in the work	Whether recoverable from the contractor or supplied free	Rate at which recoverable		If recoverable from contractor				Remarks		
							Rs	P	Amount Recoverable	upto previous bill	Amount recoverable	Balance Now recovered			
									Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7	8	9	10		11		12		

Total

Signature of Contractor
 Date

Signature of Engineer in charge
 Date

Signature of Senior Engineer
 Date

ANNEXURE A
 Part II

Statement showing details of material issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No	Stores Issue voucher No and date	Issue voucher No and date allotted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Issue Rate		Amount Recoverable		Amount recoverable upto previous bill		Balance Now recovered		Remarks
						Rs	P	Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7	8	9	10	11	11			

Total

Add Departmental Charges

Add Sales Tax (wherever applicable)

Total

Signature of Contractor
 Date

Signature of Engineer in charge
 Date

Signature of Senior Engineer
 Date

ANNEXURE B

Statement showing TOOLS & PLANTS issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No 1	Description of tools & plants issued 2	Period for which issued 3	Rate at which Recivery is to be made 4	Amount recoverabl e 5		Amount recoverable upto previous bill 6		Balance Now recovered 7		Remarks 8
				Rs	P	Rs	P	Rs	P	

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE C

showing detail of other recoveries to be made from the contractor Shri/M/s.....
 nent/Work Order No..... Dated.....

Sr.No	Particulars	Unit	Quantity	Rate Rs. P.	Amount recoverable Rs. P	Amount recovered upto previous bill Rs. P.	Amount now recovered Rs. P.	Remarks
1	2	3	4	5	6	7	8	9
	1							Water Charges
	2							Electricity Charges
	3							Seignorage Charges
	4							Medical Charges
								Cost of empty gunny bags and empty containers not returned
	5							
	6							
	7							
	8							
	9							
	10							
Total								

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

**ANNEXURE D -
DEVIATION STATEMENT :**

Name of the Contractor :

Contract Agreement/Work Order No. :

Name of the Work :

Date :

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

Signature of Engineer in Charge

Date :

Signature of Senior Engineer

Date :

ANNEXURE E

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

Name of the Work :

ON RECOVERY BASIS

Sl. No.	Description of material	Unit	Quantity actually issued	Quantity actually incorporated in the work	Balance	Particulars of disposal of balance	Quantity to be issued as per approved data for work actually done	Variation in consumption (Difference between column 5 and 8)		Rate charge-able for excess/short consumption, if any	Amount recover-able for excess/short consumption, including materials not returned	
								More	Less		Rs. P.	Rs. P.
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Cement											
2.	Bricks											
3.	Wood.....											
4.	Asbestos Sheet											
5.	Iron Materials											
6.												
7.												
8.												
9.												
10.												

Signature of Contractor

Date :

Signature of Engineer in Charge

Date :

Signature of Senior Engineer

Date :

Note : 1. The quantities shown in columns 4 and 5 above should tally with those shown in columns 5 and 6 respectively of Annexure A (Part I and II).

2. Data statement of theoretical consumption should be attached in support of quantity specified in column 8.

ANNEXURE F

Statement showing detail of materials issued to the contractor Shri/M/s.....
 ct of Contract Agreement/Work Order No.....Dated.....

Name of work;

FREE OF COST

Sr.No	Stores issue voucher No.	Description of material	Unit	Quantity issued	Quantity required as per data	Quantity consumed in the work	Balance(If any)	Nature of disposal for the balance	Rate chargeable for material not returned Rs.P.	Amount recoverable for material not returned Rs. P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Total											
Signature of Contractor Date				Signature of Engineer Incharge Date				Signature of Sr. Engineer Date			
Note:Data statement of theoretical consumption should be attached in support of the quantity specified in column 6											

ANNEXURE C

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
Whether materials issued to the contractor in excess of the theoretical requirements have been returned to the Stores Department and the no. and date of such returned stores vouchers have been shown in stores statement? If not, whether the cost of such excess material has been recovered at the prescribed rate? Whether consumption statements in respect of materials chargeable to the work have been attached to the bill?	
Whether consumption of materials shown has been technically checked by Senior Engineer?	
Whether materials issued and used in the work is not less than that required for consumption in work according to our specification? If consumption is less, whether necessary recovery has been made in the bill?	
Whether measurements have been checked by the Engineer and Sr. Engineer to the extent required and certificates of check recorded in the measurement books?	
Whether contractor has signed the bill and the measurement books without reservations? If not, whether reasons have been intimated to the Accounts Department?	
Whether arithmetical calculations have been checked and certificate recorded in the measurement books by a person other than the one who calculated initially?	
Whether any work was done at the risk and cost of the contractor and whether such cost has been recovered from him? Give particulars.	
Whether all advance payments on running Accounts have been recovered?	
Whether all the recoveries due to services given to the contractor like rent of accommodation, water charges, electricity charges etc. have been recovered and whether payments made by the company on behalf of the contractor have been adjusted?	
Whether the files containing abstracts from measurement books/ standard measurement books have been completed/ updated?	
Whether hire charges of tools and plant have been recovered and the statement of hire charges with full details attached?	



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 1 of 6

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

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

Date of Plan/ Review.....

SN.	Description of Work	Unit of Measurement	Unit Rate	Planned		Cumulative Shortfall attributable to contractor upto last month (Refer Note 1)		Achieved		Shortfall attributable to BHEL w.r.t Plan (as per Col. 3 of Part-D)		Cumulative Shortfall attributable to Contractor upto & including this month		REMARKS (Reasons for Shortfall attributable to Contractor. Supporting documents to be kept as record.)
				(QTY Planned for the month as per Part -C of last month)										
(a)	(b)	(c)	(d)	A		B		C		D		E=A+B-C-D		
				Phy.	Financial	Phy	Financial	Phy.	Financial	Phy.	Financial	Phy.	Financial	
	Value of Other Items not mentioned above but planned to be executed in this month													
Total					ΣA		ΣB		ΣC		ΣD		ΣE	

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 2 of 6

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

PART- A: Contd.....

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

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

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

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

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 3 of 6

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

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

Date of Plan/ Review.....

CONTRACTOR'S SCOPE: -

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

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

BHEL SCOPE: -

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

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page **4** of **6**

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

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

Date of Plan/ Review.....

CONTRACTOR'S SCOPE: -

SN.	Area of Work	Category of Labour	No. of Labour required as per category	Deployment Period (in days)	No. of Labour actually deployed	Actual Deployment Period (in days)	REMARKS (Works affected due to non-availability of labour)
			A	B	C	D	

Percentage of Manpower Deployed=100 x $\Sigma(CxD)/\Sigma(AxB)$

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 5 of 6

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

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

Date of Plan

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

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

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

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS-

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 6 of 6

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

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

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

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

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

BHEL
(Sign with name, designation and date)

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, .

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.

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:

- 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 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
(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:

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)**
- 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.

BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR - EASTERN REGION, KOLKATA
TENDER NO: PSER:PUR:PMX:350(II):004:(ENQ:19:PP:0015:PUR:4) Date 11/04/2019
**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 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.

**BANK GUARANTEE FOR SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE
BOND**

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 place²** > 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 Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

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.

BANK GUARANTEE FOR RELEASE OF AMOUNTS WITHHELD/LIQUIDATED DAMAGES AMOUNT

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹(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) incorporated under thehaving its registered office at _____ ¹(hereinafter referred to as the 'Contractor', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated²valued at Rs.....(Rupees -----) for <Nature of Work>³(hereinafter called the 'Contract')

The Contractor as per Contract should have completed the work/ supplies under the contract by.....(date). As per terms and conditions of the Contract, the Employer is entitled to levy Liquidated Damages (LD) for delays and the Employer has withheld an amount of Rsby way of LD as per the Contract. Now, on the request of the Contractor, the Employer having agreed to release the amount of Rs.....withheld from the Contractor's invoices as Liquidated damages under the terms and conditions of the Contract on production of a Bank Guarantee for Rs. _____ (Rupees.....only)⁴

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 of Rs ----- (Rupees -----) 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/ 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/ Supplier's liabilities.

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:

- 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 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
(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:

- 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)**
 - 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.

BANK GUARANTEE FOR SUPPLY FREE ISSUE MATERIAL.

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/Fabricator' 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.....(Rupees -----) for <Nature of Work>³ (hereinafter called the 'Contract')

and, the Employer having agreed as per the terms and conditions of the Contract to supply free issue material costing Rs._____ for the manufacture/fabrication of the equipment at the Contractor's site on on furnishing a Bank Guarantee for Rs._____ (Rupees.....)⁴ in the manner hereinafter specified for the due safeguard of the free issue material,

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 of Rs ----- (Rupees -----) 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/ 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 hereunder 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 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/Supplier/ Fabricator and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's/Supplier's/ Fabricator's liabilities.

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/ Fabricator 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:

- 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 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
(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:

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)**
 - 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.

**PROFORMA OF BANK GUARANTEE FOR EARNEST MONEY
(On non-Judicial paper of appropriate value)**

Bank Guarantee No.....

Date.....

To

(Employer's Name and Address)

.....

Dear Sirs,

In accordance with the terms and conditions of your Invitation for Bids/Notice Inviting Tender No.....¹(Tender Conditions) M/s. having its registered office at² (hereinafter referred to as the '**Tenderer**'), is submitting its bid for the work of..... for.....³. at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091.⁴(name of the Employer)

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

In lieu of the stipulations contained in the aforesaid Tender Conditions that an irrevocable and unconditional Bank Guarantee against Earnest Money Deposit for an amount of⁵ is required to be submitted by the Tenderer as a condition precedent for participation in the said Tender and the Tenderer having approached us for giving the said Guarantee,,

we, the[Name & address of the Bank] having our Head Office at(hereinafter referred to as the Bank) being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer without any demur, merely on your first demand any sum or sums of Rs. ⁵(*).....without any reservation, protest, and recourse and without the beneficiary needing to prove or demonstrate reasons for its such demand. Any such demand made by the 'Employer' shall be

conclusive and binding on us irrespective of any dispute or difference raised by the Tenderer.

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

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

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

This Guarantee shall be irrevocable and shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by the Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Tenderer but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms hereof. However, unless a demand or claim under this Guarantee is made on us in writing on or before the⁷ we shall be discharged from all liabilities under this Guarantee.

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....5.....
- b) This Guarantee shall be valid up to6

- c) Unless the Bank is served a written claim or demand on or before _____⁷ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank

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

For and on behalf of

(Name of the Bank)

Date.....

Place of Issue.....

¹ *Details of the Invitation to Bid/Notice Inviting Tender*

² *Name and Address of the Tenderer*

³ *Details of the Work*

⁴ *Name and Address of BHEL Unit/Division/Region (Already filled up)*

⁵ *BG Amount in words and Figures*

⁶ *Validity Date*

⁷ *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. As per Works Policy, the Bank Guarantee shall be valid for at least six months.

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

- a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
- b.1** In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (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.

INTEGRITY PACT**Between**

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

and

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

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

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

Section 1- Commitments of the Principal

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

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions:

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

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

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

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

Section 4 - Compensation for Damages

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

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

Section 5 - Previous Transgression

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

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

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

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

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

Section 8 - Independent External Monitor(s)

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

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

Section 9 - Pact Duration

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

Section 10 - Other Provisions

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

- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

MZ.

For & On behalf of the Principal

उज्ज्वल हाउलादार / Ujjwal Howlader
वरिष्ठ अभियन्ता (क्रय) / Sr. Engineer (PUR)
बी. एच. ई. एल. / पी.एस.ई.आर / BHEL- PSER
डी.जे. 9/1, सॉल्ट लेक / DJ-9/1, Salt Lake
कोलकाता-700 091 / Kolkata-700 091

(Office Seal)

For & On behalf of the Bidder/

Contractor

(Office Seal)

Place

Kolkata.

Date

11/04/19.

Witness:

Abhijit Pan

Witness:

(Name & Address)

(Name & Address)

अभिजीत पान / AVIJIT PAN

उप महाप्रबंधक (क्रय) / Dy. General Manager (PUR)
बी. एच. ई. एल. / पी.एस.ई.आर / BHEL / PSER
डी जे - 9/1, सॉल्ट लेक / DJ-9/1, SALT LAKE
कोलकाता-700 091 / KOLKATA-700 091