



Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)

Power Sector, Eastern Region

BHEL Bhawan, Plot No. DJ-9/1 , Sector- II ,

Salt Lake City , Kolkata , WEST BENGAL, INDIA

Phone : 033-23216130-31, FAX : 033-23211960

NOTICE INVITING TENDER

OFFERS ARE INVITED FROM REPUTED & EXPERIENCED BIDDERS (MEETING PRE-QUALIFICATION CRITERIA AS MENTIONED) **THROUGH E-PROCUREMENT PORTAL <https://bheleps.buyjunction.in> ONLY** for THE SUBJECT JOB BY THE UNDERSIGNED ON BEHALF OF BHARAT HEAVY ELECTRICALS LIMITED AS PER THE TENDER DOCUMENT. ISSUE OF TENDER TO ANY BIDDER SHALL NOT CONSTRUCT THAT THE BIDDER IS CONSIDERED TO BE QUALIFIED. FOLLOWING POINTS RELEVANT TO THE TENDER MAY PLEASE BE NOTED AND COMPLIED WITH.

Salient Features of NIT

SL NO	ISSUE	DESCRIPTION	
i	E-TENDER NUMBER	PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015.	
ii	Broad Scope of job	“OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA”.	
iii	ISSUE OF TENDER DOCUMENTS	a) <i>Online through e-procurement platform at https://bheleps.buyjunction.in</i> b) <i>in BHEL website (www.bhel.com, www.jantermanter.com & CPP Portal) : For tender view purpose only</i>	1. <i>Applicable</i> 2. <i>Applicable</i>
iv	DUE DATE & TIME OF OFFER SUBMISSION	<i>Date: 24-12-2015, Time: 15-00 Hrs. (Offer to be submitted online only through e-procurement platform at https://bheleps.buyjunction.in)</i>	<i>Applicable</i>
v	TECHNO-COMMERCIAL BID OPENING OF TENDER	<i>Date: 24-12-2015, Time: 16-00 Hrs. (online only through e-procurement platform at https://bheleps.buyjunction.in , participating bidders may witness the same online only)</i>	<i>Applicable</i>
vi	EMD AMOUNT	<i>Rs. 1,00,000/- (Rupees One Lac Only) [To be submitted in the form and manner as mentioned below]</i>	<i>Applicable</i>
vii	COST OF TENDER	--	<i>Not Applicable</i>
viii	LAST DATE FOR SEEKING CLARIFICATION	<i>Date: 10-12-2015 (UP TO 11:00 Hrs.)</i>	<i>Applicable</i>
ix	SCHEDULE OF Pre Bid Discussion (PBD)	<i>Date : 11-12-2015 Time: 11:00 Hrs. Venue: BHEL-PSER, HQ. BHEL BHAWAN, DJ-9/1, SECTOR-2, KARUNAMOYEE, SALT LAKE CITY, KOLKATA-700091, WEST BENGAL</i>	<i>Applicable</i>
x	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	--	<i>Not Applicable</i>

xi	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com →Tender Notifications →View Corrigendums & www.jantermanter.com/ CPP portal →Tender Notice & E-PROCUREMENT PORTAL https://bheleps.buyjunction.in) and not in the newspapers. Bidders to keep themselves updated with all such information.	<i>Shall be intimated to bidder</i>
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1. The offer shall be submitted as per the instructions of tender document. Only One set of tender document (**in original, downloaded from website**) signed by authorised company rep. of bidder and stamped on each page shall be submitted as detailed further, as given below. Bidders to note specifically that all pages of tender document, including these NIT pages etc. appearing in the website for this particular tender shall be submitted by them (after signing/stamping on each page) as a part of their offer. **Price shall not be mentioned by them anywhere in the techno-commercial portion of offer. Price shall be mentioned in the relevant price schedule only and to be submitted in e-procurement portal/platform in the form and manner mentioned in tender. In case of E-PROCUREMENT ASSISTANCE & TRAINING, BIDDERS MAY CONTACT M/s Mjunction Services Limited (herein after called as MJUNCTION) HELPDESK PHONE NO. 033-66011717 (BETWEEN 9:30 AM TILL 5:30 PM) & 9163348280/83/84/85/86, 8584008116, 8584008205, 8336925964 (FROM 5:30 PM TO 8:30 PM) or for any difficulty in downloading the tender from internet website, they should contact this office (Asst. Engineer, Purchase or AGM, Purchase Phone no. 033-23211496/1690). No alteration/changes by bidders is permitted in the tender/NIT appeared in the website.**
2. Successful bidder shall have to submit additional set of tender/sign on tender document provided by BHEL, if so decided by BHEL.
3. **Earnest Money Deposit (EMD) of Rs. 1,00,000=00** in the form of crossed Demand Draft / Pay Order (in favour of **Bharat Heavy Electricals Limited, payable at Kolkata**), shall be submitted by bidder as mentioned below, failing which the bidder's offer is liable for rejection.

SCAN COPY OF EMD TO BE UPLOADED ALONG WITH TECHNO-COMMERCIAL OFFER IN MJUNCTION E-PROCUREMENT PORTAL/PLATFORM. ORIGINAL EMD TO BE SUBMITTED IN SEALED ENVELOPE (SUPERSCRIBING TENDER REFERENCE) TO HEAD-PURCHASE/ASST. ENGINEER/PURCHASE, BHEL BHAWAN, DJ-9/1, SECTOR-2, KARUNAMOYEE, SALT LAKE CITY, KOLKATA-700091, WEST BENGAL PRIOR TO LATEST DUE DATE OF SUBMISSION OF OFFER.

One time EMD for Rs. 1,00,000.00 (Rupees One Lakh only) for SAS jobs will also be valid for all such jobs. Bidders who have deposited one time EMD of Rs. 1.00 lakh with BHEL: PSER for SAS job (evidence of deposit must be submitted in scanned copy and to be uploaded along with techno-commercial offer in Mjunction portal/platform) will be exempted from submission of EMD with this tender. The followings may be noted:

In case the bidder deposits separate EMD as mentioned above, there will be no change

- a) In existing clauses of this tender.
- b) In case of bidders having one time EMD; one time EMD can not be used for SD purpose.
- c) Security deposit shall be submitted as per provision of tender. **Security deposit shall cover the entire duration of work plus the performance guarantee period plus three months notice period prior to release of the same.**

- d) Bank Guarantee shall not be acceptable towards EMD. The EMD shall be enclosed with the Techno-Commercial Bid in the form and manner as mentioned above.

4.0 This is an E-tender floated online through our E-Procurement Site <https://bheleps.buyjunction.in>. The bidder should respond by submitting their offer online only in our e-Procurement platform at <https://bheleps.buyjunction.in>. 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:

OFFER DESCRIPTION	DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING
TECHNICAL OFFER	1. Scanned copy of Covering letter of offer (To be attached in Attachment section) 2. Scanned copy of Entire tender documents signed & stamped in each page by authorized representative of the bidder except price bid (To be attached in Attachment section). 3. Scanned copy of Techno-Commercial Offer (To be attached in Attachment section) 4. Duly filled all annexures except price & unpriced format (To be attached in Attachment section). 5. Copy of records notes of Pre Bid Conference, if applicable/ pre-bid MOM. (To be attached in Attachment section) 6. Copy of Tender change notice (TCN), if applicable (To be attached in Attachment section) 7. All supporting documents/ Annexures etc as applicable (To be attached in Attachment section). 8. No deviation certificate in bidders letterhead as per format given in Tender (To be attached in Attachment section).
PRE-QUALIFICATION PART	9. Pre-qualifying documents with all credentials as per tender. (To be attached in PQ Attachment section)
UNPRICED PRICE BID	10. Price schedule –Unpriced but mentioning only quoted / unquoted against each item as per tender. (To be attached in Unpriced bid Attachment section)
PRICE BID	11. Duly filled in Price Schedule as per tender. (To be attached in price bid Attachment section) Any other document uploaded in the price bid, apart from tendered Price schedule, shall not be taken into cognizance for evaluation of offer.

SPECIAL NOTE:

- A)** Offer & documents submitted with the offer shall be signed and stamped in each page by authorised representative of the bidder. 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)** All documents / Annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.
- 5.0 No deviation with respect to tender clauses and no additional clauses/ suggestions/clarification 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.

- 6.0 BHEL reserves the right to accept or reject any or all offer without assigning any reasons thereof. BHEL also reserve the right to cancel the tender wholly or partly without assigning any reason thereof. BHEL also reserve the right to split/part award the job. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD)
- 7.0 Since the job shall be executed at site, the bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including Law and Order situation, applicable Wage structure, Wage rules, present condition of machines 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 site/machine conditions at the time of bidding.
- 9.0 For any clarification on the tender document, you may seek the same in writing or through e-procurement portal/platform as per specified format within the last date of seeking clarification as per tender. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay, and receipt of any query after due date shall not be entertained.
- 10.0 BHEL may decide holding Pre-bid Discussion [PBD] with all intending bidders. On such communication from BHEL, the bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Outcome of PBD (if any) shall also form part of tender.
- 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/ contradictions between any two clauses of tender document, the same to be brought to the knowledge of BHEL by bidders in writing for clarification before due date of seeking clarification, otherwise, more stringent requirement as may be interpreted by BHEL shall prevail and shall be binding on you. Any typing error/missing pages/ other clerical errors in the tender documents, noticed by you must be pointed out before submission of offer, or 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 including PBD.
- 14.0 Tender document containing above mentioned volumes shall be signed & stamped in all pages including this covering letter. Price bid shall be furnished in the specified format enclosed with the tender. Any additional copy, if required, may be taken by photocopying from the tender document given in the web.
- 14.0 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 qualify for the subject job on the basis of pre-qualification evaluation & Techno-Commercial bids etc. BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of a contract. BHEL's decision in this regard shall be final & binding.**

- 15.0 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, one authorised representative of the bidder shall be allowed to attend.
- 16.0 **Validity of the offer shall be for Six months from the due date of offer submission (including extension, if any) unless specified otherwise.**
- 17.0 Firm prices are to be quoted in whole rupees, in the place meant for price or on the price schedule enclosed as applicable for the full scope of work given in tender. The rates quoted must be in figures and words as well (Prices quoted must be workable too for the job involved). **Prices quoted by the bidders should be inclusive of all taxes and duties leviable by any Statutory Authority for this job as on the date of the tender opening (excluding Service Tax and Swachh Bharat Cess)**
- 18.0 Price Bids shall be evaluated based on Lump sum Price only. However, Unit Rates shall also be furnished if applicable in the Price Schedule.
- 19.0 Overwriting or erasures should be avoided. If however, they exist they must be invariably attested.
- 20.0 **Bidders are required to submit price as per tender Price Schedule format in e-procurement portal/platform in the form & manner as mentioned in tender.**
- 21.0 ***BHEL reserves the right to go for REVERSE AUCTIONING (RA) instead of opening the price in e-procurement portal/platform, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance 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.***
- In such case all qualified bidders will be intimated regarding procedure/ modality of process prior to RA and price will be decided through RA process only. In such case the price in e-procurement portal/platform, submitted by the bidder will not be opened.***
- 22.0 ***In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-submission of 'online sealed bid' by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. Information and General Terms and conditions of Reverse Auction is attached in Part-D.***
- 23.0 *Reverse Auction is the type of auction typically conducted to buy goods / items over Internet in which the lowest price bidder wins. In case, the bidders are willing to know the details about the methodology, they may please contact HEAD/PURCHASE OR ASST. ENGINEER /PURCHASE, BHEL, KOLKATA.*
- 24.0 ***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' in e-procurement portal/platform, submitted by the bidder will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.***

- 25.0 ***In case BHEL decides not to go Reverse Auction procedure for this tender enquiry, the price bid and price impacts, if any, already submitted in e-procurement portal/platform, submitted by the bidder shall be opened as per BHEL's standard practice.***
- 26.0 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.
- 27.0 **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.**
- 28.0 **The offers of the bidders who are on the banned list as also the offer of the bidders, who engages the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.**
- 29.0 **The bidder may have to produce original document for verification if so decided by BHEL.**
- 30.0 Suspension of Business dealings: 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-A.
- 31.0 "MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or 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	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.

32.0 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:--

- i) Amendments/Clarifications/Corrigenda/Errata/Tender change notice (TCN) etc. issued in respect of the tender documents by BHEL
- ii) Notice Inviting Tender (NIT)
- iii) Price Schedule – (Annexure-VII)
- iv) Scope of work & other details - Annexure-I & SAS-I, Annexure-II, Annexure-III, Annexure-S [Safety, Health & Environment (SHE)], Annexure for HSE & OHSAS and Special note to bidders.
- v) SPECIFIC TERMS AND CONDITIONS FOR SERVICES JOBS
- vi) GENERAL & SPECIAL CONDITIONS OF CONTRACT FOR SERVICES JOB

All the bidders are requested to note that all the errata / technical clarifications / corrigendum / extension etc. shall be published THROUGH E-PROCUREMENT PORTAL <https://bheleps.buyjunction.in> and in website www.jantermanter.com , www.bhel.com & <http://eprocure.gov.in> . As such, all the bidders are requested to be in continuous touch with these websites.

for BHARAT HEAVY ELECTRICALS LTD

SR. MANAGER (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.	DIRECT- 033-23211496, 23211690, EPABX – 23216130, Extn. – 3223
	FAX no.	033-23211960
	E-mail ID	biplab.pal@bhelpser.co.in ; ssen@bhelpser.co.in
M/s Mjunction Services Limited	For E-PROCUREMENT ASSISTANCE & TRAINING, MJUNCTION HELPDESK PHONE NO. 033-66011717 (BETWEEN 9:30 AM TILL 5:30 PM) & 9163348280/83/84/85/86, 8584008116, 8584008205, 8336925964 (FROM 5:30 PM TO 8:30 PM)	

ANNEXURE - IV

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

To,
Bharat Heavy Electricals Limited,
POWER SECTOR – EASTERN REGION
2nd FLOOR, Block-DJ, Plot- 9/1, SECTOR
SALT LAKE CITY, KOLKATA – 700 091
FAX – 033-2321-1960

Sub: NO DEVIATION CERTIFICATE FOR TENDER FOR “OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA”.

E-Tender No.: PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/modified the tender documents as appeared in the website/newspapers and in case of 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 *and confirm our acceptance to **reverse auctioning process*** and we hereby convey our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT.

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 offer strictly in accordance with tender instructions.

Thanking you,

Yours faithfully,

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

ANNEXURE - V

PRE – QUALIFICATION CRITERIA

Job: “OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA”.

E-Tender No.: PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015.

SL. NO.	PRE-QUALIFICATION CRITERIA
1.0	<p>BIDDER SHOULD HAVE AVERAGE ANNUAL TURNOVER OF MINIMUM Rs 24.93 LAKH IN LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2015 AND MUST HAVE EARNED PROFIT IN ANY ONE OF LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2015 & SHOULD HAVE POSITIVE NET WORTH AS ON 31-03-2015.</p> <p>AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY NEED BE SUBMITTED FOR LAST 3 (THREE) FINANCIAL YEARS, ENDING ON 31-03-2015 IN SUPPORT OF THIS REQUIREMENT.</p> <p>IN CASE AUDITED FINANCIAL STATEMENTS HAVE NOT BEEN SUBMITTED FOR ALL THE THREE YEARS AS INDICATED AGAINST ABOVE THEN THE APPLICABLE AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEARS, WILL BE AVERAGED FOR THREE YEARS.</p>
2.0	<p>BIDDER SHOULD HAVE EXECUTED SATISFACTORILY AT LEAST ONE JOB OF ERECTION & COMMISSIONING OR OVERHAULING OF STG & AUX. JOB OF AN UNIT OF RATING 200 MW OR ABOVE (KWU DESIGN) IN ANY UTILITY/ INDUSTRIAL PROJECT IN LAST 3 (THREE) YEARS, ENDING ON LATEST DUE DATE OF SUBMISSION OF OFFER.</p> <p>RELEVANT SUPPORTING DOCUMENTS FROM PURCHASER / END USER TOWARDS SATISFACTORY EXECUTION OF THE JOB BY THE BIDDER SHALL BE SUBMITTED.</p> <p><u>NOTE FOR SL NO 2.0 :</u> THE WORD EXECUTED MEANS: THE WORK SHALL HAVE BEEN COMPLETED UP TO SYNCHRONISATION.</p>
3.0	<p>BIDDER SHOULD HAVE VALID PAN. RELEVANT SUPPORTING DOCUMENTS SHALL BE SUBMITTED.</p>
4.0	<p>NO CONSORTIUM / JV BIDDING IS ALLOWED FOR THIS TENDER.</p>
5.0	<p>CONSIDERATION OF OFFER WILL BE SUBJECT TO CUSTOMER'S APPROVAL OF BIDDER</p>

Note:	AFTER SATISFACTORY FULFILMENT OF ALL THE ABOVE CRITERIA, OFFER SHALL BE CONSIDERED FOR FURTHER EVALUATION AS PER NIT AND ALL OTHER TERMS OF THE TENDER.
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GENERAL INFORMATION:

VENDOR SHOULD FURNISH INFORMATION REGARDING PROJECTS IN HAND, DETAILS OF CURRENT LITIGATION AND ARBITRATION CASES, ORDERS REGARDING EXCLUSION/EXPULSION OR BLACK LISTING, IF ANY.

CORRIGENDUM/EXTENSION (IF ANY) OF THIS TENDER WILL BE PUBLISHED IN BHEL WEBSITES.

INTERESTED BIDDERS MEETING THE ABOVE QUALIFYING REQUIREMENTS MAY DOWNLOAD TENDER DOCUMENTS FROM AFORESAID WEBSITE(S).

i)	DOWNLOAD OF TENDER DOCUMENT STARTS	03-12-2015
ii)	TENDER DOWNLOAD CLOSING ON	24-12-2015 AT 15:00 HRS. IST
iii)	LAST DATE OF SEEKING CLARIFICATIONS	10-12-2015 UP TO 11:00 HRS. IST
iv)	PRE-BID DISCUSSION (IF REQUIRED) ON	11-12-2015 AT 11:00 HRS. IST
v)	LAST DATE OF SUBMISSION OF OFFER	24-12-2015 UP TO 15:00 HRS. IST
vi)	DATE OF TECHNO-COMMERCIAL BID OPENING	24-12-2015 AT 16:00 HRS. IST

BHEL RESERVE THE RIGHT TO ACCEPT/REJECT ANY OR ALL THE BIDS WITHOUT ASSIGNING ANY REASON THEREOF. RESPONSIBILITY OF POSTAL/COURIER DELAY SHALL NOT REST WITH BHEL.

NOTE: PRE-BID DISCUSSION, IF TAKE PLACE, SHALL FORM PART OF THE TENDER DOCUMENT. NO CLARIFICATIONS/QUIERIES FROM THE TENDERERS AFTER 10-12-2015 (UP TO 11:00 HRS. IST) OR AFTER PRE-BID DISCUSSION (IF TAKES PLACE) SHALL BE ENTERTAINED BY BHEL.

ENCLOSURES:--

- i) **SCOPE OF WORK , TAXES AND DUTIES: (ANNEXURE-I : 10 PAGES)**
- ii) **ESSENTIAL CONDITIONS TO BE FULFILLED BY SUCCESSFUL BIDDER:
(ANNEXURE-SAS-I: 02 PAGES)**
- iii) **TENTATIVE LIST OF T & P (ANNEXURE-II : 04 PAGES)**
- iv) **LIST OF CONSUMABLES (ANNEXURE-III : 01 PAGE)**
- v) **SAFETY, HEALTH & ENVIRONMENT (SHE) (ANNEXURE-S : 31 PAGES)**
- vi) **ANNEXURE FOR HSE & OHSAS: 16 PAGES**
- vii) **SPECIAL NOTE TO BIDDERS : 01 PAGE**
- viii) **GENERAL & SPECIAL CONDITIONS OF CONTRACT FOR SERVICES JOB (23
PAGES)**
- ix) **SPECIFIC TERMS AND CONDITIONS FOR SERVICES JOB (14 PAGES)**
- x) **NO DEVIATION CERTIFICATE AS PER PRESCRIBED FORMAT (ANNEXURE-IV)**
- xi) **PRE-QUALIFICATION CRITERIA (ANNEXURE-V)**
- xii) **DECLARATION OF THE BIDDERS (ANNEXURE-VI)**
- xiii) **PRICE SCHEDULE (ANNEXURE-VII)**
- xiv) ***GENERAL TERMS & CONDITIONS OF REVERSE AUCTION (PART – D)***
- xv) ***FORMAT FOR SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE***
- xvi) ***RTGS FORMAT (REAL TIME GROSS SETTLEMENT)***
- xvii) ***SUSPENSION OF BUSINESS DEALING WITH SUPPLIERS - ANNEXURE-A***
- xviii) ***FORMAT FOR CERTIFICATE BY CHARTERED ACCOUNTANT ON LETTER
HEAD - ANNEXURE-B***
- xix) ***FORMAT FOR DECLARATION FOR RELATION IN BHEL***
- xx) ***FORMAT FOR SEEKING CLARIFICATION***

**ALL THE PAGES OF NIT SHALL BE DULY SIGNED & STAMPED BY THE BIDDER
WHILE SUBMITTING THE OFFER.**

For & on behalf of
BHARAT HEAVY ELECTRICAL LIMITED

SR. MANAGER (PURCHASE)

PARTICULARS OF THE TENDER

- A) E-TENDER NUMBER : **PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117)**
Date 03/12/2015.
- B) WORK : **“OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA”.**
- C) TENDER SUBMISSION DUE DATE : **ON 24-12-2015 UP TO 15:00 HRS. IST**
- D) TECHNICAL BID OPENING DATE : **ON 24-12-2015 AT 16:00 HRS. IST**
- E) PRICE BID OPENING :
- F) VALIDITY OF OFFER : Six months from the due date of offer submission
(Including extension, if any)
- G) MOBILIZATION TIME : **Within 03 (Three) days from date of intimation by BHEL**
- H) COMPLETION PERIOD : **26 (Twenty Six) days (De-synchronization to Re-synchronization), as per Scope, Annexure-I.**
- I) TARGET COMPLETION DATE :
- J) The vendors should furnish the following documents for our scrutiny along with papers for pre-qualification for qualifying for price bid opening.
- 1) Credential / Experience certificates in line with Pre-Q & requirements in line with tender specifications
 - 2) PAN NO & Photo Copy of PAN CARD/Sales Tax Clearance certificate.
 - 3) Photo Copy of PAN based Service Tax Registration Certificate/Proof of PAN based STC No.
 - 4) Latest Banker’s certificate for financial soundness.
 - 5) Balance sheets & P&L Accounts for the preceding three years
 - 6) Organizational chart
 - 7) Relevant list of T&P held by the vendor earmarked for the tendered job
 - 8) List of concurrent contracts held by the Contractor.

Particulars of Tender (Continued)

Facilities to be provided to contractors as described below:-

All T&P required / recommended for the work against this tender shall have to be mobilized by the contractor fully at their expense within the quoted price.

Any special T&P i.e. T&P made available by the manufacture of the equipment to the customer can be made available to the contractor free of charges subject to availability at site.

Any consumables required / recommended for the work against this tender shall have to be mobilized by the contractor fully at their expenses within the quoted price.

Regarding other facilities for the contractors the following table clarifies adequately. Vendors are expected to quote considering these without any deviations from the provisions of "Notice Inviting Tender".

Deviated offers are liable for rejection of price bid opening

a)	Water	Free of Charges
b)	Power	Free of Charges
c)	Storage Space	Free of Charges
d)	Covered Space	Free of Charges
e)	Uncovered Space	Free of Charges
f)	E.O.T. Crane	Free of Charges
g)	Operators for the above	Cannot be provided
h)	Residential accommodation for sub-contractors' personnel.	Cannot be provided
i)	Compressed air	Free of Charges
j)	Work shop facilities (as available)	Free of Charges

k)	i) Crane/Hydra for heavy materials if available	Free of Charges
	ii) Operator for K (i)	Cannot be provided
	iii) Fuel charges for K (i)	Cannot be provided
l)	Other material handling equipment	Cannot be provided
m)	Trailor	Cannot be provided
n)	Wooden Sleepers	Cannot be provided
o)	Tarpulins	Cannot be provided
p)	Scaffolding materials	Cannot be provided

No advance is payable to the contractors for mobilizing the site. Any payment can be made only against running bills as per payment terms.

For & on behalf of
BHARAT HEAVY ELECTRICALS LIMITED

SR. MANAGER (PURCHASE)

ANNEXURE-VI

DECLARATION OF THE BIDDERS

Job: "OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA".

01. I,hereby certify that all the information and date furnished by me with regard to this **E-Tender No. PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015** are true and complete to the best of my knowledge.
02. I have gone through the tender specifications, scope of work, terms and conditions mentioned in Annexure as well as General and Special conditions of contract and various stipulations in detail and agree to abide by them and comply with the requirements and intent of specifications.
03. I also certify that there have been no deviations from the tender requirements in the bid submitted against this tender.
04. I further certify that I am duly authorized representative of the under mentioned tenderer and hold a valid power of attorney to this effect, a copy of which is enclosed.

Signature:

Name :

Date :

Designation:

Seal:

Tenderers Name and address

PART-D:
General 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, Service Tax for Services 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(s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

SCOPE OF WORK**OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS OF UNIT-1, 210 MW (KWU DESIGN) AT IBTPS, OPGCL, ODISHA****JOB DURATION: 26 DAYS (DESYNCHRONISATION TO RESYNCHRONISATION)**

The scope under this specification is not exhaustive but indicative only. However, any activity covered under the normal course of overhauling job shall be deemed to be within the scope. The scope shall also include, manpower assistance during trim balancing as may be required including post overhauling vibration signature analysis. Time is the essence of this contract. Hence contractor must mobilize site with adequate manpower for round the clock 12 hours shifts work during the entire duration. Workmen will not be allowed to work more than 12hrs a day. Also adequate T&P, Consumables and inspection/measuring and monitoring devices are to be mobilized at site for two shift operations to avoid any hold up during execution of the work. Post overhauling and synchronisation of the unit, observation for 72 hrs at stable rated load and attending all works to rectify defects if any, is included within the scope of work. Prior to mobilization of site list of work men shift wise with the concerned work area supervisor shall be finalized in BHEL HQ..

In case any part of the job is not required to be carried out, a deduction will be effected as per percentage shown against those items.

NOTE:

- 1) INDUCTION HEATING MACHINE ALONG WITH OPERATOR WILL BE ARRANGED BY BHEL FOR HP, IP TURBINE, HP AND IPCVS OPENING. MANPOWER ASSISTANCE DURING PARTING PLANE BOLT/STUD OPENING AND CLOSING WILL BE PROVIDED BY VENDOR. VENDOR TO ARRANGE INDUCTION/ GAS HEATING FOR BREECH NUT OPENING AND CLOSING.

SECTION-I		
HPT MODULE OVERHAULING		(14.00%)
1	Removal of insulation and disposal of the same to designated location. It includes all connecting pipes of HP module, which will obstruct during lifting of the HP Module. Dismantling of casing thermocouples. Proper care to be taken during removal of insulation as most of the material will be reused.	0.50%
2	Checking of all the clearances (roll check, bump check, centering check, horn drop check etc.) before removal of the HP Module from the pedestal. Initial/final measurement of reference readings of HP module	0.50%
3	Coupled run out to be checked. Loosening of breech nuts (02 nos.) and CRH lines by induction heating & other related pipelines. Locking of pipe lines as required.	0.50%
4	Supporting of turbine shaft to outer casing. Removal of both bearings - no 01 and 02 bottom halves.	0.50%
5	Lifting of complete HP module from pedestal and placing on fixture. Tilting of complete module and placing in vertical position.	0.50%
6	Dismantling of both end glands including removal of sealing segments. Locking of rotor with respect to inner casing and outer casing both axially and radially.	0.50%
7	Loosening of threaded ring from barrel and removal of the same.	0.50%
8	Removal of rotor with inner casing from barrel with the help of attachment etc. and placing of the same on fixture in horizontal position for inspection as	0.50%

	required.	
9	Removal of top half of inner casing after loosening of parting plane studs. Inspection of rotor and stator blades, fins, etc. Assistance during Loosening of inner casing parting plane nut by induction heating equipment.	0.50%
10	Removal of rotor from the bottom half of casing. Removal of sealing segments from both half of HP inner casing.	0.25%
11	Measurement of parting plane stud length and replacement if required. Testing of spring support on sealing segments, sealing strips etc. and replacement as required.	0.50%
12	Alumina (size 80 grit) cleaning of the rotor and HP inner casing (top and bottom) blades, studs, sealing segments etc. Arrangement of alumina is included in vendor's scope. Arrangement of enclosure including covering by tarpaulins and proper illumination of enclosure is included in vendor's scope of work.	0.75%
13	Inspection of HP rotor. Removal of HP rotor front and rear glands fins, balance piston glands fins and refitting of fins and machining of the same in position. Arrangement of machining fixture included in vendor's scope.	0.75%
14	Checking of stationary blades shroud gap and carry out necessary correction by welding at blade shroud to achieve necessary shroud interference. Final checking of the same by blue matching.	0.50%
15	Insertion of inner casing in outer barrel and aligning the inner casing in casing inlet section and fitting in with the fitted keys. Replacement of keys as required	0.50%
16	Facial and free run-out measurement. Correction of face as required for getting desired swing values. Transportation of surface plate from CESC/Budge Budge Site (WB) or NTPC/Farakka Site (WB) to IBTPS/OPGCLSite (ODISHA) for face correction and return back to CESC/Budge Budge Site (WB) or NTPC/Farakka Site (WB)	0.50%
17	Insertion of HP shaft on bottom half and alignment with inner casing. Measurement of axial and radial clearances (flow path) and corrections to be made if required.	0.50%
18	Ovality checking and correction of HP inner casing. Assistance during Heat tightening by induction heating equipment. Parting plane gap measurement at various condition of tightening.	0.25%
19	Checking of axial and radial clearances for sealing segments after insertion of the same and placement of the rotor. Dressing of fins to be done wherever damaged. Replacement of glands seals as required.	0.50%
20	Inspection of HPT internals & fasteners and carrying out cleaning, repair, replacement of components etc and DPT as required.	0.50%
21	Measurement of 'U' seal ring compression. Replacement of 'U' seal rings as may be required including transportation to & fro BHEL/ HARIDWAR.	1.00%
22	Turbine shaft placement in bottom half for final assembly. Clearance check on assembled inner casing. Casing top half to be placed in position. Assistance during Tightening of the studs with Induction Heating device.	0.50%
23	Roll check and bump check of assembled inner casing. Measurement of axial reference.	0.25%
24	Locking of inner casing with rotor for inserting in casing inlet section	0.25%
25	Inner casing to be inserted in the inlet section after fitting of the internals and threaded ring etc.	0.50%
26	Assembly of front and rear gland sealing segments , glands etc.	0.50%
27	Fitting of the seals etc. and locking of the casing to rotor.	0.25%
28	Assembled module to be put back on the pedestal.	0.25%
29	Final connections of all pipe lines, breech nuts (02 nos.), welding of pipe lines and stress relieving, UT, X-ray of joints, gland pipes. Arrangement of welding rods, filler rod is included in vendor's scope. CRH gland leak off line replacement by P22 material as may be required. P22 Material will be arranged by customer	0.50%
SECTION-II		
IP MODULE OVERHAULING		(12.00%)
1	Removal of insulation and disposal of the same to designated location. It includes all connecting pipes of IP module, which will obstruct during lifting of the	0.50%

	IP top Module. Dismantling of casing thermocouples. Proper care to be taken during removal of insulation as most of the material will be reused. Secure valve support, open ball and spigot joint. Dismantle inlet and outlet gland steam pipe lines.	
2	Remove/ Cut all the inlet and exhaust steam lines from top half which will obstruct the removal of IP Casing top half.	0.50%
3	Uncover IP bearing, record reference dimensions, perform Roll Test of the IP Module	0.50%
4	Decouple IP/HP couplings.	0.50%
5	Check alignment and run outs.	0.50%
6	Perform radial and axial clearance checks, roll check, bump check, horn drop test etc.	0.50%
7	Assistance during Loosen heat tightened bolts by induction heating machine and lift top half case (outer). Perform radial run out check. Before above activities, locking of IP bottom casing.	0.50%
8	Assistance during removing of heat tightened bolt of inner casing by induction heating device and lift inner top half casing. Perform run out check.	0.75%
9	Measure radial and axial blade and shaft seal clearances. Minor dressing of damaged sealing rings / strips of rotor & shaft, to the extent possible at site. Replacement of fins and caulking wire as required at glands of IP rotor, machining is within the scope.	0.75%
10	Aluminum blasting of IP rotor and inner casing blades, studs, sealing segments. Arrangement of alumina is included in vendor's scope.	0.75%
11	Check run out of IP rotor and lift rotor out and place it on the rotor stand.	0.50%
12	Remove bottom half inner casing, & replacement of casing thermo couples.	0.50%
13	Inspect IPT internals and do maintenance works like cleaning, repair, replacement of components etc. as required. Carry out UT / DPT wherever required. Dressing of damaged fins. Replacement of casing stress thermocouple.	0.75%
14	Place lower inner casing in position and insert TSE sensors. Measurement of casing parting plane gap at various condition of tightening. Check inner casing ovality by tightening parting plane studs by induction heating. Correction to the extent possible.	0.50%
15	Replacement of IP gland inlet and exhaust pipe line gasket.	0.50%
16	Place IP rotor and align with HP rotor end. Check radial and axial clearances of shaft seals and blades.	0.50%
17	Assemble IP inner casing top half. Perform radial and axial clearance check. Assistance during final heat tightening of casing parting plane cap nut by induction heating equipment.	0.75%
18	Assemble IP outer casing top half. Perform radial and axial clearance check. Assistance during final heat tightening of outer casing parting plane cap nut by induction heating equipment.	0.75%
19	Inspect the upper and lower inlet inserts and its angle rings. Replacement as required including locking	0.50%
20	Inspect the balancing weights of the rotor for any erosion and replace if necessary.	0.50%
21	Facial run-out correction of IP rotor at both ends. Swing check correction of HP-IP and IP-LP coupling.	0.50%
SECTION-III		
LPT MODULE OVERHAULING		(13.00%)
01	Loosening of L P casing parting plane joints bolts and removal of LP outer shell.	0.50%
02	Covering of condenser tubes from inside the condenser and prepare platform of LP casing joints plane.	0.50%
03	Loosening of joints plane bolts to remove LP inner-outer casing and LP inner- inner casing.	0.50%
04	Record all necessary readings during dismantling of casing.	0.50%
05	Inspection of LP turbine internals and record radial and axial clearances of fixed and moving blades and rotor gland seals. Removing of LP rotor and placing it on	0.50%

	rotor support.	
06	Thorough cleaning of bottom and top casing halves and the rotor. Alumina blasting of LP rotor and top inner-inner, inner-outer casing etc. Inspection of casing steam inlet and extraction bellow.	0.75%
07	D P test of rotor and casing in the suspected area /zone.	0.50%
08	Placement of LP rotor inside bottom casing.	0.50%
09	Boxing-up of LP inner- inner and inner- outer casing.	0.50%
10	Roll check of LPC. Correction of internal radial and axial clearances.	0.75%
11	Boxing- up of LP outer shell.	0.50%
12	Setting of gland boxes as per recommended clearances. Removal and replacement of damaged fins.	0.50%
13	Inspection of safety diaphragms and replacement, if required.	0.50%
14	Dye penetration test of the expansion bellows of the gland box are to be done. Replacement as required.	0.50%
15	The balancing weights are to be inspected. Hot-well and condenser cleaning after box-up of LPC. Opening and closing of hot-well manhole.	0.50%
16	Removal of LP last stage blades (3L & 3R, 2L&2R as per tech cir. No X-68), cleaning of blades at root, MPI of blade, assembly of blade with technological pieces, removal of blades, final assembly of blades with clamping pieces and locking the blades etc. Replacement of defective blade, if required. MPI of blades along with rotor grooves to be carried out by vendor by coil method. Transportation of blades from store to work area is in vendor scope. Arrangement of MPI kits including operator is included in the vendor's scope. Arrangement of NFT team along with operator, technological pieces, for measurement and rectification work for improvement of NFT value. Expert for blade root matching to be arranged by vendor.	5.00%
	SECTION-IV	
	TURBINE BEARING INSPECTION & OVERHAULING	(7.00%)
1	Opening of bearing pedestal covers and removal of bearings for inspection.	0.25%
2	Coupled run out and float of rotor system to be checked and recorded.	0.25%
3	Measurement of swing value with three rotor coupled and after de-coupling of IP-LP.	0.25%
4	Correction of swing value with all three rotor coupled and with HP-IP coupled. Facial correction of IP and LP rotor.	0.25%
5	De-coupling of LP rotor, IP rotor, HP rotor and MOP.	0.25%
6	D P test and ultrasonic test of turbine bearings for cracks and white metal bonding	0.25%
7	Replacement of damaged bearing with new bearings, if required. DPT of fasteners (HP & IP) is included in the scope. Arrangement of DP Test Kit and UT kit along with operator in included in vendor's scope.	0.25%
8	Reference reading measurement during dismantling and assembly. Measurement of bearing heights/ catenary readings. Vendor has to arrange pots for measurement of heights	0.25%
9	Blue matching of torus piece with base plate if required to the extent possible at site. Replacement of bearing if found not acceptable	0.25%
10	Alignment check of turbine rotors and corrections.	0.25%
11	Coupling of LP/IP, IP/HP, and HP/ MOP. Reaming and honing of coupling holes and replacement of coupling bolts of HP-IP and other couplings, as required.	0.25%
12	Adjustment of bearing clearances and thrust float, boxing-up of all bearings, resetting of bearing yoke keys, pads and oil guard rings after repair / replacement, if any.	0.25%
13	Inspection of the clearance between the rotor and the oil guard ring is to be done .If it has exceeded the limit then the fins /sealing strips are to be replaced and machined to get the designed value	0.25%
14	Complete servicing and adjustment of thrust bearing trip device, over speed trip device, barring gear nozzle as per requirement.	0.25%
15	Centering check, rolling check, axial bump check and Horn drop test of HP, IP & LP cylinder, Fixing and Lubrication of all sliding keys and packers of the	0.25%

	cylinders maintaining proper clearances.	
16	Dismantling of MOP, Inspection of bearings, seal rings, shaft impeller etc. and replacement of damaged parts. Assembly of MOP with proper IR value. Checking of Run out of the governing shaft and replacement as required	0.25%
17	Assistance during Oil flushing of turbine bearings. Bearings normalization after oil flushing	0.25%
18	Putting the machine on barring gear with proper adjustment of jacking oil and Lub.oil pressure at bearings	0.25%
19	Adjustment of hangers connected with critical piping of MS, CRH and HRH pipe lines in the turbine area. Vendor has to depute one expert along with accommodation duly vetted by BHEL Site Engineer In Charge for a period 05 days for inspection and rectification of piping hanger & support.	0.50%
20	Dismantling, cleaning, servicing and re-fixing of Bearing RTDs, thermocouples of casing, all the turbovisory instruments (TSI) viz. shaft and shell vibration probes, ,control valves position transmitter.	0.50%
21	Assistance during insitu trim balancing of rotor	1.00%
22	Arrangement of Three (03) crane operator duly vetted by customer and BHEL site-in-charge for round the clock basis during entire duration of work.	0.50%
Note:	Machining of Oil guard fins, MOP bearings, Yoke keys, Casing Keys, Palm keys and packers etc. are in scope of vendor.	
	SECTION-V	
	TURBINE VALVES & HP BYPASS SYSTEM OVERHAULING	(8.00%)
01	TURBINE VALVES	4.00%
	<p>HP stop and control valve with actuators - 2 Sets IP stop and control valve with actuators - 2 Sets LP bypass stop and control valve with actuators - 2 Sets CRH NRV with actuators -2 Sets</p> <p>WORK TO BE DONE AS UNDER:-</p> <ol style="list-style-type: none"> Dismantling of insulation , preparation of platform/scaffolding for execution purposes Draining of oil from valve actuator housing. Removal of oil pipelines and steam leak off lines. Decoupling of valve and actuator stem. Removal of actuator and valve cover with valve cone. Dismantling of actuators and valves. Cleaning of all components, repair/replacement of damaged parts of valves of operation. Modification of valve bush and cone clearances, if found necessary. Assembly of valve and actuator as per the designed clearances. Blue matching of all valve seat with seating. Lapping to be done with fabrication of lapping devices as per requirement Placement of valve and actuator and coupling etc. Dismantling and assembly of C&I probes along with limit switch. Calibration and setting of the strokes. Fixing of oil and steam lines. Setting of valve characteristics. Dismantling and fixing of position transmitter. Replacement of valve seats, as required. Assistance (manpower and consumable) during Seat cutting of valves as required. Erection of scaffolding, as required. Dismantling/re-assembly of insulation 	
02	HP BYPASS SYSTEM, STEAM AND SPRAY VALVES WITH ACTUATORS	2.00%
	<p>WORK TO BE DONE AS UNDER:-</p> <ol style="list-style-type: none"> Changing of line filters. Checking of nitrogen pressure and filling as necessary. Nitrogen is to be arranged by TVNL free of cost. Oil pressure setting and adjustment as necessary. Servicing of servomotors of BP , BPE and BD valves etc. Dismantling of valves, lapping and blue matching etc. Assistance during 	

	<p>seat cutting of valves.</p> <p>f) Final assembly of valve and actuators etc.</p> <p>g) Dismantling of HP bypass main valves with actuator (02 sets). Replacement of any damaged/worn out components.</p> <p>h) Dismantling/assembly of spray valve with actuators (03 nos). Replacement of any damaged/worn out components including valve seat.</p> <p>i) Dismantling/assembly/calibration of valve strokes, C&I system and limit switches.</p> <p>j) Cutting of the drain pipe, IBR welding, stress relieving, radiography etc & providing required consumables & equipments.</p> <p>k) Removal and application of Insulation. Arrangement of Insulation material is in scope of vendor.</p>	
03	Gland leak off line from HPCVs, SVs, IPCVs and SVs to condenser flash tank against present connection to gland steam header. High pressure welder to be arranged for this modification.	1.00%
04	Vendor has to depute one expert along with accommodation duly vetted by BHEL Site In Charge for a period 15 days for servicing of HP By-pass & Spray valves with actuators and calibration.	1.00%
SECTION-VI		
SLOW SPEED BALANCING OF HP & IP ROTOR		(2.00%)
1	Unloading/unpacking and installation of the balancing machine at site. Installation of the whole machine on preplanned and erected rails.	
2	Coupling of TURBINE rotors with adaptor shaft, as necessary. (Adaptor shaft to be arranged by customer).	
3	Placement of rotors on the balancing machine and assembly.	
4	Assistance during "Slow Speed Balancing" of rotors.	
5	Fixing of balancing weights and locking of the same.	
6	Dis-assembly and lifting of rotors and placement on stand.	
7	Dismantling of balancing equipment, packing and loading for onward transportation.	
8	Assistance during machining of rotor blade	
9	Arrangement of 32 ft trailer, transportation of slow speed balancing machine from KOLAGHAT TPS/WBPDCL Site (WB) to IBTPS/OPGCL Site (ODISHA) and back to KOLAGHAT TPS/WBPDCL Site (WB).	
SECTION-VII.		
MAIN GOVERNING RACK / LPBP RACKS OVERHAULING		(2.00%)
1	Overhauling of governing rack including EHG and setting of governing characteristic..	
2	Recalibration and resetting of HPSV' s and CV' s, IPSV' s and CV's, LPBP SV' s and CV's, CRH NRV and EXT. NRV' s along with revisioning of test valves etc.	
3	Assistance during checking of governing characteristics and recalibration as per protocols / standard curves supplied by BHEL.	
4	Complete overhauling of LP bypass rack elements and its recalibration.	
5	Servicing of LPBP water injection valves (04 nos) etc. Overhauling of Pilot valves of LPBP stop and control valve.	
6	Hanger checking of LPBP loop line drain, MS line after ESV.	
7	Painting of LPBP and GOV rack including control oil piping near turbine.	
SECTION-VIII		
MS & HRH STRAINER REMOVAL, INSPECTION, CORRECTION AND RE-INSTALLATION (MS & HRH Steam strainers - 2 nos. each)		(2.00%)
01	Removal of steam strainers from the strainer housing after removing the insulation and cutting of the pipelines as required.	
02	Checking the inner space of the strainer housing, Inspection etc of the steam strainers and other components. Welding between strainer and disc, If required.	
03	Re-assembling of steam strainers into the strainer housing as per the standard procedure and re-welding of all pipelines as per the drawing. This includes cutting of the drain pipe, IBR welding, stress relieving, radiography etc & providing required consumables & equipments also. Re insulation of the pipe	

	lines, strainer body , as required. Supply of welding rods is included in bidder's scope.	
	SECTION-IX	
	GENERATOR	(30.00%)
	PART-I	(25.00%)
1	Assistance for Generator air tightness test to identify leakage areas if any when the machine is in barring gear. Rectification of all leakages as found during the overhaul.	0.25%
2	Disconnection of excitation cables at slip ring and Removal of brush gear assembly.	0.25%
3	Removal of Bearing No 5, 6, pedestal covers and bearing liner top halves after checking all clearances.	0.25%
4	Checking of coupled run out.	0.25%
5	Decoupling of LP/GENERATOR, removal of jammed coupling bolts if any, checking of initial alignment and free run-out of rotor coupling and journals (for bearing no 5,6).	0.25%
6	Dismantling of seal body, seal ring, oil catchers, end shields, fan shields and rotor fan blades after recording all requisite clearances and IR values.	1.50%
7	Measurement of air gap and magnetic offset and IR values of rotor and stator winding.	0.25%
8	Removal of Bearing. No 5, 6 including pedestal no 5&6 after taking necessary IR values.	0.25%
9	Threading out of rotor. Necessary care to be taken during rotor thread out and after the thread out to avoid foreign materials inside the rotor and generator.	1.00%
10	Hydraulic and pneumatic test of stator winding after removing water header spool pieces immediately after the rotor thread out. Repair/replacement of rubber grommets, Teflon pipes, joints and insulation covers etc and plugging of leaking conductors, if any in the Stator Water system.	1.00%
11	Removal, dismantling, cleaning by ACID soaking method flowed by water jet cleaning and painting of water boxes, hydraulic test, reassembly and fitting back to original position of all hydrogen coolers including replacement of all rubber items.	1.50%
12	Opening of generator manhole and cleaning of casing from inside.	0.25%
13	Inspection of looseness of stator slot wedges and rewedging as per requirement. <i>Stator wedge deflection test. De-wedging & re-wedging as per requirement. Repeat Wedge Deflection test as required. Arrangement of Wedge Deflection Test Team along with instrument and operator is within the scope of the successful bidder.</i>	1.50%
14	Checking of all the RTDs of generator and bearings. Replacement of RTDs to be done as per the requirement	0.50%
15	Checking of stator winding, spacers, bracing cords, support brackets, fasteners etc. and correction of defects as per requirement. Inspection of stator core bars for absence of technological bolts and removal of same, if found.	1.50%
16	Dismantling of stator terminal bushings and water header bushings for inspection of porcelain insulators, replacement of all rubber items and reassembly including filling of silicon putty and re insulation around the bushings. Checking and cleaning of stator core and overhang winding, glue injection, varnishing of core and winding and drying of the same. Final hydraulic test of the stator winding.	1.50%
17	Assistance during improving stator winding IR/PI value by puffing hot dry compressed air through water headers and filament lamp heating simultaneously.	1.00%
18	Removal of rotor fan hub (E/S), replacement of CC bolts, sealing washers if required, rotor gas tightness test and re-mounting of fan hub.	1.50%
19	Rotor purge test for inspection of rotor slot ventilating canals. Purge test kit will be provided by BHEL. Successful bidder has to arrange the transportation of purge test kit from BHEL-Kolkata Office to IBTPS/OPGCL Site and back to BHEL-Kolkata Office.	0.50%
20	Assistance checking of IR, PI, & DC resistance of rotor and stator winding	0.25%

21	DPT of bearing babbit, seal babbit, coupling bolts, retaining rings, RR nuts and fan blades.	0.25%
22	Dry out and varnishing of rotor.	0.50%
23	Cleaning of slip ring holes and fan. Polishing of rotor journals and coupling face. Dimensional measurement of slip ring and rotor journals on OD.	0.50%
24	Cleaning and parting plane matching of bearings, oil guards, oil-catchers, sealing covers and seal bodies.	0.25%
25	Replacement of oil catchers/guard fins as per requirement and setting of clearance with rotor.	0.25%
26	Checking for matching of bearing with respective housing and rotor journals. Requisite clearances/ interference and dimensional measurements are to be maintained.	0.25%
27	Threading in of rotor, placement of bearing pedestal 6 and bearing no 5 & 6 lower halves after achieving IR value of pedestal no 6.	1.00%
28	Alignment of LP/GENERATOR. Measurement of air gap, magnetic offset after alignment.	1.00%
29	Reassembly of generator which includes fixing of rotor fan blades, end shields, fan shields, oil catchers, shaft seals, oil and water pipelines etc after ensuring proper IR values.	1.50%
30	Clearance between fan blades and fan shields (TE) to be corrected to avoid fouling.	0.25%
31	Box up of bearing no 5 & 6.	0.25%
32	Coupling of LP/Generator including stretching of coupling bolts. Reaming and honing of coupling as required.	0.25%
33	Checking of lifting of rotor at bearing no 5 & 6 by charging JOP lines.	0.25%
34	Placement of the bearing pedestal no. 6 and box up of bearing as per the specification after ensuring the required IR value of the pedestal.	0.25%
35	Oil flushing of bearings with filters, normalization of lube Oil system and normalization of seal oil system.	0.25%
36	ELCID test of generator. Arrangement of test kit along with operator is included in the scope.	0.25%
37	Air tightness test of Generator in barring gear and arrest the leakages if any up to gas filling station.	0.50%
38	Modification of gas trap drain line and its associated piping and H2 cooler vent line draining system.	0.50%
39	Cleaning of seal oil coolers and filters, seal oil tank including hydro test of coolers (02 nos)	0.50%
40	Dismantling of links between generator to bus duct (phase and neutral side) and bus duct to GT. Re-connection of links as dismantled and replacement of the same as found necessary	0.50%
41	Cleaning of brush gear, adjustment of brush holders, replacement of brushes and other maintenances if required on brush gear. Box-up of brush gear assembly and reconnection of excitation cables.	0.50%
	PART-II	
	VARIOUS ACTIVITIES DURING OVERHAULING.	(5.00%)
1	Machining of slip ring O.D in barring gear including groove cutting	1.00%
2	Replacement of slip ring including machining of slip ring at O.D and I.D as required.	1.00%
3.0	Electrical tests (test kit along with operator to be arranged by vendor) as mentioned below:-	(3.00%)
3.1	TAN-DELTA and Partial discharge test of winding.	2.00%
3.2	AC impedance test of rotor winding.	0.25%
3.3	RSO test of rotor winding.	0.75%
	SECTION-X	
	ASSISTANCE DURING COMMISSIONING/SYNCHRONIZATION OF THE UNIT AND OBSERVATION FOR 72 HRS AFTER SYNCRONIZATION / COMMISSIONING OF THE MACHINE	10.00%

INPUTS REQUIRED FROM SUCCESSFUL BIDDER

01. 4NOS. OF 50 TONNES , 2 NOS. OF 25 TONNES & 2 NOS. OF 100 TONNES HYDRAULIC JACKS WITH PUMPING UNITS IN GOOD WORKING CONDITIONS.
02. T & P AND IMTEs FOR PERFORMING THE SUBJECT JOB
03. SPECIAL TOOLS REQUIRED FOR C& I JOBS:
 1. Digital Multimeter(4 ½) ----- 02 nos
 2. Walkie-Talkie/ Telephone set----01 set
 3. Screw driver set-----03 nos
 4. Combination plier-----03nos
 5. Soldering Iron & acc.-----01 no.
 6. Crimping tool-----01 no.
 7. Apart from above list, T&P's used for mechanical job are also required viz. Dial gauge, feeler gauge, Vernier Caliper etc.

General scope of work and terms:

01. Transportation of spares from OPGC store to site and return to store if not used.
02. Transportation of special T& Ps, lifting tackles etc from OPGC store to site and return to store after completion of job.
03. Issuing and returning of materials from OPGC store and returning back & material reconciliation.
04. General illumination is available but for carrying out overhauling job any illumination is required is to be arranged by vendor
05. Disposal of scrap/ waste/ insulation generated while overhauling work to be disposed off at predetermined place as indicated by OPGC by the vendor including transportation of the waste.

Taxes and Duties

TDS under Income Tax shall be deducted at prevailing rates on Gross Invoice Value from the Running Bills.

Service Tax

Service Tax along with SWACHH BHARAT Cess as legally leviable & payable by the Contractor, vide Sec-65B (44), shall be paid by BHEL on contractor's gross bill and production of GAR-7 CHALLAN .

Vide Section 68 (1) of Finance Act , 1994 read with Rule 6 (1) of Service Tax Rules , 1994 , payment of Service Tax at the rate specified in Section 66B in Section 68 w e f 01.07.2012 vide Order No. 1/2012 dated 15.06.2012 is reimbursable by BHEL . The contractor shall furnish proof of Service Tax registration with Central Excise Division covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the contractor on BHEL for this project.

The Bidder shall issue invoice complying with **Rule 4A of the Service Tax Rules 1994**. The invoice shall indicate the name, address and the registration number (PAN Based STC No.) of the Bidder; the name and address and the registration number **AAACB4146PST002** of BHEL.; the description and value of taxable service provided; and the service tax payable thereon by the Bidder

B.H.E.L-P.S.E.R will not be held to be responsible for non-compliance of various Service Tax Rules, being framed from time to time

Point of Taxation Rule, 2012 has come into operation from 01-04-2012. As per the rule Invoice must be generated within 30 days from the date of completion of service. In such case, the date of invoice will be the relevant date. However, if the invoice is not generated within 30 days as stated above, the date of completion of service shall be the relevant date.

Vendors must take adequate care and cautions w. r. t. "Point of Taxation Rule,2012" as otherwise both the Vendors (for non-compliance) and BHEL (unable to take Credit on Input Services, resulting in extra fund flow in that particular month) will suffer.

With introduction of Cenvat Credit Rules , 2004 which came into force wef 10-09-04, Excise Duty paid on input goods including capital goods used for providing the output service and Service Tax paid on Input Service can be taken credit of against the service tax payable on output service. As such, while offering the rates, the contractor may take in to account the benefit of above provisions as the cost of input to contractor will be net of Excise Duty and service Tax and adjust their offer price accordingly to make it more competitive.

New tax & duties, if imposed subsequent to latest due date of offer submission, by statutory authority during contract period (including extension, if the same is not attributable to the vender), shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, vender shall obtain prior approval from BHEL before depositing new taxes and duties. No reimbursement shall be made on account of increase in rates of existing taxes, duties etc (as on latest date of offer submission).

-----X-----

ANNEXURE – SAS-I

ESSENTIAL CONDITIONS TO BE FULFILLED BY SUCCESSFUL BIDDER

01. Successful bidder has to arrange 6 copies of overhauling reports which will include various protocols with necessary data / MOMs / important correspondences / log sheets etc. and the books shall be spiral bound with thick acetate papers in front and back along with BHEL logo printed suitably on thick art paper at the front.
02. Bidder has to arrange to provide PC with internet connection, with colour printer and Xerox paper as required for taking print out compatible with WINDOW vista version or, latest version loaded with necessary software, during entire period of execution of job at site , for preparing /maintaining / up keeping of various correspondences/ protocols/log shts. etc. . PC shall be operated by PC operator conversant with AUTOCAD and other softwares to be arranged by the successful bidder within the scope. All data thus stored during the execution of job shall be transferred to hard disc, (8 GB capacity) and handed over to Resident Manager at site after the Overhauling for submission to Customer. In case vendor fails to provide the PC operator, Rs 8000/- per month shall be deducted from vendor's bill.
03. Successful bidder is to render services for proper up-keepment of BHEL site office as required. Full time office boy is required to be provided by the successful bidder at site for up keepment of site office.
04. After dismantling and during execution of the job, successful bidder has to suitably tag the components and sub-assemblies for trace ability and store properly before final assembly. This is as per Doc. Nos. PSER:PMX:002:94 & PSER:PMX:001:94.
05. Process control of Special Processes like Welding and Heat Treatment shall be carried by successful bidder as per Doc. Nos. PSER:QLY:001:99, PSER:QLY:001:94 (3 VOL) and PSER:QLY:003:99.
06. Proper segregation, identification, tagging and up-keep of all dismantled items at work site during job execution have to be done by successful bidder.
07. Successful bidder is to obtain necessary "No Dues" certificates before de- mobilisation from site.
08. Successful bidder is to comply with all the statutory and regulatory norms, rules and practices as applicable for the job/site.
09. Successful bidder shall provide valid calibration certificates for IMTEs, fitness certificates for T&Ps and Construction Equipment (e.g. wire ropes, hand operated chain pulley blocks, pulling and lifting machines, electric welding generators, arc welding transformers etc.). Calibration of IMTEs is to be arranged from the accredited agencies. Calibration certificates should have the traceability as per national/international standards. At work site the IMTEs, T&Ps and Construction Equipment shall be checked/tested/inspected by BHEL engineers. The procedure for fitness testing and storage preservation and maintenance of Construction Equipment and T&Ps shall be as per Doc. Nos. PSER:FEX:001:94, PSER:SAS(CAL):016:95 and PSER:FEX:002:94 available with BHEL site engineers.

10. Successful bidder should follow all safety norms at work site. The Doc. No.PSER:PMX:004:94 in this regard is available with BHEL engineer at site.
11. Any NDT within the scope shall be as per Non-Destructive Examination manual (Doc. No. PSER: QLY:002:99 available with BHEL site engineer.
12. Provision of hygienic filtered drinking water facility at BHEL site office.
13. The successful bidder is to arrange a full set of First Aid kit for attending to manpower deployed by him at site as per requirement.
14. The successful bidder is to arrange extra illumination at work site to augment the existing site illumination if required to enable round-the-clock safe working.
15. Within the quoted price, the bidder has to arrange new set of utensils (cooking & serving), stoves ,gas cylinders / gas oven , electric heaters , chairs , tables etc. including cooks / helpers for preparation of food for 10 nos. BHEL persons. The successful bidder will also be responsible for taking over and vacate the BHEL mess quarter. Bidder has to provide foods for the cook and helper.
16. Still colour photography (Max. 36 nos on Matt paper, postcard size) of different machine parts and sub-assemblies as decided by BHEL site engineer is to be arranged by successful bidder at their cost.

ANNEXURE-II**TENTATIVE LIST OF T & P**

The list of T & P are provided hereunder to be mobilized by the contractor within three days from date of intimation by BHEL. These will be physically verified by BHEL site Engineer. BHEL has the authority to penalize the contractor suitably including termination of contract if the required T&P's are not mobilized timely. However, it may be noted that the T&P list is only a guide for bidding and any other T&P as may be required for the job has to be mobilized by the successful bidder.

Sl. No.		Quantity
	MEASURING TOOLS	
1.01	Dial Indicator with Magnetic Base	6 sets
1.02	Dial indicator – button type and LASTWARD (3 mm travel, 25 mm dia dial with links for coupling alignment)	2 set each
1.03	Slip gauge up to 10 mm	1 set
1.04	Micro-head level, accuracy 0.1 mm per metre, 150 mm long	1 no.
1.05	Square level for leveling major parts for installation (accuracy 0.1 mm, 150 mmX150 mm)	1 no.
1.06	Vernier Caliper 150 mm and 300 mm	1 no. each
1.07	Set of spring caliper and divider(150 mm)	1 set
1.08	Zenith caliper for marking (150 mm)	1 no.
1.09	Steel Scale 150 mm, 300 mm, 1000 mm	2 nos each
1.10	Telescopic gauge up to 150 mm	1 set
1.11	Bore dial gauge up to 75 mm	1 set
1.12	Inside micrometer up to 1500 mm	1 set
1.13	Outside micrometer	0-25 mm 2 nos 0-50 mm 1 no. 50-200 mm 1 no. 200-300 mm 1 no. 300-400 mm 1 no. 400-500 mm 1 no.
1.14	Taper Gauge up to 20 mm	1 no.
1.15	Taper gauge 0.1 – 10 mm	1 no
1.16	Feeler gauge 100 mm, 200 mm, 300 mm long (from 0.03 to 1.0 mm thick)	1 set each
1.17	Feeler strip 0.03 mm, 0.04 mm, 0.05 mm, 0.10 mm X 300 mm long	5 each
1.18	Thread Gauge M4 to M56	1 set
1.19	Depth micrometer 0-25 mm	1 no.
1.20	Surface plate 300 mm X 300 mm	1 no.
1.21	Combination set	1 no.
1.22	Ball pen gauge for 3 to 10 mm bore	1 set
1.23	Measuring steel tape 3 M, 15 M	2 each
1.24	500 V hand / motorized megger	1 no.
1.25	1000 V hand / motorized megger	1 no.
1.26	250 V megger	1 no.
1.27	3 1/2 Digit digital multimeter	1 no.

CUTTING TOOL

2.01	Tap set M 5 to M42 (including M27 & m 33)		1 set each
2.02	Die set M 14 to M 65		1 set each
2.03	Pistol Drill	6 mm	2 nos.
	-Do-	15 mm	1 no.
	-Do- with magnetic stand	19 mm	1 no.
2.04	Straight grinder GQ 4		3 nos.
2.05	Angle grinder AG 7 and AG 5		2 nos. each
2.06	Pistol grinder		1 no.
2.07	Flexible grinder with necessary accessories		2 nos.
2.08	Bench grinder 150 mm		1 no.
2.09	Hole punch up to 32 mm		1 set
2.10	Easy out up to M 24		1 set
2.11	Taper reamer up to 18 mm		1 set
2.12	Hand ratchet		2 nos.

LIFTING TOOL

3.01	Sling- 8 mm, 2.5 metre long tip to tip along with 150 mm eye at both end		1 pair
3.02	Sling 12 mm, eye at both end of 300 mm,	1.5 metre long	1 pair
		2.5 metre long	1 pair
		3.5 metre long	1 pair
3.03	Sling 19 mm, eye at both end of 450 mm,	2.0 metre long	1 pair
		3.0 metre long	1 pair
3.04	Sling 25 mm, eye at both end of 450 mm,	3.0 metre long	1 pair
		6.0 metre long	1 pair
3.05	Eye bolt 10, 12, 14 & 16		4 nos. each
3.06	Eye bolt 20, 24, 27, 36 & 42		2 nos. each
3.07	D-shackles pin dia. 10 mm, 12 mm		5 pairs each
	D-shackles pin dia. 20 mm, 25 mm, 32 mm, 36 mm & 44 mm		1 pair each
3.08	Ratchet hoist 0.5 T		1 no.
3.09	Chain block 2 T, 5 T		1 no. each
3.10	Manila rope 25 mm, 30 metre long		1 pair
3.11	Cotton rope 25 mm, 10 metre long		1 no.

OTHER T & P

4.01	Gas welding machine		1 set
4.02	Hand lamp with 30 metre cable		6 nos.
4.03	Switch board with 50 metre cord		2 nos.
4.04	Scissors-300 mm		1 set
4.05	Shim cutter – 350 mm		1 set
4.06	Magnifying glass – 75 mm dia		1 no.
4.07	Mirror with handle		1 no.
4.08	Vacuum cleaner		1 no.

4.09	Carpenter's saw	1 no.
4.10	Carpenter's chisel	3 nos.
4.11	Open "D" D.E. spanner 36X41, 41X46	2 nos. each
4.12	S.E. span "D" spanner 46, 50, 55, 65, 70, 75, 80, 85, 90, 95, 100, 105	1 no each
4.13	Slogging spanners 36, 41, 55, 65	2 nos. each
4.14	Slogging spanner 46 mm	4 nos.
4.15	Slogging spanners 50, 60, 70, 75, 80, 85, 90, 95, 100, 105	1 each
4.16	Box spanner set with straight handle, ratchet handle, universal extension piece – all heavy duty, up to 46 mm	1 set
4.17	Tubular spanner 20 to 46 mm	1 set
4.18	Allen key set 4 to 27	2 sets
4.19	Pipe wrench 150, 350 & 450 mm	1 no. each
4.20	Slide wrench 200 mm, 300 mm	2 nos. each
4.21	Spray gun for generator varnishing / painting with necessary high pressure hose	1 no.
4.22	High pressure air hose at least 30 metre long	1 no.
4.23	Tubular spanner	1 set
4.24	Gland packing remover	1 set

HAND TOOLS

5.01	Chisels (Chrome-Vanadium) 1 mm	6 nos.
5.02	Center punch (Chrome-Vanadium) small & big	1 each
5.03	Letter punch – 4 mm size	1 set
5.04	Number punch – 6 mm size	1 set
5.05	Bearing scrapper – half round and triangular	2 nos. each
5.06	Flat scrapper (made out of 1.5 inch power saw blades and pipes)	8 nos.
5.07	Hammer 250 gms., 500 gms.	1 no. each
5.08	Hammer 1 kg., 2 kg.	3 nos. each
5.09	Hammer 5 kg.	2 nos.
5.10	Hammer 8 kg.	1 no.
5.11	Copper Hammer 2 kg.	1` no.
5.12	Lead Hammer 2 kg.	1 no.
5.13	Nylon mallet	3 nos.
5.14	Needle file	2 sets
5.15	Assorted file	4 dozens
5.16	Screw driver 150 mm, 300 mm, 450 mm (Taparia make)	2 nos. each
5.17	Tommy bar 32 mm X 1 metre	1 no.
5.18	Crow bar – big and small	2 nos. each
5.19	Hole bar (Assorted size)	4 nos.
5.20	Hacksaw frame (good quality)	2 nos.
5.21	Pliers, cutting nose, grip, O/S circlip, I/S circlip	2 nos. each
5.22	Magnetic needle for dust in small holes	1 no.
5.23	Oil stone (rough and smooth)	6 nos. each

E-TENDER ENQUIRY NO: PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015.

5.24	H.S.S. 12 mm square section X 100 mm parallel bits (accurate with 0.01 mm in section)	2 nos.
5.25	Copper rod 12 mm dia., 25 mm dia., 50 mm dia., 300 mm length	1 pc. Each
5.26	Bench vice 150 mm	2 nos.
5.27	Channel lock 150 mm	2 nos.
5.28	Vice grip 150 mm	1 no.
5.29	Cutogen gas cutting set with hose, jubilee clamps and regulators	1 set
5.30	Hydraulic jacks (50 tons capacity)	4 nos.
5.31	Welding generators (with lead holder)	1 no.
5.32	Brazing torch set	1 no.

The above list of T&P's are not exhaustive but indicative only .Any shortage may be made up by the vendor as may be required for overall job completion.

ANNEXURE – III

LIST OF CONSUMABLES TO BE ARRANGED BY THE CONTRACTOR IN ADDITION TO THE NORMAL CONSUMABLES .

1) Dye penetration test kit	As may be required .
2) Emery paper (fine and coarse)	As may be required .
3) Emery clothes sheets.	As may be required
4) Eutectic electrode L & T – 670/680	As may be required.
5) All consumables as may be required for welding , brazing , gas cutting etc.	
6)Petrol ,Diesel	As may be required .
7)Rustolene.	As may be required .
8)25 mm thick planks X 200mm wideX 3000 mm long for keeping dismantled parts	
9)Asbestos cloth and asbestos powder .	As may be required
10)ACETONE.	As may be required
11)Stag B , Molykote,Holdtite,M seals,Hylomar,Selastic etc.	As may be required.

Any other consumables , supplementary requirement has to be provided by the vendor for successful completion of the job.

SPECIAL NOTE TO BIDDERS

01. LUMPSUM PRICE:

The bidders should quote lump sum price for the total scope of work mentioned in ANNEXURE – I.

Compliance to Annexure SAS – I is mandatory. If successful bidder fails for compliance of Annexure SAS I, then total expenditure towards the said items shall be deducted from the successful bidder's bill.

02. Successful bidder has to submit the following documents on and during execution of the job, failing which 10% payment shall be withheld from RA bill invoices apart from the payment against final bill:

- a) Labour license for the subject work.
- b) Insurance coverage of the total workers engaged for the job.
- c) Monthly wage certificate of the total work force.
- d) EPF for the workers engaged.
- e) Submit safety plan.
- f) Submit bar chart / job completion schedule as & when asked for.
- g) No due certificate from **Ib TPS/OPGCL** personal dept.

Successful bidder has to obtain "No Objection Certificates" from concerned depts. and P&A dept. of customer.

The scope under the specification (as per Annexure –I of scope of work) is not exhaustive but indicative only. However, any activity covered under the normal course of overhauling of Turbine, Generator & auxiliary works of unit-I, 210 MW set at **Ib TPS/OPGCL**, shall be deemed to be within the scope.

Transportation of materials, T & Ps including Special T & Ps, lifting tackles etc from **Ib TPS/OPGCL** site stores to work spot as per requirement along with material reconciliation and also transportation of the T&P's / Instruments etc. from BHEL-KOL HQ / OTHER Eastern Region Sites to **Ib TPS/OPGCL** site & back , is included in the scope of the vendor at their own cost. In case any part of the job is not carried out, a deduction will be effected as per percentage shown against those items.

03. Any related work not detailed under the above schedule of work but found essential for completion of the job has to be executed by vendor free of cost.

04. The vendor has to strictly comply with the SAFETY RULES & procedures of the **Ib TPS/OPGCL**. It is suggested that the prospective bidders may visit & contact **Ib TPS/OPGCL** to know further details of their safety rules before quoting their price.

05. Disposal of scrap/ waste/ insulation generated while overhauling work to be disposed off at predetermined place as indicated by **Ib TPS/OPGCL** by the bidder including transportation of the waste.

6. Defect liability period against bad workmanship shall be 6 (six) months from the date of synchronization of the machine. During this period if any re work are required to be carried out, then the same are to be done by the successful bidder. The successful bidder shall be responsible for timely execution and quality of overhauling job and stand guarantee against any defect due to bad workmanship. Once defect is registered within defect liability period, the successful bidder has to rectify the same free of cost during next available opportunity.

7. **LD/Penalty clause:-**

In the event of failure to complete the work in given time, **penalty @ 3% of contract value per day limited to 9% of contract value for the delay attributable to vendor will be levied**, in case the balance work is allowed to be completed by the contractor beyond the scheduled time of completion, which is at the discretion of BHEL. In case of delays on contractor's part, at any stage during the scheduled period or after, BHEL shall have the option of ensuring completion of the job by any other means at its disposal and the charges on this account shall be levied on the contractor. These shall be adjusted against contractor's bills or Security Deposit.

ANNEXURE-S

SAFETY, HEALTH & ENVIRONMENT (SHE) PROGRAM

Note: Annexure-S shall be read in conjunction with “HSE & OHSAS” clause of the tender. In case of any conflict or inconsistency between “Annexure-S” and “HSE & OHSAS” clause of the tender, the provisions in the “Annexure-S” shall prevail and shall be binding on the vendor.

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1. INTRODUCTION

The purpose of this standard is to specify the requirements for managing safety when contracting work. This safety standard is based on the best practices for managing contractor safety in the utility industry.

CONTRACTOR shall perform all work required by his Contract in a safe, healthy and environment friendly manner. During the course of work, the CONTRACTOR is directly responsible for; shall comply with; and enforce all laws, rules; regulations of OPGC are relevant to the work being performed. CONTRACTOR will manage all subcontractors on site and will be accountable for subcontractor performance with respect to Environment, Health & Safety and (EHS).

Prior to the start of any work, the Contractor shall survey the planned work and submit and review Contractor's SHE Program and Plan to the OPGC concerned Project Manager.

2. SCOPE

This program lays down the SHE related requirements and guidelines and provides advice based on local experience and legal requirements for safe working practices for all activities of the project involved with high & medium risk. This SHE management program also applies to all personnel involved in Company projects. All parties are required to comply with this safety program as well as all National, State and Local regulatory guidelines.

3. OBJECTIVE

These rules guide people's behavior during work days. They are needed to control hazards that can affect everyone. This procedure has been developed to assist both OPGC and Contractor Managements to control these hazards and ensure that high standards of safety to which OPGC is committed have been met. The procedure shall be provided to all high & medium risk contractors with other bid documents. Contractors participating in the bidding shall go through the procedure carefully & submit an undertaking in the format given as in **Appendix-2**.

4. ENVIRONMENT, HEALTH & SAFETY POLICY & BELIEFS OF OPGC:

Contractor (s) shall strictly follow OPGC EHS Policy guidelines. The spirit of the EHS Policy shall be reflected during the course of contract execution by implementing the minimum EHS expectation of OPGC as declared in the Policy objective. Refer OPGC EHS Policy as enclosed.

SAFETY VALUES & PRIORITY AT OPGC

PUT SAFETY FIRST, SAFETY HAS BEEN ASSIGNED THE HIGHEST VALUE AT OPGC.

OPGC SAFETY BELIEFS:

1. Safety comes first for our people, our contractors and the individuals in our communities, and all our work activities need to be conducted in a safe manner that promotes personal health, safety and well-being.
2. All occupational incidents can be prevented.
3. Working safely is a condition of employment and each person is responsible for their own safety as well as the safety of their teammates and the people in the communities in which we work.
4. All OPGC people and contractors have the right and obligation to stop work as soon as they identify a situation they believe to be unsafe.

5. RESPONSIBILITIES

To clarify the individual party designations referred to within this guide, to identify the hierarchy of reporting and approval necessary, and to delineate the designated responsibilities related to the OPGC safety policy, the following is to be used:

OPGC Project Manager - OPGC personnel directly responsible for the site construction/safety activities on the project involved.

OPGC Site Safety Manager - Person designated to carry out, monitor, and enforce safety policies of OPGC on the project.

Contractor's Site Manager - Person designated as the senior site manager by the Contractor chosen for the project.

Contractor's Safety Manager - person designated to carry out, monitor, and enforce safety policies of the Contractor on the project, in compliance with the project agreements OPGC policies.

Supervisor - lead field labor supervisor or foreman for the Contractor/Subcontractors.

Personnel – individuals performing the labor tasks for the Contractor/Subcontractors.

6. DEFINITIONS AND INTERPRETATIONS

In the Contract, the following words and phrases have the meaning hereby assigned to them, except where the context otherwise requires.

Contractor – A person or company contracting with OPGC to supply products or services.

Sub-Contractor - A person or company employed by the prime or general contractor who is contracting with OPGC to supply products or services.

Contractor Pre-qualification – This process is an assessment of contractors wishing to work OPGC. The process is independent of individual contracts and is carried out to ensure that only contractors with acceptable past safety performance and appropriate safety programs are awarded work.

Contract Administrator – An OPGC person assigned responsibility for administering contracts, including preparation of the contract tender or request for proposal (RFP) documents, arranging pre-bid meetings, coordinating the bid/ proposal evaluation process and recommending the awarding of the contract.

Project Manager – An OPGC person who is given the overall responsibility and authority for the successful completion of a project. His/ her responsibilities include the assignment of the contract monitor, conducting the pre-construction site meeting, resolving contractor safety performance issues, final inspection of the work, conducting the closing meeting with the contractor and completing the contractor evaluation.

Contract Monitor (Engineer In Charge/EIC) – An OPGC person who reports to the Project Manager and is responsible for monitoring the contractor's safety performance and providing feedback to the Project Manager. The Contract Monitor will compare the contractor's work and work methods with the standards and expectations defined in the contract.

OPGC Contact Person- The EIC of the Contract is termed as the OPGC contact person for that contract only.

Contractor Safety Orientation – A meeting at the start of each contract involving all contractor employees to discuss AES safety standards and the specific safety requirements for the contracted work.

High-Risk Work – Work that exposes contractor's employees to hazards that, should an incident occur, may result in a fatality or permanent disability; examples include but are not limited to, high voltage electrical work, confined space entry, exposure to asbestos, work around water, working aloft >6 ft., craning & rigging, scaffolding & shoring.

Medium-Risk Work – Work that exposes contractor's employees to hazards that, should an incident occur, may result in a temporary disability; examples include but are not limited to, plant and facility maintenance, minor excavation, welding, carpentry, civil work.

Low-Risk Work – Work that exposes contractor's employees to hazards that, should an incident occur, may result in a minor injury but not a lost time injury; examples include but are not limited to, training, consulting, office equipment maintenance, office cleaning.

Hazard Assessment – An assessment of the contracted work to identify and document the hazards inherent to the work site and facility. The hazard assessment is provided to the bidders as part of the bid/ request for proposal documents.

Daily Job Safety Plan – A process that individual employees and working crews must follow to assess and document the critical safety issues pertaining to the day's work.

Shall/Will: The word 'shall' is to be understood as mandatory

Should: The word 'should' is to be understood as strongly recommended

May: The word 'may' is to be understood as indicating a possible course of action

Restricted Areas: A Restricted area is defined as that area over which OPGC exercise control of all movements and operations and where entry is granted only with permission from OPGC.

Hazardous Areas: An area in which there exists or may exist flammable or other hazardous atmosphere.

Safety Document: Is a formal written statement used to control the Risk associated with the works performing in OPGC Premises.

Electrical Equipment: Any producer, carrier or consumer of electrical energy.

7. PROGRAM REQUIREMENT & IMPORTANT GENERAL SAFETY INSTRUCTIONS:

The goal of this program is to complete the project with zero incidents. This goal can only be achieved when everyone commits to error-free performance. The commitment to achieve this goal will result in increased productivity and the prevention of job related losses.

Active participation and personal cooperation of all supervision and employees, and a positive coordination of their efforts carrying out the following:

- **Stop Work Authority program.** It is both the right and responsibility of all EMPLOYEES, be they OWNER, CONTRATOR or SUB-CONTRACTOR to stop any work activity that currently has, or has the potential to

develop into an unsafe situation. Work must stop immediately after an unsafe situation is identified, regardless of the job's priority or importance. Work shall resume only when the unsafe situation has been remediated. Never hesitate to stop work – it doesn't matter if it's later determined that invoking the work stoppage was an error. A person will not suffer retribution or negative consequences of any sort for stopping work for safety reasons. Establish and maintain a system for early detection and correction of unsafe practices and conditions.

- Contractors on OPGC site must obey OPGC safety rules, signs and instructions.
- All contract employees have a responsibility for their own safety and the safety of others.
- The Contractor may not charge or back charge OPGC for any delays, work stoppage, or scheduling issues resulting from enforcement of the OPGC Safety Rules.
- Contractors are responsible for establishing control measures to protect employees under their control from exposure to hazards.
- Contractor shall furnish, erect, and maintain warning notices, signs, signals, lights, protective guards, enclosures, platforms, barricades and other devices as necessary to adequately protect all personnel on site.
- If the scope of work requires the removal of existing guardrails, handrails, floor grating or other physical barrier, contractor shall have written permission from OPGC Project Manager. Barriers that have been removed to facilitate work must be properly replaced as soon as the work is completed. Unguarded openings must be attended at all times.
- Chemicals must be handled in authorized manner. Handling of chemical must be carried in accordance with Material Safety Data Sheet (MSDS) regulation and EIC /Officer In charge/supervisor's guideline.
- Establish and implement safety education programs designed to stimulate and maintain the interest and active participation of all personnel involved with the project. Such programs should include:
 - Safety meetings and safety communications;
 - Use of incident trends and causal analysis to preclude reoccurrence of similar incidents;
 - Use of proper work procedures, personal protective equipment, and mechanical guards;
 - Safety instruction to individual employees and group safety training programs; and Managing records, incidents, claims, losses, and development of incidence/loss experience summaries.

8. ESSENTIAL DUTIES:

- (i) Use effective verbal and written communication skills.
- (ii) Listen to directions and suggestions from Project Manager/EIC/Supervisor/EHS officers regarding safe and proper work practices
- (iii) Work up to a 12 hour shift. Never work beyond 12 hours unless other wise OPGC Project Manager allows to do so.
- (iv) Identify workplace safety hazards and take all necessary corrective action to eliminate or minimize them.
- (v) Understand and respond appropriately to all safety hazards and warning devices (i.e. back-up alarms, smell of smoke, different colored warning tags, warning sirens).
- (vi) Understand and implement lockout/tag out procedures in a safe manner.
- (vii) Participate in the jobsite Safety meetings as required.

9. OPGC SAFETY CARDINAL RULES/ZERO TOLERANCE ISSUES:

“Cardinal Safety Rules” are OPGC rules that, if violated, have a high probability of resulting in a serious adverse outcome. Contractors must ensure that employees working under their control do not violate these Cardinal Safety Rules. Failure to comply with Cardinal Safety Rules will result in immediate corrective action for the employee and, if OPGC determines it appropriate, the Contractor, up to and including termination from the current job and removal from consideration for future OPGC contracts. The OPGC Cardinal Safety Rules are:

- (i) Personal Protective Equipments (PPEs) as applicable to a given task must be used at all times.
- (ii) All high or medium risk jobs must be performed with valid Job Safety Analysis (JSA) followed by pre-job briefing.
- (iii) No entry to ITPS plant premise or no permission to do any work at ITPS under the influence of alcohol or drugs.
- (iv) Do not walk or work under a suspended load & use only tested & certified lifting tools & tackles on the job.
- (v) Do not handle and operate equipments unless authorized & licensed to do so.
- (vi) Do not tamper or remove guards, hand rails and other safety systems unless authorized to do so.
- (vii) Ensure energy isolations, lock-out-tag-out (LOTO) and strictly follow work permit instructions.
- (viii) Never work of & above 06 feet (1.8 meters) without fall protection.
- (ix) All injuries & near misses must be reported.
- (x) Illegal handling or disposal of hazardous materials not allowed.

(Note:- Deviation/lapses from the above cardinal rules but not limited to these are treated as major safety violation.)

10. HYGIENIE, GENERAL PRACTICES / UTILITIES FOR REST & FOOD INTAKE:

The Contractor shall ensure that its personnel shall maintain the highest standards of hygiene in connection with the performances of any contract for works or services it may have with OPGC.

The only safe source of drinking water is a drinking fountain/taps. Other sources shall not be used.

- Do not use air, gas, water, electricity, fuel or other site facilities/utilities unless the source of supply has been designated & authorized by OPGC.
- Contractor personnel must not enter any building or area not required by their work. Wandering about the plant is prohibited.
- Contractor personnel are permitted for taking food in designated places either in OPGC Canteen or in any other designated site.
- Contractors shall take rest in designated rest sites. Taking rest in work places is prohibited.
- Taking rest & food in unauthorized sites will be treated safety rule violation;

11. SITE ENTRY PROCEDURE

The Contractor must comply at all times with the requirements of OPGC Site Security rules. The contractor for all personnel requiring admission to the Site, a Security gate pass request must be processed in advance.

11.1.“Gate Entry Pass” will be issued by the OPGC site administration and contractor person/people need to proceed to the OPGC contact person directly to follow the safety induction procedures. Gate Pass will be issued after site safety induction/training and duly certified by EIC on the gate pass entry request application. After imparting safety trainings, the gate passes will be stamped/ marked as ‘Safety training imparted’. No contractor and their employees shall be allowed to enter inside the Plant for carrying out jobs unless the safety training has been given to them and duly stamped as above

OPGC may issue to the Gate Entry Passes” for the admission of contractors and “Visitor Gate Passes” to the normal visitors.

These passes are to be returned on the demand of OPGC and in any case at the completion of the contract.

All Contractors' staff must enter and leave the site via the Security Gate.

All Contractors' staff will have to produce their gate entry pass if asked by Security when entering AND leaving site. This applies at all times.

If any of the Contractor's or Sub-contractor's staff is found unjustifiably outside the working areas, then they will be removed from Site.

Ensure your name is recorded on the appropriate Contractors daily attendance page.

11.2. The contractor shall furnish to EIC the list of materials such as lifting tools and tackles, power tools, T &Ps (testing status to be maintained), gas cylinders, and any hazardous chemicals along with MSDS to be mobilized before commencement of work. All these materials shall be checked at Plant gate by Security, EIC & EHS for no objection. Contractor at no situation shall enter untested or substandard or unapproved tools, equipments or vehicles. Tested and approved tools, equipments & vehicles only can be entered into Plant Premises. Unauthorized entry of hazardous substance is strictly prohibited from Plant gate. Contractor materials shall be entered inside Plant with valid Security Certification on recommendation of EIC. Violation of the OPGC site entry rule shall be treated major safety violation. Strong disciplinary step will be booked against the violation.

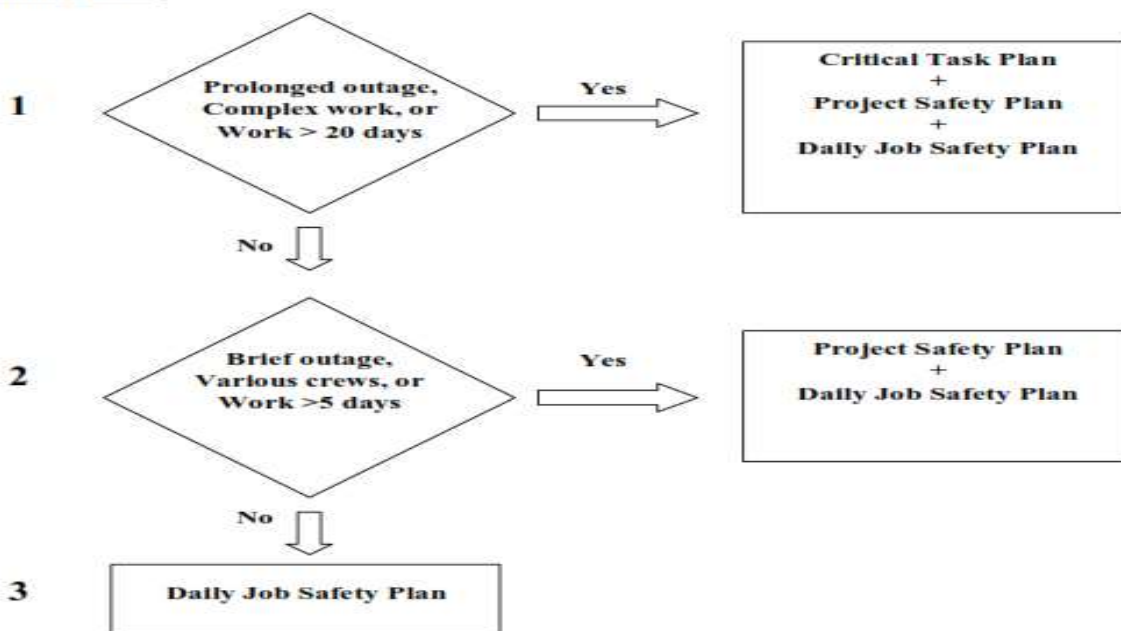
12. PROJECT SAFETY PLAN & DAILY JOB SAFETY PLAN:

After knowing the detail hazard information of high or medium risk jobs, contractor shall provide a comprehensive project safety plan fulfilling minimum Safety expectations of OPGC.

Daily Job Safety plan shall be prepared by the Contractor in advance before commencement of a particular day's job.

The project safety plan & its suitability/ appropriateness for the Contract job shall be verified & approved by the Project Manager. This is one of the important Contractor's job planning activity.

Planning Level



13. HEALTH & FITNESS

The Contractor shall ensure that all its employees engaged in the work are medically fit and healthy. Any medical disabilities including such disabilities which Contractor may consider will not adversely influence the employee's ability to perform his role in the work should be reported to OPGC prior to the start of the Work. Contractor shall provide health certificates in compliance with Odisha Factory rule for their personnel at the time of applying gate entry pass. No contractor personnel will be issued gate entry pass without the submission of health & fitness certificate in the prescribed form. Contractors will closely monitor the requirement of health check up at an interval of one year for their employees.

14. WORK PERMIT

Work Permits will be issued in accordance to OPGC PTW procedures before performing any activity/function such as entry inside confined space, inside tank/vessel, excavation, work involving radiation sources etc, work at

height, working with machineries & equipments. Specific permit for hot work e.g. cutting, welding, grinding, chipping or sand blasting shall also be issued. During such activities the contractor shall ensure that a fire watch is deployed and the person must clearly understand his duty & responsibility. Project manager/ EIC or his authorized representative supervising the job shall be responsible for obtaining & clearing the permit with the knowledge and consent of the contractor or his representative. It shall be the responsibility of the contractor to see that none of his employees start the job until, an appropriate permit has been issued with proper isolations followed by Pre-job briefing and job safety awareness by the EIC and the contractor or his safety coordinator.

15. HOUSE KEEPING & CLEAN SITE

The Contractor shall ensure that the site of the works is kept free of surplus, waste or redundant materials or items and shall maintain a clean and tidy site throughout the duration of the work. Access ways and emergency exits shall be kept clear from obstruction at all times. Combustible scrap and debris shall be removed at regular intervals during the course of project. All solvents shall be kept in approved, properly-labeled containers. Contractors' bill payment will be held up unless otherwise housekeeping of their job site is maintained.

16. SITE OFFICE AND STORES

The Contractor will be allowed a working area on the site which shall be maintained by the Contractor for his site offices etc and on completion of the contract shall reinstate this area at his own expense, to the satisfaction of OPGC. The Contractor will also be given access to any reasonable area around the site.

17. SAFETY EQUIPMENT

The Contractor shall, at its own expense, provide adequate safety equipment of an approved type and amount as is required for the execution of the contract works. The Contractor shall maintain this equipment in a professional manner as dictated by legal and industry standards. In addition, the Contractor shall keep up-to-date records of all said equipment.

17.1. Protective Personnel Clothing and Equipment

The Contractor shall, at its own expense, supply its personnel employed at the site of the works with adequate protective personal clothing and other protective equipment which shall be maintained in good condition or replaced, and shall be worn on all relevant occasions as specified by OPGC and good practice. It is the responsibility of the contractor to provide adequate instruction/training for the correct usage and maintenance of these equipments & PPEs, inspection & suitable storage of their Personal Protective Equipments. The Contractor is also responsible for ensuring that the PPE is used and maintained in accordance with the manufacturer's specifications.

In the event that the Contractor fails to supply or provide adequate safety equipment or PPE, OPGC reserves the right to issue such safety equipment/PPE to the workforce provided by the Contractor and back charge the same from the Contractor with two (2) times of the cost of item as administration fee for every item issued.

PPEs shall meet the following minimum standard and shall be maintained in good condition to give desired level of protection to wearer. Contractor has to assess the quantity of PPE required considering the job hazard and nature of job.

Specification & Selection of PPEs:

A. Safety Helmet/Hard Hat-

IS/ DGMS/ CE/ ANSI certified

Material- HDPE and ABS Plastic

Colour- **DARK YELLOW** with name of contractor mentioned in front portion.

All safety helmets shall have textile chin strap, padded head band & of Plastic or Cotton cradle.

Make & Brand- Karam PM 501/ MSA/Venus C-112 or 113/ Udyogi- Ultra 5000L/ Kalgem-Tortoise or any other equivalent brand approved by OPGC EHS

B. Safety Glass/ Safety Goggles -

IS/CE/ANSI certified

Polycarbonate, UV protected, Anti scratch, Anti fog

Colour- Colourless for all time and strictly in low light areas and night time. Grey may be used in day time within areas with adequate visibility.

Make & Brand- 3M/ Uvex/ Udyogi-UD 61/ Karam-ES005/Venus- G-203-CHC or any other equivalent brand approved by OPGC EHS

Prescription glasses users shall use cover the glass.

C. Safety Shoe -

IS/ DGMS/ CE/ ANSI certified

Leather with Steel Toe

Anti Static, Anti Skit, Anti Shock, Oil & Acid resistant with shock absorber

Make & Brand- Bata / Liberty/ Jaypee 1217/ SG Securite- Concord or Black night/ Udyogi- Tango, Mallcom- Tiger/ ACME Fabrick- Atom/ or any reputed brand approved by OPGC EHS

D. Dust mask-

IS/ CE/ ANSI certified

Venus V4 20 SLV- FFP2/ 3M with Fine particle filtration efficiency greater than 94%.

E. Ear Plug/Ear Seal/Ear Muff-

IS/CE/ ANSI certified

3M/ Venus/ Karam/ Equivalent

F. Hand Gloves -

IS/ DGMS/ CE/ ANSI certified

Material (Heavy Duty)- Finger Chome leather, 05 fingers provision

Material (Light Duty)- PVC dotted type of reputed brand

Make- Kaybee/ Udyogi/ Karam/ any reputed brand

Besides the above, for electrical, chemical handling or for any other special type activity, appropriate rating IS/CE/ANSI certified hand gloves shall be used.

G. Welding face shield attachable to helmet -

IS/ DGMS/ CE/ ANSI certified /UV & IR protected, Superior quality

Make- Karam -ES 71, Unicare, Udyogi/ any other reputed brand

H. Fall arrest Systems (Safety Harness, anchors, fall arrestors, lifelines etc) shall be EN/ ANSI Certified with CE marking. Make- Karam/ Udyogi/MSA or any reputed brand finally approved by OPGC Safety Officer.

Life lines shall be EN 795, Class B of Karam Polyester webbing type or Polypropylene 16mm dia synthetic rope or 8mm standard wire rope 5000lbs (22KN) rating.

Refer section-41 (Fall Protection) for details.

Rest of the PPEs as appropriate to a particular hazard or as mentioned in MSDS (Material Safety Data Sheet) shall be provided to the persons engaged for the job by the Contractor in accordance with relevant BIS/ANSI/EN standards.

17.2. PPE Zones & PPE Excuse Zones

SI No	PPE type	Area of Use	Excuse areas/locations
1	Helmet	Compulsory from Plant Gate. Two wheeler riders & pillion riders must use crash helmet while driving	Offices, Office Corridors, Control rooms, Canteen, hospital & Service Building front while people are with no work or with office work activities with no risk to head from external source.
		Compulsory while working in other facilities out side plant viz, Ubuda Coal loading point, Ash Pond, Ash brick plant, Sewage Treatment Plant and Colony premise.	
2	Safety Shoe	Compulsory from Plant Gate	Places other than the areas specified.
		Compulsory while working in other facilities out side plant viz, Ubuda Coal loading point, Ash Pond, Ash brick plant, Sewage Treatment Plant and Colony premise.	
3	Safety glass	Compulsory in all work areas	Main road from Plant Gate to CHP Track hopper, Other roads except the roads inside Boiler area, Offices, Office Corridors, Control rooms, Canteen,
		Compulsory while working in other facilities out side plant viz, Ubuda Coal loading point, Ash Pond, Ash brick plant, Sewage Treatment Plant and Colony premise.	

			Hospital while people are with no work or with office work activities with no risk to eye from external source.
4	Ear Plug/Seal/ Ear Muff	In all high noise areas greater than noise level 85 dBA	Places other than high noise areas
5	Hand Gloves	Compulsory during all field works, material handling, working where risk of injury to hand prevails	Office activities
6	Dust mask	In all dust generating areas(ESP hopper cleaning, Dry Ash handling, Cleaning, Sweeping, Soil excavation, Asbestos/Asbestos containing material handling, Coal Handling Plant, Painting work, visible fugitive emission in Boiler and other areas etc)	Excuse for non dust generating Areas
7	Welding face shield	During welding operation only	Non Specified activities
8	Cutting glass	During cutting operation only	
9	Chemical respirators	During fuming Chemical handling or hazardous gas handling. Atmosphere with Chemical fumes, hazardous gas fumes. During welding operation.	
10	Chemical Suit/Apron	During hazardous Chemical/ substance handling, Lead acid Battery maintenance	
11	PVC/Rubber hand gloves	During hazardous chemical/substance/waste handling & Lead Acid battery maintenance.	
12	Chemical Goggle/ Face shield	During hazardous chemical/substance/waste handling & Lead Acid battery maintenance.	
13	Encapsulated suit for Chlorine	In Chlorine atmosphere greater than 50 PPM	
14	Self Contained breathing apparatus	Toxic gas atmosphere (Chlorine, Ammonia, Carbon monoxide, Acid fumes) where chemical respirator is not recommended, Confined Space with hazardous fume or gases	
15	Arc flash Suit with boot and hood of suitable rating	During Electric Panel Breaker & MCC modules Operation	
16	Electrical hand gloves of suitable rating	Working with live electrical power sources	
17	High temperature hand gloves & jacket	Working with Steam lines	
18	Hard toe rubber gumboot	Working in Mud, Sludge, Water, dense wild grass areas, other place taking Safety Officer's approval	
19	Lead laminated coverall	Working with radiographic substances	

20	Reflected jacket	Inside confined spaces and as advised by OPGC Project Manager/EHS	
21	Cotton Boiler Suit	Working inside Boiler / and as advised by OPGC Project Manager/EHS	
22	Full body harness	Working above 5.9 ft without fall protection	
23	Welding jacket/suit & hand gloves	Standard flame resistant welding jacket/suit & heat resistant leather hand gloves	

17.3. Control on PPE: The samples of PPE to be used by contractor at site shall be submitted to OPGC Safety Officer in advance for approval. On approval, the Safety Officer will retain the sample. The approved quality PPE (Make/Brand and colour) shall be used by contractor at worksite throughout the job. Any unauthorized change of model/ brand/ colour of PPE from the sample shall be considered as Safety violation and may lead to disciplinary action. On completion of work, the sample shall be returned to the contractor. The specification given above for different types of general PPEs is minimum quality standard. Contractors are free to provide better quality PPEs but such PPEs quality shall be approved from OPGC Safety Officer prior to use inside OPGC premises.

18. TRAINING

18.1. Safety Orientation

The Contractor shall ensure that all its personnel have been given the necessary safety and job related training required by OPGC regulations and good practice prior to starting work.

Contractors will be responsible for providing their employees and any subcontract employee with all safety information provided to it by OPGC including, but not limited to:

- Project-specific occupational health and safety expectations;
- Exposure to atmospheric health, serious physical or chemical hazards; and
- Precautionary measures and procedures for performing the work.

18.2. Pre- Job Briefings

Contractors shall conduct pre-job briefings and toolbox talk/ safety talks with employees under their control prior to work each day. Additional job briefings shall be held if significant changes occur during the course of the work that might affect the safety of the employees.

19. COMPETENCY OF CONTRACT EMPLOYEES.

Contractor shall assign competent employees as per the requirement of the job. Supervisors should be so qualified that he can clearly communicate with his team members. Besides, Supervisors shall be able to communicate in English. All high skilled & semiskilled employees must have job specific competence. OPGC will evaluate/verify competence and will reject employees who are not found with inadequate competency.

20. RESTRICTED AREAS

All Contractors must receive authorization from the OPGC Contact Person before performing work in areas posted "DANGEROUS" or "HAZARDOUS" or "RESTRICTED" or some other warning signs. Contractors shall install warning tape for areas that require additional warning because of the work being performed there.

21. ALCOHOL AND DRUGS

The Contractor shall ensure that its personnel do not at any time, during the performance of the work, partake of or be under the influence of any alcohol, drug or other intoxicating substance, while on duty, other than for bonafide medical reasons certified by qualified medical practitioner. Person found with violation of this rule will be immediately removed out of OPGC site and appropriate disciplinary action will be imposed to the contractor.

22. DRIVING & PARKING

All heavy vehicles and other related machinery required in connection with the work shall be fit for purpose, prior to and during the period of the work.

The Contractor shall ensure that only permitted personnel (by way of valid OPGC Driving License) are able to operate vehicles as per the classification of vehicle.

Contractor shall strictly comply with Speed limit of 20Kmph in all areas inside the plant for passenger vehicles. Heavy vehicles speed shall not exceed 10kmh at any point of time.

Parking of Vehicle is allowed only in the designated areas. Deliveries of materials, tools and/or equipment shall be coordinated with OPGC contact person and Security. After the delivery is made to the job site, the delivery vehicle must be parked in the designated parking area or must exit the job site.

Operators of mobile equipment must wear hard hats and safety glasses unless the equipment has a fully-enclosed cab. Seat belts must be worn when operating equipment. No Contractor shall permit earthmoving or compacting equipment that has an obstructed view to the rear to be used in reverse gear unless the equipment has in operation a reverse signal alarm distinguishable from the surrounding noise level or unless a contractor-designated employee signals that it is safe to do so.

The Contractor undertakes to ensure that all drivers comply with the following basic rules:

- Always wear a seat belt;
- Always observe traffic rules, especially speed limits;
- Never drive after consuming alcohol/drugs;
- Never drive when very tired;
- Never overload the vehicle;
- Drive carefully;
- Be sure that before starting the vehicle the area near and under the vehicle/trailer is free from persons asleep.
- Vehicles are PUC certified with validity of expiry.
- Heavy vehicles are provided with fire extinguishers

Crash Helmet use – Riding two wheelers without the use of crash helmet from plant gate is prohibited. Contractor shall ensure, the crash helmet is all times being used by his people riding two wheeler.

23. SAFETY MEETINGS

The Contractor shall be responsible for maintaining and enhancing the safety awareness of its personnel including arranging its own safety meetings and participating as appropriate in safety meetings held by OPGC.

24. SAFETY INSPECTION / AUDIT

The Contractor shall inspect the work site, equipment and tools on regular basis for compliance with these rules and regulations, and shall be obliged to take the necessary measures to correct unsafe conditions and unsafe practices.

The Contractor shall allow OPGC representative access at any time to plant, equipment, personnel and records when requested, to enable OPGC to inspect aspects of Contractor's operations relevant to safety and working environment.

25. REPORTING AND INVESTIGATION

The Contractor shall report all near misses, incidents or accidents to OPGC contact person or central control room immediately.

The Contractor shall allow OPGC representative access at any time to plant, equipment, personnel and records when requested, to carry out formal investigations to find out the root causes and there by identify the required corrective actions to avoid the reoccurrences.

Upon completion of the Work under contract and/or on a monthly basis, whichever is more frequent, the Contractor shall prepare a summary report of its safety performance together with accident statistics and submit to OPGC.

26. INJURY MANAGEMENT

Basic Life support facility (first aid) is available in OPGC. Contractor supervisors should be trained with first aid.

Incase of an injury to some contract worker, please inform immediately available OPGC personnel or first aid centre or central control room using **(phone 248/222/06645 222222)**.

Only trained and certified people shall provide first aid to the injured.

Incase of doubt, injured personal shall not be moved or transport improper vehicles because it may complicate the injury more and some cases may lead to death.

Only Designated vehicles (Ambulance) shall be used for transportation of patients.

27. JOB SAFETY ANALYSIS (JSA) & JOB SAFETY BRIEFING (JSB)

- The Contractor shall adopt the OPGC JSA & JSB practice/advice.

- The Contractor shall ensure that its supervisors and are fully conversant with OPGC JSA & JSB Process/ System.
- Under no circumstances must work be started until the appropriate JSA has been prepared and complete the Pre-job briefing.
- Competent person from the contractor and in-charge of the work from OPGC shall conduct the Pre- job briefing to all members.
- Competent person from the contractor and in-charge of the work from OPGC shall make available a copy of the safety document at site.
- Sample Job Safety analysis in prescribed format is furnished in appendix below.

28. EMERGENCY PROCEDURES

The Contractor shall follow the OPGC Emergency Response Plan (ERP) during the period of the work and shall ensures that its staff are fully familiar with the actions to be taken incase of an emergency.

28.1. Emergency planning:

Contractors must inform his people on the actions to be taken in the event of fire, explosion, personnel injuries or other emergencies. The contractor shall also keep abreast & acquaint of his persons regarding “Emergency Response Plan” of ITPS, assembly points, DO’s & DON’Ts during emergencies at regular intervals in monthly EHS meeting.

28.2. Evacuation Procedure:

Identify the escape routes available to you before you commence work. Know the assembly points and directions to reach there in case of emergency.

When the emergency siren sounds, immediately leave the area by your nearest evacuation route to Emergency Assembly Point. If you are using power equipments or vehicles you must switch it off and make it safe before evacuating.

Do not run and do not stop to collect your belongings.

Report to the emergency assembly Points as per the instructions given on loud speakers/ public address system.

Obey instructions given by the OPGC contact person staff and assembly point coordinator.

Remain at the assembly point until instructed otherwise. Do not re-enter evacuated areas until the ‘all clear’ announcement is made by the Main Control Room.

Emergency Siren test is carried out every Saturday at 11:00 hours for two minutes and require no action.

28.3. Reporting Emergency:

If you discover a fire, or any other serious incident/emergency phone **222/233/244** using the site telephones, this will connect you to the **Plant Main Control Room. Other**

Emergency Contacts are-

	Intercom	P&T
Fire Station	777	06645222257
Ambulance	277/248	06645222216
Hospital	666	06645222243

Give your name, location, and the details of the emergency. Follow any instructions given.

Only take emergency action if competent to do so, e.g. resuscitation, first aid, fire fighting etc.

If safe to do so remain in the vicinity to give relevant information to the assistance when it arrives. **Never** endanger **your** safety.

29. SAFETY SUPERVISOR

If the numbers of contract workers are more than or equal to 50 (fifty), the Contractor shall be required to provide full time safety supervisor who will be responsible for ensuring the work is performed in accordance with the applicable safety requirements. For every 50(fifty) employees thereafter there shall be one Safety Supervisor/Officer. The On-Site Contractor Safety supervisor/officer(s) must have appropriate knowledge and skills, to ensure job site safety. For contractor worker less than 50(fifty) in job, the work supervisor can be utilized for safety supervision but in case the Project Manager find ineffective supervision, the contractor may be asked to provide independent safety supervisor.

Contractor Safety Supervisors should be qualified & experienced enough to deliver their assigned jobs effectively as per expectation of OPGC Project Manager/EIC & EHS. Before their work assignment, Contractor has to provide

the list of their safety professional along with Safety In charge stating name, qualification, experience & contact number to the Project Manager & EHS. The supervisors' competency will be evaluated by OPGC EHS prior to issue of gate pass. Only OPGC EHS competence certified Safety supervisors will be permitted for Safety Supervision at Contractor work sites. Competency certification may vary depending on the nature & risk level involved with the contracted job. Contractors are not permitted to execute job without deployment of Safety Supervisor(s) as specified under this condition. Contractor Safety Supervisors performance will be monitored by OPGC EIC & EHS and the instruction & advice of OPGC shall be implemented promptly. OPGC will impose appropriate penalty if the Contractor fails to implement OPGC's safety expectation satisfactorily.

30. COMMUNICATIONS

30.1. Communications with OPGC

The Project Manager or his authorized persons (EIC) and OPGC EHS shall be the point of communication for all EHS issues arising under this contract.

30.2. Coordination with other officials

Contractor is fully responsible for coordinating with the proper authorities for moving heavy equipment, location of underground utilities, erecting barricades, traffic control, and other safety measures, unless otherwise specified.

30.3. Communications with Media Restricted

In the event of an accident or other condition on site, contractor shall not communicate with the media or any other entity without the expressed consent of OPGC.

31. EQUIPMENT CERTIFICATION

The Contractor shall, at its own expense, ensure that all Portable electrical appliances, lifting equipment or other equipments required inspection or calibration has been inspected/ certified by an authorized and a liable inspection/certification authority/company prior to its use in the works.

32. RESTRICTED ARTICLES

The Contractor shall be required to ensure that written approval signed by OPGC contact person has been obtained prior to taking dangerous items such as drugs, knives, radio active, corrosive, poisonous or toxic materials onto OPGC premises.

33. PROHIBITED MATERIALS

Contractor is strictly prohibited from using any of the following types of materials in performance of the work:

- Asbestos, Asbestos Containing Material (ACM).
- Mercury containing material.
- Surface coating systems that contain lead, cadmium, chromium, barium or mercury.

34. HAZARDOUS SUBSTANCES

- Before delivery of any hazardous materials to OPGC site, Contractor shall provide Material Safety Data Sheets for all anticipated hazardous materials.
- All containers containing hazardous materials must be clearly labeled indicating their contents and appropriate hazard warning information.
- Hazardous materials must be stored in a secure location agreed with the **OPGC Contact person**.
- Don't dispose hazardous substances into drainage system and please inform any spill on the floor or on any personnel.
- All operatives must understand the hazards of the materials they have to handle before use, some can be dangerous when used carelessly or when safeguards are overlooked. If in doubt, consult your own supervisor or OPGC Contact person for the relevant Hazard Data Sheet for specific health & safety information.
- Hazardous waste must not be dumped in general waste bins and the hazardous waste bins are provided around the plant premises.

35. SMOKING

Plant premises are no smoking zone. Smoking is prohibited inside plant premises. Persons observed smoking inside Plant will be removed from job with immediate effect. Smoking is permitted inside declared/authorized smoking zone(s).

36. SUB CONTRACTOR

The Contractor should ensure that sub-contractors shall be responsible for safety requirements as specified by OPGC. The Contractor shall regularly check sub-Contractor's compliance with safety requirements

37. LIFTING MACHINERY AND EQUIPMENT

37.1. Lifting Tackle (Also known as Lifting/ Loose Gear)

Any item used to connect a load to the lifting appliance, but which is not in itself, capable to lift, lower, transport or suspend the load, such as; Chain, wire rope and webbing slings, Rings, links, hooks, shackles, eye bolts, swivels, blocks, snatch blocks, Beam clamps and plate clamps, Lifting beams, frames, baskets, Waste bins, tool boxes, cargo nets, containers, pallets, etc.

37.2. Standard Requirements

- All lifting tackle shall be tested and certified by approved competent person.
- The Contractor shall make available, as necessary, any certificates and inspection records.
- Lifting tackle shall not be issued or used without a current test certificate.
- All lifting tackles shall be visually inspected before use to identify any damage. Damaged or defective equipment shall be immediately removed from service.
- Only equipment, which has been properly tested and is clearly marked/labeled/coded, may be used. The SWL (Safe Working Load) or WLL (Working Load Limit) must be clearly marked on all equipment and must be adhered to.
- Makeshift lifting devices formed from bolts, rods or reinforcing steel shall not be used.
- Slings shall not be shortened with knots, bolts or other makeshift devices.
- Synthetic web slings shall be marked or coded to show the manufacturer, the rated capacities for each type of hitch and the type of material.
- Synthetic web slings shall be immediately removed from service if any of the following conditions are present:
 - Acid or caustic burns
 - Melting or charring of any part of the sling surface
 - Snags, punctures, tears or cuts
 - Broken or worn stitches
 - Distortion of fittings
- No heavy loads or excessive strain may be placed on ropes.
- Rope should not be driven over, ground into cinders or mud, wrapped around sharp or abrasive objects or burned by “snubbing off” too fast.
- Wire ropes or wire slings, shall not be used for raising, lowering or as means of suspension if any fraying, kinking or broken wires are apparent.

37.3. Lifting Equipment or appliances

Is a generic term - “Lifting equipment “shall mean any machine, driven by manual or mechanical power which is able to raise, lower, suspend or transport loads and includes the supporting structure and all Plant, Equipment appliance, structures. This may include but not limited to Continuous mechanical handling devices (i.e. conveyors). Cranes (mobile, tower, pedestal, etc.), Wall/pillar cranes, derricks, Runway beams, pad eyes, gin pole and gin wheels Winches, hoist (air and electric), crabs, teller hoists, Powered working platforms, Elevators and Lifts, over head cranes,

37.4. Standard Requirements

- Lifting machinery and equipment shall be retested by an approved competent person after any major alteration or repairs thereto.
- Lifting machinery and equipment shall not be issued or used without a current test certificate.
- Mobile crane operation shall be carried out by personal with valid rigger certificate with familiarization to operate the Mobile cranes.
- All lifting operations are to be suitably planned and carried out with trained and qualified personnel. It shall be the duty of the Contractor to ensure that all employees under its control know and are able to apply hoist signals and their uses.
- One qualified person shall direct the rigging operation. This person shall give signals for the group. No crane operation will take place without an appointed and identifiable "SIGNAL MAN".
- All lifting equipment shall be visually inspected before use to identify any damage. Damaged or defective equipment shall be immediately removed from service.
- Only equipment, which has been properly tested and is clearly marked, may be used. The SWL (Safe Working Load) or WLL (Working Load Limit) must be clearly marked on all equipment and must be adhered to.

- All lifting operation should be carried out in the barricaded area; no one should be allowed to walk underneath of suspended load.
- It is the Contractors responsibility to satisfy the OPGC Contact Person that all lifting equipment and machinery conforms to the relevant statutory provisions.
- All lifting machinery and equipment and all parts and working gear thereof, both fixed and mobile shall be of good construction, sound material and free from patent defect and shall be maintained and operated to comply with OPGC standards.
- Every dangerous moving part of lifting machinery should be guarded.
- The hoisting mechanism of a crane shall not be used for any purpose other than lifting a load vertically.
- Cranes shall not be used to transport loads, unless specifically designed for this purpose. The hook of a crane shall be secured to prevent it swinging when the crane is in "Transit".
- Mobile Jib Cranes, side booms and "A" frames shall not work in the vicinity of overhead Power lines unless a safe working distance of total Length of the Jib + 10 feet is maintained.
- Cranes with more than one ton lifting capacity shall be fitted with a safe working load indicator, and a crane capacity chart displayed inside the operators cabin.
- Contractor shall not operate the cranes of OPGC without permission from OPGC Contact person.
- Critical lift plans must be developed by a qualified person, and then submitted to the OPGC Contact person for review and approval.
- Contractor shall designate a person to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.
- Cranes with fixed or derricking jibs should be fitted with effective automatic safe load indicators which should be provided with appropriate visual and audible signals, Properly maintained and tested by a competent person after the erection or installation of the crane.
- Vehicular equipment, if provided with outriggers, shall be operated with the outriggers extended and firmly set as necessary for the stability of the specific configuration of the equipment. Before lowering outriggers, the contractor must verify the surface is firm and will support the weight of the equipment and operation to be performed. The Contractor shall place outrigger pads if conditions require.
- While extending, lowering outriggers and retracting the outriggers, the operator shall visually inspect the area to verify it is clear of all personnel and obstacles.
- Instructions issued by the manufacturer, specifying weather and wind speed conditions which would be likely to affect the safety of the operation, lifting appliance should either not be used or used subject to limitations, should be followed.

37.5. Multiple Lifts

The simultaneous use of more than one lifting appliance to raise, suspend, support or lower a single load should be avoided. Where the simultaneous use of more than one lifting appliance is unavoidable; contractor shall perform the lifting only with OPGC approved Risk assessment, Method statement and Rigging plan.

37.6. Personnel Baskets and Man Hoist

- Personnel baskets should be of good design construction, sound material, and adequate strength, free from obvious defect and certified and clearly marked with the maximum number of persons permitted.
- Where a man hoist is operated by means of a winch, or where person is carried in a cage, skip or similar plant or equipment designed to lift persons, the winch should be so constructed that the brake is automatically applied at all times except when the controls are in the operating position.
- No winch should be fitted with a pawl and ratchet gear on which the pawl has to be disengaged before the platform or cage can be lowered.

37.7. Industrial Fork Lift

- Industrial fork lift trucks shall not be used to lift a load greater than the maximum safe working load permitted for the truck.
- Passengers are forbidden to ride on vehicles, mobile plant or forklift trucks not specifically designed or fitted out for passengers use.
- The Forklift operator shall have a valid operating certificate from a recognized authority and a valid OPGC driving license.

37.8. Containers

- Every container for raising, suspending, supporting or lowering articles, tools, equipment, and other materials should be of good construction, sound material, and adequate strength, free from obvious defect and suitable for the purpose for which it is required.
- Provided with adequate and suitable arrangements for securing the container to the lifting appliance or to lifting gear, as appropriate;
- Marked with its tare weight and the weight of the load which it may carry with safety;
- So constructed as to prevent the accidental displacement of its load.
- Loose materials or articles that could be displaced should be secured or covered to prevent such displacement.

38. HAND TOOLS

- Tools shall not be placed on any type of energized equipment or where a tool might fall and become a hazard.
- Unacceptable placement includes on ladders, stairs, railings, mobile equipment, lying on the floor, on the scaffold, in walkways or cluttering work benches.
- Tools shall not be placed next to open trenches, manholes or vault openings.
- Tools, materials and parts used in elevated work locations shall be tied in place or kept in containers secured so that nothing can accidentally fall.
- Select the right tools for the job.
- Train your workers to select the right tools for each job, and ensure that the tools are available.
- Inspect the tool and ensure that it is in good condition and keep it in good condition.
- Unsafe tools include wrenches with cracked or worn jaws; screwdrivers with broken tips, or split or broken handles; hammers with chipped, mushroomed or loose heads and broken or split handles; mushroomed heads on chisels; dull saws; and extension cords or electrical tools with broken plugs, improper or removed grounding systems, or split insulation.
- Use all tools correctly.
- Keep tools in a safe place.
- Carry the tools to and from the work site in a tool box, cabinet, or other appropriate tool holder or pouch.
- Store the tools in the proper storage area.
- Tools should not be carried up or down ladders by hand. Appropriate pouches shall be used. Where pouches are not available, tools shall be lifted and lowered by hand lines.
- Tools should not be thrown from one level to another, nor should they be thrown from one location to another on the same level.
- Spark proof tools should be inspected regularly to ensure that there are no steel splinters.

39. PORTABLE ELECTRICAL APPLIANCES.

- All appliances should be tested and identified; records of test/re-test dates should be available.
- Equipments which do not have the test detail label will not permitted inside OPGC Premises.
- Any equipment which is in poor condition will not be permitted inside the OPGC premises.
- Where any portable hand tool requires a supply above 110Volts A.C obtain permission from your OPGC Contact Person. If permission is granted, a residual current device (RCD) must be connected in the circuit.
- Joining of cable is allowed only with industrial male and female sockets of IP67 rating. No twisting or taping of conductors is allowed.
- Bare cable/ conductors shall not be inserted to sockets.
- Contractors must ensure that electric equipment connected by cord and plug in good condition.
- Each employee must be properly trained before using tools or equipment requiring special instruction or training (e.g., power tools, vacuum equipment, etc.).
- Extension cords used with portable electric tools shall be of the 3-wire type unless the tool or appliance is double-insulated or operated from an isolated power service. The ground wire must either be permanently connected to the tool frame for grounding means.
- Extension cords lay across walkways or driveways must be covered by protection or warning devices to prevent pedestrian or vehicle hazards.
- Ground Fault Circuit Interrupters (GFCIs) are to be used whenever a portable electric tool is used.
- Electrically-powered tools may not be used on energized conductors.
- Compressed air hose connections shall be secured with a safety clip or retainer before use.

- If a machine guard is removed in order to work on equipment, it shall be replaced before the equipment is placed back in service. Lockout/Tagout procedures shall be followed.
- Power tools should be used, in accordance with the manufacturer's instructions.
- Where sparking or heat generated by the use of pneumatic tools, an approved coolant shall be used.
- Only patent pneumatic hose, couplings and fittings of the correct rating shall be used when using pneumatic tools.

40. TEMPORARY WIRING

These provisions apply to temporary electrical power and lighting wiring methods. Temporary wiring shall be removed immediately upon completion of construction or the purpose for which the wiring was installed.

40.1. Temporary power program procedures

- i. Only authorized and qualified people for electrical work shall work on the installation, wiring, troubleshooting or repair of electrical equipment.
- ii. All persons dealing with & handling electrical equipment shall be trained to apply the correct treatment for electric shock.
- iii. All portable tools, hand lamps & other apparatus must be connected to the system by means of appropriate rating plugs & sockets type.
- iv. All joints must be both electrically & mechanically sound. No twisting of conductors or tapping is permitted.
- v. Supplies to welding equipment must be specially arranged & the connections must be sufficient in size for the duty to be performed & properly protected against mechanical damage & electrical hazards.
- vi. All lamps for general illumination shall be protected from incidental contact or breakage. Metal-case sockets shall be grounded. Damaged cages/lamps shall be corrected upon notice.
- vii. Temporary lights shall not be suspended by their electric cords unless cords and lights are designed for this mean of suspension.
- viii. Portable electric lighting used in wet and/or other conductive locations, for example drums, tanks, and vessels shall be operated at 24 volts or less. However, 120 volt lights may be used on approval if protected by a GFCI.
- ix. Flexible cords and cables shall be protected from damage. Sharp corners and projections shall be avoided. Flexible cords and cables may pass through doorways or other pinch points, if protection is provided to avoid damage.
- x. Extension cord sets used with portable electric tool and appliances shall be of three-wire type and shall be designed for hard or extra-hard usage. Flexible cords used with temporary and portable lights shall be designed for hard or extra-hard usage.
- xi. Electrical equipment shall not be opened, adjusted, repaired, or otherwise handled until it is de-energized and locked-out according to the lock-out policy.
- xii. De-energized equipment shall be tested before anyone works on it.
- xiii. All metal panels, boxes, covers, conduit, etc., that are part of electrical system shall be grounded.
- xiv. All splices and repairs shall be made inside an approved box or approved splice kit. Tape alone is not acceptable.
- xv. Metal ladders shall not be used for electrical work.
- xvi. All electrical equipment that is exposed to flammable gases or vapors, combustible dust, or ignitable fibres must meet hazardous location requirements in order to prevent explosions.
- xvii. Extension boards must have GFCI/RCCB protection with main power on/off switches. GFCI/RCCB should not be used as power on/off switching.
- xviii. Circuit breakers that protect hand tool receptacles shall have a maximum rating of 20 amps. Waterproof connectors shall be used as necessary.
- xix. All holes in panel boxes and gaps where circuit breakers are missing shall be securely plugged with a fireproof material.
- xx. Circuit breakers shall be matched as closely as possible to the electrical needs they supply.

41. FALL PROTECTION

All persons, on any project that requires them to wear a personal fall arrest or restraint system, will follow these guidelines. A full body harness will be used whenever there is the potential for a fall from a height of 6 feet or more.

41.1. Personal Fall Arrest Systems (PFAS) & Full Body Harness:

A personal fall-arrest system is generally required whenever an individual is at risk of falling 1.8 meter or 5.9 ft or more ft from an elevated position. A properly designed system should include three components:

(A) An **anchor point** capable of supporting a minimum of 5,000 lbs (22.2 kN) per attached worker; will serve as a secure connection point for lifelines, lanyards or deceleration devices.

(B) A **full-body harness** designed to distribute fall-arrest forces over thighs, pelvis, waist, chest and shoulders; if a fall occurs, D-ring located in centre of the back will hold worker in an upright position until rescued.

(C) A **connecting device** such as a lanyard, deceleration apparatus, lifeline or a combination of these items with locking snap hooks. Must have a minimum breaking strength of 5,000 Lbs.

WARNING:

The maximum arresting force an individual is permitted to sustain while wearing a harness is limited to 1,800 lbs (8kN). To stay below this impact force, workers should keep the free fall distance as short as possible (max. 1.8 meter) and consider the use of deceleration devices or shock absorbing lanyards. During fall, the worker shall not come in contact any lower level and bring the worker to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet (1.07 m).

Each worker shall be attached to a separate lifeline and lifelines shall be protected against being cut or abraded.

Full body harness application guideline-

Deceleration apparatuses (shock absorbers) attached double lanyard type harnesses shall be used only at height with fall distance of 6 meter or more.

For fall distance of less than 6 meter or more than 06 meter, self retractable type full body harness shall be used.

Full body harness after one free fall shall not be used again, it shall be condemned.

Harness shall be checked/ inspected for wear/tear or any damage before use.

41.2. Anchorage Connectors and Points

An anchorage connector or point must be capable of supporting 5000lbs. per attached worker. This can be accomplished in a number of ways and must be engineered to ensure the point has that capability.

Only anchorages designed by a fall protection equipment manufacturer must approved by OPGC. Anchorage Points in concrete or attached to wooden structures must be approved by both the Contractor's Qualified Person & EIC.

The anchorage point must be installed at dorsal D-ring (shoulder) height or higher. An anchorage point at feet level is unacceptable for fall arrest application and will not be allowed.

41.3. Authorized Fall Protection Systems/Equipment

Only fall protection equipment approved by the OPGC will be used on OPGC projects.

Storage

The equipment should be stored and hung up freely by the back D-ring in a cool, dry place until needed. If materials appear to be faded or it tags and labels are illegible, consult the equipment manufacturer to determine if replacement is necessary.

41.4. Tips for Fall Protection

- Make sure the harness fits snugly. Tighten all straps.

- Use an anchorage point above your head. Do not tie-off at your feet unless there is no other place to tie-off.
- Use two lanyards for 100% tie-off. One lanyard must be attached at all times and when moving from position to position.
- Never hook two lanyards together to get extra reach.
- Except with specific lanyards, hooks may not be tied back into the lanyard itself.
- Use cheaters only when your lanyard will not reach a tie-off point. Cheaters will not be used while tied off to the inside of a man basket.
- Shock absorbing lanyards may not be used in conjunction with retractable lanyards.
- Never tie a knot in your lanyard to reduce its length

41.5. ACCESS

Stairways and stair towers with complete hand and guardrails do not require fall protection.

Fall protection is not required while using a ladder as a means of access as long as the climbing distance is less than 10 feet. Once a worker has climbed 10 feet a ladder-climbing device is required or an enclosed cage must be present.

If the worker stops at any point to conduct work from a ladder, and the worker's feet are more than 6 feet above the adjacent surface, fall protective equipment is required. A three-point contact must be maintained with a ladder regardless of the height a worker is above an adjacent surface.

42. SCAFFOLDING

All scaffolds and staging shall comply with OSHA standards. Prior to using any scaffolding, it shall be approved by OPGC. A "GREEN SCAF-TAG" indicating OPGC acceptance will be attached to the scaffolding, the scaffolding is not to be used until the approval is given. The scaffolding shall meet the following minimum requirements:

- Timber uprights and ledger shall not be used.
- Metal parts used for scaffolds shall be in good condition and free from corrosion.
- All poles, planks and general materials, used for scaffoldings, shall be kept in good condition and be inspected by a competent person appointed by the Contractor on each occasion before being used for erection.
- No materials, other than those specifically designed for the purpose, shall be used for scaffolding.
- A scaffold shall be erected only by men trained and certified in the job, working under the immediate supervision of a competent foreman, who knows the purpose of the scaffold and how it should be constructed to carry the loads which will be placed upon it.
- Scaffolds shall be securely supported or suspended and where necessary braced to ensure stability. Unless constructed as an independent scaffold, it shall be rigidly connected to the building or structure.
- In the case of partially erected or dismantled scaffolds still capable of being used, access thereto should be effectively blocked and prominent warning notices shall be posted with a "RED SCAF-TAG".
- All platforms, scaffolds and other workplaces, from which persons may fall more than 1.8m (6 ft) shall have edge protection which consist of an upper rail not less than one meter (3 ft 3 inches) in height above the walkway and have at least one intermediate rail.
- Toe boards shall be fitted to all scaffolding.
- When permanent hand rails have to be removed from elevated platforms, rope or wire hand rails shall be fitted in their place.
- Any load-bearing scaffolding should be constructed to a design previously submitted to and approved by an OPGC contact person.
- Parts of staging, tools and other articles and materials shall be properly lowered and shall not be thrown down from a height. They shall be raised by rope or other suitable means and not carried on the person.
- The Contractor's Representative shall ensure that no loose articles and materials are left lying about in any place from which they may fall on persons working, or passing beneath.
- While erecting the scaffolding a RED SCAF-TAG need to be hung until erection is finished

42.1. Requirements for Boards and Planks

- Boards of 51 mm (2 inch) minimum thickness shall be used. These shall be at least 210 mm (8 inches) wide.

- The spacing of board supports shall depend on the thickness of the boards used and the load to be carried. There shall be at least three supports. Support for 51 mm (2 inch) boards shall not be more than 2.5 m (8 feet 6 inches) apart. All boards shall be supported at the ends.
- Boards shall be end-butteted and close boarded throughout. Overhanging of boards of any thickness shall not exceed four (4) times their thickness and not less than 50 mm.

42.2. Working Platform

- All working platforms should be close boarded and all boards should be lashed or secured.
- Widths of platforms vary according to scaffolds purpose.
- As a general rule, if the platforms are to be used only as a footing, they shall be at least 610 mm (24 inches) wide. If small quantities of materials have to be put on them, the platform width shall be increased to 813 mm (32 inches) wide.

42.3. Mobile Tower

- The height of a mobile tower should never exceed three times the length of the shortest side.
- There should be only one working platform on a mobile tower.
- Mobile scaffolds should only be used on ground which is firm and level.
- Moving the tower should only be done by pushing or pulling the base.
- The working platform must be clear of men and materials when the tower is being moved.
- Wheels should be turned outwards and brake must be on and locked before use.
- It is advised to tie the tower to the structure whenever possible.
- Never ride on a scaffold that is being moved.

42.4. Independent Towers

- The tubular scaffold used most often is the independent tower. The independent tower apart from necessary ties stands completely free from buildings or structures and is used mainly for access pipe bridges or high maintenance jobs where only a small working area is required.
- The foundation must be capable of carrying the weight of the tower, equipment and men.
- Base plates must be placed under all standards and if there is any danger of lateral movement they must be securely fixed, substitutes must not be used.
- Special precautions must be taken to provide stability on soft soil, or surfaces likely to be damaged.
- Standards must be vertical and joints must be staggered. The distance between standards must be no more than 2.5 m (8 feet 6 inches).
- Ledgers must be horizontal and fixed to the standards with load bearing clips.
- Generally ledgers will be vertically spaced at about 2 m centers for easy erection; also providing ample headroom if an intermediate working platform is required.
- Diagonal bracings must be fitted on all lifts on all sides and a cross bracing should be fitted at the base and at other levels where necessary to keep the tower rigid, but at least every alternative lift.
- If the height of the tower is more than 3 1/2 times the length of the shortest side it must be adequately tied.
- It is good practice to tie scaffolds to the adjacent structure whenever possible irrespective of height.

42.5. Ladders

- All ladders used in the plant except in scaffoldings shall be made of Glass Reinforced Plastic (GRP) / FRP. No metallic / wood ladders are allowed in OPGC premises.
- Shall be factory made and shall be of sound construction.
- No ladders with treads nailed to the stringers or which are in any other way faulty or unsound shall be used.
- Unless OPGC has granted prior written consent no ladder shall exceed 3.7 m (12 ft) in height.
- Ladders shall not be painted. Clear varnish or polyurethane is acceptable.
- All ladders shall only be used for the purpose for which they were designed.
- The Contractor shall ensure all ladders under their control are inspected for safe, clean and proper working parts before they are used.
- Defective ladders shall not be used, but instead shall be tagged and made inaccessible for use.
- Ladders should be placed upon a level, firm, solid and safe base and leaned against or hung from a solid, safe structure.
- When it is necessary to place a ladder on a non-level, smooth or slick surface, the base of the ladder shall be tied, blocked in place or held by another worker.

- The base of a straight or extension ladder shall be placed back from the wall at a distance equal to one-fourth of the ladder's working length.
- The top of an extension ladder shall be tied off when possible.
- No one shall go up or down a ladder without the free use of both hands.
- If material must be lifted, a hand line must be used.
- Employees shall face a ladder while ascending or descending.
- A ladder used to transfer to a landing must have side rails that extend at least 3 feet above the landing.
- Contractors shall ensure employees under their control are properly trained in ladder safety.
- Where ever the chance hitting ladder with moving traffic or some other equipments exists, adequate protections to be provided with warnings

43. ACCESS TO TRANSFORMERS/SWITCH GEAR ROOMS/SWITCHYARD AND OTHER RESTRICTED AREAS

Contractor will remain outside of all fenced electrical transformer, switchgear rooms, switchyard or any other high voltage areas and restricted areas unless authorized by the OPGC Contract person to enter. If it becomes necessary to enter these areas, the Contractor must notify the OPGC Contract person so that arrangements can be made to secure a safe work area.

44. FIRE PROTECTION:

Fire hydrants, extinguishers, hose racks, and other emergency equipment shall not be covered or blocked and fire equipment lanes must always be kept clear.

All fires must be investigated and reported to OPGC regardless of duration or extent.

All contractor persons should know the method of raising alarm & operation of first aid fire fighting appliances. Nobody should misuse the fire appliances, extinguishers etc.

45. HOT WORK

Any activity which involves naked flames or can produce heat energy or spark shall be considered as Hot Work. e.g. Welding, Burning, Grinding, Cutting.

- The Contractor must coordinate hot work activities with the OPGC Contact person.
- All welding, burning, or other hot work will be carefully planned and safely executed by completion of a Hot Work Permit from OPGC.
- Welding machines and its accessories must be approved type & safe to use. Power supply cable should be of proper rating, joint free, copper and cut resistance type.
- When 'Hot Work' is in progress precautions must be taken as per the Hot Work Permit issued by OPGC to minimize the risk to other persons, particularly from fire.
- Appropriate fire extinguishers shall be made available for the duration of the specific activities as mentioned in the Hot Work permit.
- ***The Contractor shall provide fire watches during hot work activity & shall ensure firewatchers are trained on the use of fire extinguishers and other appropriate fire fighting gear. Fire watchers during fire watching cannot be assigned with other task.***
- The Contractor shall ensure that firewatchers are equipped with appropriate equipment and dedicated only to the duties of the fire watch.
- The Contractor shall ensure that adequate guards and barriers (fire blanket, fire proof sheets) are used to ensure sparks and hot slag are confined to the immediate area and do not contact flammable or combustible materials.
- All open areas and floor grating/ wall openings shall be protected so that sparks or slag cannot reach flammable or combustible materials at any lower level.
- Hot work areas must be barricaded to prevent people from coming into contact with sparks and slag from hot work activities.
- The Contractor must store flammable and combustible chemicals where they are not subject to hot work or other sources of ignition.
- Use appropriate PPE for the job.

46. CONFINED SPACES:

A *Confined Space* is any space of an enclosed nature which is not designed for continuous human occupancy and presents a risk of death or serious injury from hazardous substance or dangerous conditions.

- The Contractor must coordinate Confined Space Entry work activities with the OPGC Contract person.
- Confined Space Entry Permit shall be obtained to enter any Confined Space for any kind of work inside.

- Contractor shall perform no duties that might interfere and disturb the accepted safe working conditions in a confined space.
- Contractor shall maintain all safety barriers around the *Entry Point*.
- Appropriate PPE as per the Confined Space Entry Permit shall be used.
- Appropriate dust mask shall be worn by the *Entrant* if significant quantities of dust are present within the *Confined Space*.
- Head and eye protection shall be worn at all times by the *Entrant* unless specified otherwise by the *Control Room Engineer*.
- A body harness may be required by the *Entrant* if work is to be performed above ground level. An air purifying respirator and cartridge or Self Contained breathing Apparatus (SCBA) shall be used by the *Entrant* if *Entry* into a *Confined Space* containing a *Hazardous Atmosphere* is required and it is not physically possible to entirely remove the *Hazardous Atmosphere*.
- Contractor shall use the safety equipment as per the Confined Space Entry Permit.
- Fire extinguishers suitable for the type of fires those are appropriate to the hazards that may be present in the *Permit Required Confined Space*.
- **Contractor shall deploy trained Confined Space Watcher/Hole Watcher to take control over the Confined Space entry & exit points during the period of work. Confined space opening either will be closed or entry prohibited through warning tape or barrier while no work is taking place inside the confined space. Contractor will not assign task other than Confined space watching to the watchers as long as they are performing the watching.**
- Contractor shall comply strictly with the following **Electrical safety precautions**
- Electrical equipment supplied from the mains should only be used where there are no practicable alternatives. Battery powered electrical equipment or pneumatic powered equipment shall be used whenever possible.
- If there are no practicable alternatives to using electrical equipment supplied from the mains, then they should be 24V. If this is not possible then they should be 110V supplied through a centre tapped transformer with the centre tap earthed.
- Electrical equipment supplied from the mains should contain Ground Fault Circuit Interrupters / Residual Current Devices.
- Electrical equipment supplied from the mains shall have a valid test certificate.

47. HIGH PRESSURE WATER/ SERVICE AIR CLEANERS

Improper use of water jets/ Service Air can cause serious injury. The contractor may only use high pressure washing apparatus with the permission of the OPGC Contact Person.

The contractor must satisfy the OPGC Contact Person as to the training of the operators, the arrangements for the place of work and a safe system of work.

48. SCRAP/WASTE DISPOSAL:

Waste Bins are provided on site for General Housekeeping materials, metal scrap, Hazardous and Oily wastes and Chemical Wastes. Special or Hazardous Materials must not be dumped in general housekeeping bins and metal scrap bins. Please consult with OPGC Contact person for more details.

49. GAS CYLINDERS

The following regulations apply to all industrial transportable gas cylinders including containers for dissolved acetylene.

49.1. Cylinder Identification

Gas cylinders shall be colour coded in accordance with relevant BIS code or applicable Gas Cylinder rule.

Full and empty cylinders must be clearly distinguished and stored apart.

49.2. Storage of Cylinders

- No flammable materials shall be stored on the site with them, or in the immediate vicinity. Cylinders must be kept at a safe distance from any heat source.
- Cylinders shall be stored in such a manner that they can be readily removed in the event of fire.
- They shall be adequately secured to prevent falling over.
- Cylinders shall be stored vertically and secured.

49.3. Handling and movement of cylinders

- Cylinders shall not be subjected to rough usage, or excessive shock, or used as rollers, or supports.

- Cylinders shall not be dropped from a height.
- A proper carriage, or platform and not a sling, shall be used for moving cylinders, whether empty or full.
- When cylinders are being transported, they shall be loaded and firmly wedged to prevent violent contact when the vehicle moves.
- On no account shall cylinder trolleys be towed by motor transport. The transportation of any gas filled cylinder shall always be in a proper rack, regularly maintained and properly inspected at least biannually.
- The Contractor shall ensure that cylinders with faulty valve joints, immovable valve spindles, or valve leakage are immediately removed from the site.
- Only standard valve keys shall be used.
- Only standard automatic pressure regulators and pressure gauges shall be fitted to cylinders.
- Regulators and gauges shall be checked to ensure they are functioning properly and damaged gauges or regulators shall be removed from service.
- RED hose shall only be used for Acetylene and BLACK hose shall be used for Oxygen and Nitrogen.
- Hoses shall be pressure tested and examined to ensure that they are free from cuts, cracks, burns and excessive wear.
- Only secured hose connectors shall be used.
- It is strictly prohibited to bind hose connections with wire.
- All Oxy-acetylene sets which are portable shall be wheeled on a trolley.
- When not in use, blow-pipes and hoses shall not be left in confined spaces or enclosed areas.
- Where this cannot be done, the Oxygen and Acetylene connections shall be disconnected at the cylinders situated outside. Merely closing the valve is not a disconnection.
- Empty cylinders and cylinders no longer required shall be removed from the Site as soon as practicable, caps shall be in place.
- Flashback arrestors (ESAB or any other ISI approved type) shall be fitted at the outlet of the regulator and at inlet of the cutting torch.
- When not in use, all cylinders shall have protecting caps screwed on.
- Cylinder valves shall be closed immediately when gas is not required, or when the cylinder is empty and the hose depressurized.

50. RADIOGRAPHY AND RADIO ACTIVE SUBSTANCES

- Radiography shall be done only after achieving a valid safety document. Proper barricading of the area and paging on the loud speakers should be done
- All operations involving the use of radio active substances shall be supervised by the Contractor to ensure that protective measures are properly maintained and to check the extent of the protection afforded in practice.
- The Contractor is required to provide OPGC with a list of radio active sources held by the Contractor and all employees who use or store these radio-active sources on OPGC's property.
- The Contractor shall be responsible for the supply, operation and regular testing of all necessary monitoring equipment and to ensure that all protection barriers are placed and altered as a result of survey radiation level readings in accordance with internationally acceptable levels.
- All radioactive substances not in use shall be kept securely in a dedicated storage place. The storage place should be clearly marked with the warning sign and the wording: "DANGER - RADIOACTIVE MATERIAL" in clear and indelible print. Its access hatch or door should be provided with a lock, the keys of which should be kept by the authorized radiographer.
- Only authorized personnel should handle radio active sources.
- Before any radiography work is started, the Contractor shall be required to establish procedures dealing with accident/incidents and foreseeing an emergency.
- The procedure shall clearly define responsibilities and actions/measures to be implemented.
- The emergency procedures shall be submitted to OPGC Contact person for review and approval.
- The Contractor shall also ensure that all personnel involved have been carefully instructed.

50.1. During transport, radioactive substances should be kept in sealed sources for radiography with the exposure container should be kept inside a lead-lined box which has the radiation warning sign on the outside.

50.2. Handling Procedure and Personal Protection

- Keep maximum distance from the source.
- Provide maximum shielding

- Keep exposure time down.
- A radiography permit shall be obtained on each occasion radiological work is carried out.
- A barrier shall be erected around each area where the source is exposed so that the level of radiation at the barrier does not exceed 0.75 Micro Seiverts per hour in air.
- Suitable warning notices for display at barriers shall have the wording "*RADIATION - DO NOT ENTER*". The notices shall also include the radiation symbol.
- All persons using radioactive substances shall be trained and certified in the use of such substances.
- The perimeter of the area shall be patrolled during the period of source exposure.
- An exposed source must be immediately returned to its safe container on the request of the operating personnel, or in the event of a fire or other emergency occurring
- Any worker liable to be exposed to ionizing radiation shall wear on the appropriate part of his body a film badge to measure the amount of radiation accumulated.

51. EXCAVATION

- The Contractor shall ensure that no Excavation work shall be carried out without the issue of an appropriate Safety Document.
- Any buried cables or pipelines unexpectedly encountered during excavation work shall be reported immediately to the OPGC Central Control Room and the work shall cease.
- Where, because of the nature, shape and slope of the excavation, material is liable to fall more than 1.3 meters (4 ft.) onto a person working, the sides of the excavation must be adequately shored.
- Shoring shall be rigid and without holes or opening, and be properly braced with support structure.
- The shoring of every excavation where men are to work shall be examined each day by the Contractor's Representative.
- Excavated earth shall not be stored close to the trench edges and a minimum distance of at least one and a half times the depth of the trench shall be observed.
- No load, plant or equipment should be placed or moved near the edge of any excavation where it is likely to cause the collapse of the side of the excavation.
- Excavations in which persons are working and into which a person is liable to fall shall be suitably or protected by a barrier.
- If the excavation is to remain open after dark, warning lights shall be placed around the excavation to warn others of its presence.
- Temporary crossings over the trench shall be at least 609 mm (2 feet) wide and sufficiently strong with a railing on one side.
- The Contractor shall be responsible for the provision of all barricades, roping off and the provision of flashing lights as is required for the safety of persons and vehicles.

52. SURPLUS MATERIALS

Unless otherwise directed through written instructions issued by OPGC, Contractor shall promptly remove all excess surplus material from the jobsite. Final payment for performance of the work shall not be due and payable until such materials are removed from the jobsite. If surplus materials are not removed from the job site within fifteen (15) days of completion of the Work, OPGC may dispose of the materials and offset the cost associated with disposal against the unpaid balance of the Contract Price.

53. SUSPENSION OF WORK AND LIMITATION OF LIABILITY

OPGC reserves the right through the project contact to suspend all or any portion of the work being performed in violation of these provisions. OPGC shall not be liable in contract, tort (including without limitation negligence and strict liability) warranty or under any other legal theory for damages, costs or expenses related to any suspension or stoppage of work, loss of business, or other special, incidental, consequential or punitive damages in connection with any failure on the Contractor's part to establish, enforce, or adequately monitor its Health and Safety Program.

54. TEMPORARY BUILDING:

Temporary buildings and material storage areas shall only be allowed upon written approval of the concerned Project Manager/EIC. They shall not be set up under power lines or pipe ways.

55. UNSAFE AND/OR INAPPROPRIATE BEHAVIOR, DICIPLINARY ACTION

Any Contractor employee who appears unable to perform his job in a safe manner or exhibits any type of behavior inappropriate for the work place will be reported to the Contractor's on-site supervisor for evaluation

and possible removal from the site. OPGC will not tolerate at any time any conduct that threatens, intimidates or coerces an OPGC person, another Contractor or any member of the public.

55.1. Disciplinary action and penalty against safety rules violation

- Unsatisfactory safety performance will go against the contractor in future bids.
- OPGC reserves the right to even terminate unsafe Contractor from Contract with notice.
- In addition to the above disciplinary action, additional penalty for Safety Violation shall be applicable.
- The penalty system is divided into two categories, Minor and Major. OPGC EHS shall decide about the minor or major safety penalty based on type of violations & risk involved with the violations

55.2. Examples of Safety violations

- Not wearing / improper wearing of personal protective equipment (PPE) as per OPGC PPE rule. Example- Safety Shoe, Helmet, Safety glass, Earplug, Hand gloves and other PPEs.
- Using grinder without wheel guard
- Taking electrical connection without using ELCB.
- Using damaged welding cable, faulty joints in cable
- Non-use of flash back arrester in oxy acetylene cutting set
- Non availability of standby person (hole watch) on man hole during entry into
- Confined space
- Not responding to emergency sirens as per emergency handling procedure.
- Working overhead on road/ pathway without barricading
- Dumping excavated earth on edge of excavation
- Non-reporting of Near Miss, accident, fire and/or explosion and property damage incident.
- Improper housekeeping. Leaving work area with debris/ waste/ scrap material haphazardly
- Unauthorized disposal of hazardous substance (waste Oil, Grease, Chemical, Toxic Substance)
- Leaving excavated soil on road
- Spillage of waste on roads & work places
- Smoking inside plant premises.
- Unauthorized carrying of weapon inside Plant Premises.
- Working without valid work permit.
- Not complying with written instruction on the work permit
- Working without Job Safety Analysis(JSA) for high & medium risk jobs
- Working without Job Safety briefing for high & medium risk jobs
- Not providing fire extinguisher for hot work and fire watch.
- Use of none testing/ certified lifting machine, tools and tackles
- Use of substandard scaffold (such as substandard platform in terms of access, guard rail, toe guard & gaps on platform surface, non-use of soleplate/base plate, sagging scaffold etc.)
- Use of above 24V light fittings in confined space without approval
- Working above 5.9 ft height without fall protection
- Working without rigging & slinging safety measure
- Persons working under suspended load in barricaded area
- Abuse of safety equipment/ facility/ emergency equipment.
- Blocking access of emergency equipment or exits.
- Mishandling of gas cylinders
- Handling & disposal of hazardous substances in unauthorized manner.
- Violating OPGC any of the environmental guideline attached in separate sheet.

The following penalties shall be imposed on the contractor with the charge of safety violation by OPGC and shall be deducted from the Contractor's running/ final bill. Penalty can be imposed by E-I-C/Dept Heads & TIs/ Safety Officer/ EHS Manager/Safety Rovers or any officer authorized by the OPGC management.

- For first instance of Safety rule violation, counseling and verbal warning with punching of yellow spot on I Card
- On observation of second instance of Safety rule violation, counseling and strong verbal warning with punching of blue spot on I Card
- On observation of 3rd Safety rule violation, punching of red spot on I Card with duty suspension or permanent removal from site

- For major Safety Violation for one instance also, there may be direct punching of red spot in I card with permanent removal/ termination of the Contractor employee(s) responsible for that violation.
- Inadequate Safety Supervision leading to repeated minor or medium risk type safety violation- Fine/Penalty of Rs.2000/- (Rs. two thousand only) and I card punching of responsible contractor Supervisor.
- Inadequate Safety Supervision leading to repeated major risk type safety violation- Fine/Penalty of Rs.2000/- (Rs. two thousand only) and I card punching of Contractor Supervisors with suspension or even termination of responsible contractor supervisor.

56. GENERAL GUIDELINES FOR ENVIRONMENTAL PROTECTION

The Contractor shall pay due regard to the environment by acting to preserve air, water, human life, animal and plant life from adverse effects resulting from its work or operation and to minimize any nuisance which may arise from such work or operations.

1. Uncontrolled releases of OPGC regulated materials, hazardous wastes, special wastes, and PCB or PCB contaminated materials from OPGC locations into the environment are prohibited.
2. All spills of OPGC regulated material, hazardous waste, special waste and PCB or PCB contaminated material must be cleaned up and waste residues generated disposed of properly. Planning must begin immediately and clean up must be initiated within 72 hours of discovery of the spill.
3. Use of PCB (Poly Chlorinated Biphenyl) containing products/ materials is prohibited.
4. Used oil & lubricants generated during work shall be collected in containers provided with lid and shall be placed at designated transit storage shed. This shall be subsequently sent to warehouse for storage in the designated shed in front of Store Shed No. 3 and final disposal to authorized recyclers / re-processors. Waste oil/lubricant spilled on the floor shall be contained and collected by the use of spill protection kit.
5. Used lead acid batteries shall be sent to Warehouse for storage at designated shed and final disposal to authorized recyclers / re-processors. Spilled lead acid shall be contained and collected by the use of spill protection kit. New lead acid batteries shall be procured against return of damaged used batteries to Supplier.
6. E- Wastes and used Ni-Cd batteries, fluorescent lamps, mercury vapour lamps are also treated as hazardous materials. These are to be collected and stored in identified places on impervious floor and under shed to avoid contamination. These shall be disposed in authorized manner.
7. Oil contaminated scraps, cotton wastes and other oil contaminated wastes shall be collected in specified collecting bins (designated as oil contaminated waste collecting bin) that are to be kept near work area and shall be sent to Warehouse for storage in specified collecting bin and final disposal to authorized recyclers/re-processors, if possible. Otherwise the wastes shall be disposed off by warehouse in lined impervious covered pits.
8. Onsite work areas shall not be stored with improper and/or excessive amounts of scraps and debris.
9. Lead waste & other Non-ferrous metal wastes like, zinc, brass, copper, nickel and electronic wastes etc shall not be thrown around. It shall be collected in collecting bins and sent regularly to warehouse for storage in designated bins/shed and final disposal to authorized recyclers/re-processors.
10. Spent Resins shall be collected in barrels, provided with lids and shall be disposed as per authorized disposal means.
11. Acid/alkali / any other hazardous chemical contaminated scraps/wastes shall be collected in designated collecting bins to be placed near the work area and shall be returned to Warehouse for storage in designated collecting bin and final disposal to authorized recyclers/re-processors or else, these scraps can be disposed of by Ware House in lined impervious covered pits. Similarly, acid/alkali/ any other hazardous chemical contaminated barrels/jars shall be returned to Warehouse for disposing it back either to the supplier (as per the condition of Purchase Order) or to the authorized recyclers.
12. Materials that yield Hazardous Substances shall be identified prior to their initial purchase.
13. Ample spill response materials shall be available to deal with any potential hazardous and special waste releases.
14. All containers used and stored on the site must have proper labels.

15. Debris and solid wastes generated during any activity shall be collected & disposed regularly at the designated place and the combustible materials shall be controlled fired under direct supervision of OPGC Fire or Safety Officer. It shall not be dumped /thrown here and there.
16. Tree trimming and pruning wastes shall be kept sufficiently away from plant. Steps shall be taken to dispose these to outside agencies to avoid unwanted fire.
17. Carry bags made of virgin or recycled plastic, which are less than 20 micron thick, are not allowed to be used in ITPS.
18. Energy efficient products (eco marked products) will be preferred for use inside ITPS.
19. Goods packing material shall be bio degradable and environmental friendly material.
20. All chemicals shall be procured with its material safety data sheet (MSDS). The MSDS shall remain with the chemical for its entire period of stock inside OPGC.
21. Hazardous chemicals or substances in bulk transport will come with MSDS, TREM Card, hazard labeling of the lorry and containers. The transporters staffs/ staff shall be properly trained on emergency handling of the chemical.
22. Emergency preparedness shall be in place to handle chemical emergency or any other hazardous material emergency so as to prevent risk to environment.
23. Vehicular emission and noise shall be minimized in work zones by restricting use of defective vehicles, machineries and Tools & Plants.
24. Vehicles shall be certified with valid pollution under control certificate.
25. Source air emissions shall be controlled so as to meet regulatory norms. In case of incidental higher emission level, immediate control measure shall be taken on priority. Continuous emission monitoring for Stack SPM, NOx, SO2 shall be made available all time except the period of planned maintenance. Alternative offline monitoring shall be in practice during the period of on line equipment maintenance.
26. Fugitive emission shall be controlled in work places (CHP, AHP, ESP, Ash Pond & Dry ash storage silo areas). These places shall be tested for dust concentration periodically to ensure taking step to reduce dust emission level to acceptable state. People working in these areas shall use dust mask to prevent inhaling dust.
27. Sufficient water spraying shall be ensured in haul roads and working areas to reduce fugitive emission during earth work by mechanical means.
28. While painting any structural materials on ground, the structural materials shall be kept on any impervious barrier so as to avoid land contamination by paints.
29. Use of Ozone Depleting Substance (ODS) like CCL4, CFC-11, CFC-12, Halon and other ODS based substances shall be phased out in phased manner. Venting of ODS gas to atmosphere is forbidden. During phasing out process of these substances, these ODS shall not be released to atmosphere. These gases shall be handled as per local regulation guideline. CFC containing equipments like refrigerators and hydrogen driers shall be replaced with non CFC refrigerant containing equipments.
30. SF6 consumption shall be managed in such way that there will be no waste or/ and release to atmosphere. The user shall maintain a consumption record covering the equipment name in which the gas is used, quantity and date of use.
31. Asbestos ropes and packing shall not be used in any work. No new asbestos sheets shall be used in any work. Before cutting/handling old asbestos sheets, the sheets shall be made wet and handled by using nose mask and hand gloves. Waste asbestos pieces shall be disposed in lined impervious covered pits.
32. During construction and maintenance works, melting of Bitumen should be done by using fuel oil / fire wood. In no case burning of rubber tyres will be allowed.
33. Smoking is prohibited inside plant.
34. Optimum utilization of water, energy and raw materials shall be ensured by minimizing the loss in any activity.
35. Spitting on walls is prohibited.
36. Preference shall be given for using eco-friendly materials/packing and technology, wherever it is techno-economically viable.
37. Special care shall be given for good house keeping.
38. Non-biodegradable solid wastes like plastic pouches/packing materials shall be disposed in lined impervious covered pits.
39. Empty paint drums, brushes shall not be thrown around. It shall be the responsibility of the contractor to dispose it out side ITPS as per the provision of Hazardous Wastes (Management & handling) rule.

40. Waste water generated inside plant and sewage effluent shall be reused
41. Ground water and surface water adjacent to ash disposal area and coal pile area shall be tested periodically so as to ensure no adverse impact on environment.
42. Spillage and disposal of any liquid or solid waste into storm water drains is prohibited.
43. Spillage of Chemical or OPGC regulated material shall be reported to Manager (Environment) within 01 hour of the incident occurs.
44. For safe Handling and Transportation of Hydrogen, Chlorine, Petroleum Products and other Chemicals please MSIHC rule.
45. Any noisy operation more than 85dBA shall be carried with the use of appropriate noise abatement barrier. Wherever barrier cannot be provided, the person nearby must have ear protection.
46. Environmental monitoring equipment that has been originally designed and installed must be satisfactorily maintained and continually operated (with the exception of standard downtime for planned or unplanned maintenance).
47. Any abnormal environmental incident observed/ noticed shall be communicated to EHS

Appendix-1, Job Safety Analysis (JSA) Format:

Format No: ER 5/10– F2, JOB SAFETY ANALYSIS (JSA), IB THERMAL POWER STATION, OPGC						
Sl. No.	Department	Equipment	Location	Job description		
	Plant Civil	X	Y	Pouring concrete at height		
JSA Performed by-		Reviewed & Approved by-		Issue Date-		
HAZARD TEXT/TYPE						
PHYSICAL HAZARDS			ELECTRICAL HAZARDS	CHEMICAL/ GAS HAZARDS	EXCAVATION	OTHERS
Noise	Fall from height	Force (Push/Pull)	Shock/ Electrocutation	Flammable/ Explosive	Collapse/Sliding	Fire
Radiation	Fall (Slip/Trip)	Caught in/on or between	Static electricity	Fumes Inhalation	Underground live cable damage	Heavy Wind/Rain
Confined space	Fall down/below	Struck by/against	Arc/flash blast	Ingestion/Absorption	EGRONOMICS	Dust exposure
Pressurized Steam/Air	Fall of Objects from height	Extreme weather (Hot/Cold)	BIOLOGICAL HAZARDS	Body/Eye Contact	Poor Posture	Oil spill
Contact with Hot surface	Contact with moving parts	Poor illumination	Snake/Insect bite/Virus infection	Spillage	Repetitive motion	Human factor
PPEs to be used		Hard hat, Safety glass, suitable hand gloves, Safety Shoe, Steel toe gum boot, Full body harness, red & green reflective vest				
Tools required						
SEQUENCE OF BASIC STEPS		SAFETY, HEALTH & ENVIROMENTAL HAZARDS		CONTROL MEASURES		
Emergency Safety Measures:-						
Emergency Contacts- Main Control Room- 222, 233,244, Fire- 777, 222257, Ambulance- 248/277, Hospital-666						
Overall Job Risk Category- (High/Medium):-						

Pre Job Briefing (PJB) is applicable to all persons involved with the task. PJB shall be performed before the work begins			
JSA Review during PJB:-			
Pre Job Briefing (PJB) Acknowledgement: I undertake that the JSA is communicated to me effectively			
Name	Signature	Name	Signature

Appendix-2
OPGC HSE RULES AND REGULATIONS
FOR CONTRACTORS

UNDERTAKING

I hereby undertake that:

- (1) I have received a copy of OPGC HSE rules & regulations for Contractors, and read, these rules & regulations;
- (2) I agree to execute the work under all provisions contained herein;
- (3) I understand & will make my employees who will work at OPGC site understand the applicable rules & regulations;

Signature: _____

Name : _____

Date: _____

Contract Company: _____ Seal-----

Appendix- 3

EHS Violation Record for Contractor	Date: _____
Ib Thermal Power Station, Banaharpali	
Name of Violator: _____	
Location of Violation: _____	
Type of Violation: _____	
Contractor's Name _____	Signature-----
Observer's Signature Name _____	Signature_____



Environment, Health & Safety Policy

Orissa Power Generation Corporation Limited., at Ib Thermal Power Station (ITPS), Banharpali, Jharsuguda, commits to have continual improvement in the Environment, Health and Safety standard in all its activities related to Power generation at all times.

To achieve this, the objectives envisaged for commitment are to -

1. Minimize impact on the environment through control and prevention of Pollution.
2. Conserve resources used as input.
3. Minimize fugitive emission & improve work zone condition.
4. Manage solid & hazardous waste in a safe and eco-friendly manner.
5. Believe "Put Safety First at OPGC" & "Safety is Our Way of Life".
6. Minimize risk due to hazards associated with its activities and prevent injury and ill health to all persons working at ITPS.
7. Adopt Zero Tolerance on OPGC Safety Cardinal Rules and be responsible and accountable for Safety of all persons working at ITPS.
8. Empower to stop & report any work when there is a reasonable belief that the work poses imminent risk of injury.
9. Be responsible for own Safe Behaviors & those of co workers.
10. Reward outstanding Environment, Health & Safety performances & discourage 'at-risk' behaviours.
11. Comply with applicable Environment, Health & Safety regulations and other requirements.
12. Have on-site emergency plan & preparedness for handling various emergency situations related to Environment, Health & Safety.
13. Build Environment, Health & Safety awareness among all persons working for or on behalf of ITPS through awareness campaigns.
14. Communicate this Policy to all persons working at ITPS, contractors, suppliers, visitors and other interested parties.



Indranil Dutta

Occupier & Director (Operation), OPGC
Date: 23.06.2011

HSE & OHSAS

1.0	<p>OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/ QUALITY ASSURANCE PROGRAMME : BHEL, Power Sector Regions (PSNR/ER/WR/SR) are each certified for ISO 9001. Quality of work to customer's satisfaction and fulfillment of system requirements are the essence of ISO 9001 certification. BHEL, PS Region have HSE certification (ISO 14001 & OHSAS 18001) and therefore Contractor also shall organize / plan/ perform all their activities to meet with the applicable requirements of these standards.</p>
1.1	<p>HSE (Health, safety & Environment): Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL. HSE requirements in brief, are given below :-</p>
1.1.1	<p>Contractor will nominate one of their qualified and experienced employees as Safety Officer, who will be responsible for all HSE related issues of contractor's work area. Safety Officer will have authority to stop any activity, in case he observes that the activity is not being carried out in safe manner. He will conduct surprise inspection as well as periodic inspection/drill (at least once in a Week) and submit such reports to BHEL. He will conduct periodic meetings with working groups and explain HSE issues and use of PPEs to them. Reports of such meetings will be submitted to BHEL. Contractor will develop suitable work procedures based upon HSE guidelines and OCPs and implement it. Such work procedures will consist of Area of work, T&P Details, Work Procedure, PPE requirements etc.</p> <p>Contractor should highlight the requirement of safety to staff and labour through daily tool box meeting before start of the day's job</p>
1.1.2	<p>The contractor shall ensure that proper job specific health check-up is done by medical professional for their employees during initial mobilization and thereafter if there is any change of job.</p>
1.1.3	<p>Following personnel protective equipments (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured :-</p> <ul style="list-style-type: none"> - HELMET - SAFETY GOGGLES & WELDING FACE SHIELDS - SAFETY BELTS AND PROTECTIVE NET FOR WORKING AT HEIGHT - SAFETY SHOES - EAR PLUG - ANY OTHER SAFETY EQUIPMENT REQUIRED FOR SAFE COMPLETION OF THE WORK

HSE & OHSAS

1.1.4	Providing appropriate First Aid facilities for prompt treatment of injuries and illness at work place. Arranging training to contractor workmen/ employees for giving first aid.
1.1.5	Arranging ambulance in case of any emergency situation .
1.1.6	Identification of nearest hospital and health check-up of workmen/employees
1.1.7	Providing filtered drinking water at work place in cool container.
1.1.8	Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
1.1.9	Identification of nearest fire station and display contact telephone nos. / person's name around work places for cases of emergencies .
1.1.10	Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
1.1.11	Fulfilling safety requirements at all power tapping points.
1.1.12	Red & White caution tape of proper width(1.5 to 2 inch) to be used for cordoning unsafe area such as open trench, excavation area etc.
1.1.13	Providing contractors company logo on cloths /uniform/ proper identity cards with photographs, for correct identification of people working at project site .
1.1.14	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.
1.1.15	Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place .
1.1.16	All scaffolding/ platforms should be made from materials of appropriate quality/grade so that these are safe for use. It should be certified/declared safe for use by an experienced contractor person, before any scaffolding/platform is used.
1.1.17	All T&Ps/ MMEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL.
1.1.18	Ensure that the regulatory requirement of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
1.1.19	Safety slogan, Safety/ Caution boards , wherever required to be displayed in consultation with BHEL.

HSE & OHSAS

1.1.20	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. Ensure proper cleanliness of work place, housekeeping and waste management (including proper waste disposal) on daily basis.																				
1.1.21	The Contractor is required to provide proper safety net systems where ever the hazard of fall from height is present as per instruction of BHEL Engineer. The safety nets shall be fire resistant, duly tested and shall be of ISI Mark 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.																				
1.1.22	<p>All applicable OCPs (Operational control procedures) will be followed by contractor 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 contractor will follow this as well, within quoted rate. These OCPs (applicable ones) will be made available to contractor during work execution at site. However for reference purpose, these are kept with Safety Officer of BHEL at the Power Sector Regional HQ, or available in downloadable format in the website, which may be refereed by contractor, if they so desire.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;"><input type="checkbox"/></td> <td>OCP for safe handling of chemicals</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for Electrical safety</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for energy conservation</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for safe welding and gas cutting operation</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for fire safety</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for safety in use of hand tools</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for first aid</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for food safety at canteen</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for safety in use of cranes</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>OCP for storage and handing of gas cylinders</td> </tr> </table>	<input type="checkbox"/>	OCP for safe handling of chemicals	<input type="checkbox"/>	OCP for Electrical safety	<input type="checkbox"/>	OCP for energy conservation	<input type="checkbox"/>	OCP for safe welding and gas cutting operation	<input type="checkbox"/>	OCP for fire safety	<input type="checkbox"/>	OCP for safety in use of hand tools	<input type="checkbox"/>	OCP for first aid	<input type="checkbox"/>	OCP for food safety at canteen	<input type="checkbox"/>	OCP for safety in use of cranes	<input type="checkbox"/>	OCP for storage and handing of gas cylinders
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<input type="checkbox"/>	OCP for manual arc welding
<input type="checkbox"/>	OCP for safe use of helmets
<input type="checkbox"/>	OCP for good house keeping
<input type="checkbox"/>	OCP for working at height
<input type="checkbox"/>	OCP for safe excavation
<input type="checkbox"/>	OCP for safe filling of Hydrogen in cylinder
<input type="checkbox"/>	OCP for illumination
<input type="checkbox"/>	OCP for handling and erection of heavy metals
<input type="checkbox"/>	OCP for safe acid cleaning
<input type="checkbox"/>	OCP for safe alkali boil out
<input type="checkbox"/>	OCP for safe oil flushing
<input type="checkbox"/>	OCP for steam blowing
<input type="checkbox"/>	OCP for safe working in confined area
<input type="checkbox"/>	OCP for safe operation of passenger lift, material hoists & cages
<input type="checkbox"/>	OCP for Vehicle maintenance
<input type="checkbox"/>	OCP for safe radiography
<input type="checkbox"/>	OCP for waste disposal
<input type="checkbox"/>	OCP for working at night
<input type="checkbox"/>	OCP for blasting
<input type="checkbox"/>	OCP for DG Set
<input type="checkbox"/>	OCP for handling & storage of mineral wool
<input type="checkbox"/>	OCP for drilling, reaming and grinding(machining) etc.
<input type="checkbox"/>	OCP for hydraulic test
<input type="checkbox"/>	OCP for spray insulation
<input type="checkbox"/>	OCP for trial run of rotary equipment
<input type="checkbox"/>	OCP for stress relieving
<input type="checkbox"/>	OCP for material preservation
<input type="checkbox"/>	OCP for cable laying/tray work
<input type="checkbox"/>	OCP for electrical maintenance
<input type="checkbox"/>	OCP for transformer charging
<input type="checkbox"/>	OCP for safe handling of battery system
<input type="checkbox"/>	OCP for computer operation
<input type="checkbox"/>	OCP for storage in open yard
<input type="checkbox"/>	OCP for sanitary maintenance
<input type="checkbox"/>	OCP for batching
<input type="checkbox"/>	OCP for piling rig operation
<input type="checkbox"/>	OCP for gas distribution test

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	<input type="checkbox"/> OCP for cleaning of hotwell / deaerator <input type="checkbox"/> OCP for electro-resistance heating <input type="checkbox"/> OCP for compressor operation <input type="checkbox"/> OCP for O&M of control of AC plant & system <input type="checkbox"/> OCP for air compressor <input type="checkbox"/> OCP for passivation <input type="checkbox"/> OCP for Safe EDTA Cleaning <input type="checkbox"/> OCP for Safe Chemical cleaning of Pre boiler system <input type="checkbox"/> OCP for Safe Boiler Light up <input type="checkbox"/> OCP for Safe Rolling and Synchronisation
1.2	<input type="checkbox"/> OCP for Safe Loading of Unit SAFETY AND CLEANLINESS : The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per discretion of BHEL or its authorised officials (Site Construction Manager) to prevent loss of human lives, injuries, to personnel engaged and damage to property. Before commencing the work, the contractor shall submit a "Safety Plan" to the above authorised BHEL official and obtain approval on the same. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, materials and environment during execution of the work. This will also include an organization structure, role and responsibilities of the concerned key personnel, the safety practices that will be followed, PPEs deployed, plan for
1.3	handling critical activities and emergencies. If the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by the authorised BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor.
1.4	During the course of construction, alternation or repairs, scrap with protruding nail, sharp edge etc and all other debris shall be kept clean from working areas, passage, ways and stairs in and around site.
1.5	Combustible scrap and debris shall be removed at regular intervals during the course of execution. Safe means shall be provided to facilitate such removal. The combustible scrap should be stored in safe place away from the plant materials to avoid fire accidents. The area shall be chosen in consultation with the Engineer and to be cordoned off.
1.6	Rigging equipment for materials handling shall be inspected prior to use in each shift and as necessary during its use to ensure that it is safe. Defective

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	rigging equipment will be removed from service.
1.7	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.
1.8	Contractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the contractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.
1.9	Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the contractor 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 contractor shall be responsible for obtaining the same.
1.10	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.
1.11	When cylinders are transported by powered vehicle they shall be secured in a vertical position.
1.12	All workmen of the contractor working on construction area shall wear safety shoes, hand gloves, safety helmets and safety belt as applicable. The contractor shall provide to its workforce and ensure the use of following personnel protective equipment as found necessary and as directed by BHEL.
1.12.1	Safety Helmets conforming to IS-2965 : 1984
1.12.2	Safety Belts conforming to IS-3521:1983
1.12.3	Safety Shoes conforming to IS-1989 : 1978
1.12.4	Eye and face protection devices conforming to IS – 8620 : 1977 & IS – 8950 : 1978.

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1.12.5	Hand and body protection devices conforming to IS – 2575 : 1975 and IS – 6994 : 1973, IS – 8907 : 1970 & 8619 : 1977
1.13	The contractor shall insure his workmen against all accidents and the policy shall be presented to BHEL Engineer on demand. Other wise, BHEL will arrange the same and the expenditure towards this will be debited to the contractor. In case of a fatal or disabling injury accident to any person at construction site due to lapses by the contractor, the victim and/or his/her dependants shall be compensated by the contractor as per statutory requirements. However, if considered necessary BHEL shall have the right to impose appropriate financial penalty on contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependence before imposing any such penalty. Appropriate enquiry shall be held by BHEL giving opportunity to the contractor for presenting his case. Above safety conditions are not exhaustive but gives an idea for the contractor and contractor shall adhere to all safety precaution given by the Engineer at site.
1.14	The contractor 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 during night hours at the work spot as well as at the pre-assembly area.
1.15	The contractor shall be responsible for provision of all the safety notices and safety equipment as enjoined on him by the application of relevant statutory regulation / provisions and/or as called upon by BHEL from time to time. He shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instruction that may endanger safety of men, equipment and material.
1.16	The contractor shall provide temporary fencing wherever required as a safety measure against accident and damage to properties. Suitable caution notices shall be displayed where access to any part is found to be unsafe and hazardous.
1.17	Contractor shall ensure safety of all the workmen, material and equipment either belonging to him or to others working at site. He shall observe safety rules and codes applied by BHEL without exception.
1.18	It will be the responsibility of the contractor to ensure safe lifting of the equipment, taking due precaution to avoid any accident and damage to other equipment and personnel. All requisite tests and inspection of handling

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	equipment, tools & tackle shall be periodically done by the contractor. Defective equipment shall be removed from service. Any equipment shall not be loaded in excess of its recommended safe working load.
1.19	The contractor shall provide necessary first aid facilities for all his employees, representatives and workmen at site and BHEL shall have no obligation in this regard. 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 contractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.
1.20	All the contractor’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. Contractor should nominate his supervisor to coordinate and implement the safety measures.
1.21	Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labour colony etc. Such fire protection equipment shall be easy and kept open at all times. The fire extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders. All other fire safety measures as laid down in the “codes for fire safety at construction site” issued by safety coordinator of BHEL shall be followed. Non-compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring either to his materials or equipment or those of others.
1.22	The contractor shall at his cost, remove from vicinity of work at least once each day all combustible waste, scrap, painting materials, rubbish, unused or other materials and deposit them in places specified by BHEL to keep the work site clear and tidy. Use of undercoated canvas paper, corrugated paper, fabricated carton, plastic or other flammable materials shall be restricted to the minimum and promptly removed.
1.23	The contractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes turbine casings, condensers etc.
1.24	All portable electric tools used by the contractor 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 contractor to carry out all types of electrical works.

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1.25	In case of any delay in completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably.
1.26	Valve protection caps shall be kept in place and secured.
1.27	The contractor shall be responsible for the safe storage and handling of his radio-active sources as per BARC rules and regulations.
1.28	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.
1.29	If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by BHEL, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than 7 days indicating the steps that would be taken by BHEL.
1.30	If the contractor succeeds in carrying out its job in time with out any fatal or disabling injury accident and without any damage to property BHEL may, at its sole discretion, favorably consider to reward the contractor suitably for the performance.
1.31	The contractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.
1.32	The contractor 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. BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the contractor. 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 contractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations.
1.33	The contractor shall arrange adequate number of persons specifically for clearing any debris and for house keeping of the erection area including restacking of components in the erection areas.

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1.34	In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the contractor after holding an appropriate enquiry.
1.35	The contractor shall submit report of all accidents, 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. In addition periodic reports on safety shall also be submitted by the contractor to BHEL from time to time as prescribed by the Engineer.
1.36	Before commencing the work, the contractor shall appoint/nominate a responsible person to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
1.37	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.
1.38	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 swaying, from the building or structure.
1.39	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.
1.40	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.

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1.41	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.
1.42	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.
1.43	A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.
1.44	All personnel of the Contactor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal worker shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
1.45	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.
1.46	All trenches, four feet or more in depth, shall at all times be supplied with at least one ladder for each 30 m in length or fraction thereof. The ladder shall be extended from bottom of the trench to at least 90 cm above the surface of the ground. Sides of the trenches which are 1.50 m or more in depth shall be stepped back to give suitable slope or securely held by timer bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
1.47	The Contactor shall take all measures at the sites of the work to protect all persons from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceeding at 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 Contractor be paid to compromise any claim by any such person should such claim proceeding be filed against BHEL, the Contractor hereby agrees to indemnify BHEL against the same.
1.48	Before any demolition work is commenced and also during the process of the

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	work the following shall be ensured:
1.48.1	All roads and open areas adjacent to the work site shall either be closed or suitably protected.
1.48.2	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.
1.48.3	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.
1.49	All necessary personnel safety equipment as considered adequate by the Engineer should be kept available for the use of the persons employed in the Site and maintained in a condition suitable for immediate use and the Contactor should take adequate steps to ensure proper use of equipment by those concerned.
1.49.1	Workers employed on mixing asphalted materials, cement and lime mortars shall be provided with protective foot wear and protective goggles.
1.49.2	Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
1.49.3	Those engaged in welding works shall be provided with welder's protective eyesight lids.
1.49.4	Stone breakers shall be provided with protective goggles and protective clothing and seated sufficient to safe intervals.
1.49.5	Where workers are employed in sewers and manholes, which are in use, the Contractor 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 accident to the public.
1.49.6	The Contractor 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, the following precautions should be taken.
1.49.6.1	No paint containing lead or lead products shall be used except in the form of paste or ready made paint.

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1.49.6.2	Suitably face masks should be supplied for use by the workers where paints are applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
1.49.6.3	Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
1.50	When the work is being done near any place where there is risk of drowning all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
1.51	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 accidentally 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.
1.52	All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near the places of work.
1.53	The contractor 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.
1.54	The Contractor 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 contractor shall adhere to such instructions. BHEL may prohibit the use of any construction machinery, which according to him is unsafe. No claim for compensation due to such prohibition will be entertained by BHEL.

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1.55	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.																						
1.56	These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent, place at work spot. The persons responsible for compliance of the safety code shall be named therein by the Contractor.																						
1.57	To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangement made by the contract shall be open to inspection by the Engineer of the Engineer's Representative.																						
1.58	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 contractor. Such cleanings has to be done by contractor within quoted rate, on daily basis by an identified group. If such activity is not carried out by contractor / BHEL is not satisfied, then BHEL may get it done by other agency and actual cost alongwith BHEL overheads will be deducted from contractor's bill. Such decisions of BHEL shall be binding on the contractor.																						
1.59	Notwithstanding the above clauses there is nothing to exit the Contractor from the operations of any other Act or Rule in force in area of work in this respect. Provided always that all safety measures apart from those specifically provided in this agreement which are brought to the notice of the Contractor from time to time by the Engineer shall be complied by the Contractor. Provided further that all consequences, damages, or losses arising by reason of any safety code shall be met with by the Contractor.																						
1.60	<p><u>NON COMPLIANCE:-</u> NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER <u>for every instance of violation noticed:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">SN</th> <th style="width: 60%;">Violation of Safety Norms</th> <th style="width: 15%;">Fine (in Rs)</th> <th style="width: 15%;"></th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Not Wearing Safety Helmet</td> <td>50/-</td> <td></td> </tr> <tr> <td>02.</td> <td>Not wearing Safety Belt</td> <td>100/-</td> <td></td> </tr> <tr> <td>03.</td> <td>Grinding Without Goggles</td> <td>50/-</td> <td></td> </tr> <tr> <td>04.</td> <td>Not using 24 V Supply For Internal Work</td> <td>500/-</td> <td></td> </tr> </tbody> </table>			SN	Violation of Safety Norms	Fine (in Rs)		01	Not Wearing Safety Helmet	50/-		02.	Not wearing Safety Belt	100/-		03.	Grinding Without Goggles	50/-		04.	Not using 24 V Supply For Internal Work	500/-	
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	05.	Electrical Plugs Not used for hand Machine	100/-
	06.	Not Slings property	200/-
	07.	Using Damaged Sling	200/-
	08.	Lifting Cylinders Without Cage	500/-
	09.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
	10.	Not Removing Small Scrap From Platforms	200/-
	11.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-
	12.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
	13.	Improper Earthing Of Electrical T&P	500/-
	14.	Accident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
	15.	Fatal Accident/Accidents Resulting in total loss in Earning Capacity	1,00,000/- - per victim
	<p>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 contractor. The amount collected above will be utilized for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.</p>		
1.61	<p><u>CITATION:</u>-If safety record of the contractor 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 contractor may be considered by BHEL after completion of the job</p>		
1.62	<p><u>MEMORANDUM OF UNDERSTANDING</u> After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:</p> <p style="text-align: center;"><u>Memorandum of Understanding</u></p> <p>¾ BHEL, Power Sector _____Region is committed to Health, Safety and Environment Policy (EHS Policy).</p> <p>¾ M/s _____do hereby also commit to the same</p>		

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	<p>EHS Policy while executing the Contract Number _____</p> <p>¾ M/s _____ shall ensure that safe work practices not limited to the above are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance.</p> <p>¾ BHEL will be carrying out EHS audits twice a year and M/s _____ shall ensure to close any non-conformity observed/reported within fifteen days.</p> <p>Signed by authorized representative of M/s -----</p> <p>Name :</p> <p>Place & Date:</p>
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ANNEXURE-VII

BHARAT HEAVY ELECTRICALS LTD.
POWER SECTOR EASTERN REGION
KOLKATA

PRICE SCHEDULE (UNPRICED)

WORK: "OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA".

E-Tender No. PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015.

PRICE: (TO QUOTE LUMP SUM AND FIRM PRICE IN WHOLE RUPEES ONLY IN INTERNATIONAL NUMERALS AND ENGLISH WORDS BREAK UP NOT TO BE SHOWN UNLESS AND OTHERWISE SPECIFICALLY ASKED FOR.

SL. NO.	DESCRIPTION OF WORK	QUANTITY	LUMP SUM AND FIRM PRICE (IN WHOLE RUPEES ONLY) INCLUDING ALL TAXES & DUTIES, BUT EXCLUDING SERVICE TAX AND SWACHH BHARAT CESS.
			RS. (IN FIGURE)
1	"OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA".	01 LOT	
2	Service Tax & Swachh Bharat Cess shall be paid extra, as applicable		

NOTE: EVALUATION OF BID SHALL BE BASED ON "LUMP SUM AND FIRM PRICE (IN RS) INCLUDING ALL TAXES & DUTIES, BUT EXCLUDING SERVICE TAX AND SWACHH BHARAT CESS".

Very Important Note: Any other document (if uploaded by bidder) in Price Bid/ Schedule apart from tendered Price Schedule (Annexure-VII) shall not be taken into cognizance for evaluation of offer. Any Modification in Price schedule in any way by bidder is not acceptable & shall be considered as tampering of tender document.

SIGNATURE OF THE TENDERER & DATE:

NAME, DESIGNATION & SEAL:

BIDDER TO MENTION "QUOTED" OR "NOT-QUOTED" IN THE COLUMN "LUMP SUM AND FIRM PRICE (IN WHOLE RUPEES ONLY) INCLUDING ALL TAXES & DUTIES, BUT EXCLUDING SERVICE TAX AND SWACHH BHARAT CESS" ONLY.

ANNEXURE-VII

BHARAT HEAVY ELECTRICALS LTD.
POWER SECTOR EASTERN REGION
KOLKATA

PRICE SCHEDULE

WORK: "OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA".

E-Tender No. PSER: PUR: IBV-S201:15 (ENQ:15:PP:0015:PUR:117) Date 03/12/2015.

PRICE: (TO QUOTE LUMP SUM AND FIRM PRICE IN WHOLE RUPEES ONLY IN INTERNATIONAL NUMERALS AND ENGLISH WORDS BREAK UP NOT TO BE SHOWN UNLESS AND OTHERWISE SPECIFICALLY ASKED FOR.

SL. NO.	DESCRIPTION OF WORK	QUANTITY	LUMP SUM AND FIRM PRICE (IN WHOLE RUPEES ONLY) INCLUDING ALL TAXES & DUTIES, BUT EXCLUDING SERVICE TAX AND SWACHH BHARAT CESS.
			RS. (IN FIGURE)
1	"OVERHAULING OF TURBINE, GENERATOR & AUXILIARY WORKS AT UNIT-1, 210 MW (KWU DESIGN) AT IB TPS, OPGCL, ODISHA".	01 LOT	
2	Service Tax & Swachh Bharat Cess shall be paid extra, as applicable		

NOTE: EVALUATION OF BID SHALL BE BASED ON "LUMP SUM AND FIRM PRICE (IN RS) INCLUDING ALL TAXES & DUTIES, BUT EXCLUDING SERVICE TAX AND SWACHH BHARAT CESS".

Very Important Note: Any other document (if uploaded by bidder) in Price Bid/ Schedule apart from tendered Price Schedule (Annexure-VII) shall not be taken into cognizance for evaluation of offer. Any Modification in Price schedule in any way by bidder is not acceptable & shall be considered as tampering of tender document.

SIGNATURE OF THE TENDERER & DATE:

NAME, DESIGNATION & SEAL:

BIDDER TO QUOTE PRICE IN THE COLUMN "LUMP SUM AND FIRM PRICE (IN WHOLE RUPEES ONLY) INCLUDING ALL TAXES & DUTIES, BUT EXCLUDING SERVICE TAX AND SWACHH BHARAT CESS" ONLY.

ANNEXURE-A

1	Suspension of business dealing with Suppliers Depending upon the gravity of the omission or commission by the Supplier, the Supplier may be either put on hold for future enquiries for specific material category/ item or delisted or banned as detailed hereinafter.
2.0	Hold A Supplier may be put on hold for future enquiries for specific material category/ items/ works for a specific unit on the basis of one or more of the following reasons:
2.1	Before placement of order, Supplier does not honour his own offer or any of its conditions within the validity period.
2.2	In the last three consecutive supplies of a specific material category, average quality rating as at the end of the previous calendar month falls below 80% of the quality weightage. This is irrespective of supplies against PO(s) having single/ multiple delivery schedules.
2.3	Two consecutive delays, for reasons of delay attributed to the Supplier, in execution of the contracts where delay occurred is such that a) prescribed maximum LD time limits of the contracts is reached/ exceeded or b) delay period has equaled/ exceeded the original delivery period specified in the contracts whichever among the above is earlier.
2.4	Supplier performance rating in line with SEARP falls below 60% of the specific material category.
2.5	Supplier fails to respond against three consecutive tenders. ('Regret letter' from the Supplier is to be considered as response)
2.6	Supplier fails to settle any outstanding on account of material (including short return)/ scrap or on any other account.
2.7	Supplier works are under strike/ lockout for a period of more than six months.
3.0	De-listing A Supplier may be de-listed i.e. removed from the list of registered Suppliers of a Unit for all categories of material on the basis of one or more of the following reasons:
3.1	Supplier in any way tampers with tendering procedure affecting ordering process.
3.2	Supplier has misused BHEL documents/ drawings or has breached the confidentiality agreement with BHEL.
3.3	After placement of order, Supplier fails to execute the contract.
4.0	Banning A Supplier can be banned from doing any business with all Units of BHEL on the basis of receipt of evidence of one or more of the following reasons:
4.1	Supplier is found to be responsible for submitting fake/ false/ forged documents, certificates, or information or has resorted to unethical, illegal means in getting the contract.
4.2	In spite of warnings, the Supplier persistently violates or circumvents the provisions of labour laws/ regulations/ rules and other statutory requirements.
4.3	Supplier is found to be involved in cartel formation or in any act so as to influence the bidding process or influence the price.
4.4	The Supplier has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc.
4.5	The Supplier is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings.
4.6	The Supplier is declared bankrupt, insolvent, has wound up or been dissolved; i.e. ceases to exist for all practical purposes.
4.7	Supplier is found to have obtained any internal information/ documentation of BHEL by unauthorized means.
4.8	A decision has been taken by the administrative ministry of the Government to ban business dealings with a Supplier and such decision has been communicated to BHEL.
4.9	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.
4.10	Supplier has substituted, damaged, failed to return, or unauthorizedly disposed off free issue materials/ tools etc. of BHEL.
5.0	Contracts already entered with a contractor before the date of issue of order of 'HOLD' or 'DE-LISTING' shall not be affected.
6.0	All existing contracts with a 'BANNED' contractor shall normally be short closed
7.0	Once the order for banning is passed, existing offers/ new offers of the Supplier shall not be entertained.
8.0	The above guidelines are not exhaustive but enunciate broad principles governing action against contractors

ANNEXURE-B

Certificate by Chartered Accountant on letter head

This is 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 for..... Micro / 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 5.0. 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

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

OR

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

(i)

(ii)

Signature of the Authorized 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.

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)

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.

RTGS FORMAT

Form for getting payment through RTGS (Real Time Gross Settlement)

01. NAME OF VENDOR
02. ADDRESS
03. VENDOR'S BANK A/C NAME
04. VENDOR'S BANK A/C NO.
05. NAME OF BANK
06. NAME OF BRANCH
07. BRANCH PH. NO.
08. CITY
09. IFSC CODE OF THE BRANCH

THE CHARGES IF ANY FOR PAYMENT THROUGH RTGS MAY BE RECOVERED FROM THE BILL SUBMITTED BY US.

SIGNATURE OF AUTHORISED REPRESENTATIVE
OF VENDOR WITH DATE & SEAL

CONFIRMATION BY BANKER WITH
OFFICE SEAL

Note : Incorrect information will create accounting complications and payment will be delayed.



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KOLKATA**

SECTION – I
Instructions to Tenderers
GENERAL INSTRUCTION TO TENDERERS

1.1 Submission of Tender in “Three Parts”.

- (1) Technical Tender : All particulars asked for from the Vendor except the Price Bid & E.M.D in an envelope.
- (2) EMD in a sealed envelope clearly superscribing on the envelope “E.M.D”, the Tender Number, Name of Work, addresses of Vendor and addressee. One time EMD holders needn't enclose this provided that proof of EMD remittance is enclosed in the technical tender.
- (3) Price Bid in the price schedule enclosed in the tender, in sealed envelope, clearly superscribing “Price Bid”, Tender Number, Name of Work, Name of the Vendor and addressee.

All the above “Parts” can be placed in an sufficiently large outer envelope for submission.

1.1.1a This Tender specification as a whole, duly furnishing the following details shall be duly signed and sent in a sealed cover superscribing :

TENDER TENDER DUE ON	SPECIFICATION	FOR NO.
<hr/>		

1.1.1b DURATION OF JOB

1.1.1.1 Earnest Money Deposit.

1.1.1.2 Income Tax & Sales Tax Clearance Certificate.

1.1.1.3 Detailed organisation chart for manpower resources available with the tenderer and to be employed for the present jobs.

1.1.1.4 Time to be taken for commencement and completion of Work.

1.1.1.5 A list of experience as mentioned in the tender document.

1.1.1.6 The details of the present jobs being handled.

1.1.1.7 Certificate from the BHEL's scheduled Banks to establish financial capability of the tenderer as per format enclosed at annexure-I.

1.1.1.8 Attested copies of partnership deed, power of attorney and tender specifications duly signed as mentioned in the tender documents.

1.1.1.9 Price schedule and other relevant information.

NOTE: All Xerox copies enclosed by the Vendor should be attested and sealed for authenticity.



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- 1.1.2 The tender shall be addressed to:
**HEAD, PURCHASE DEPARTMENT
BHARAT HEAVY ELECTRICALS LIMITED,
POWER SECTOR, EASTERN REGION, (2ND FLOOR),
PLOT-9/1, BLOCK-DJ, SECTOR-II, SALT LAKE,
KOLKATA – 700091.**
- 1.1.3 Tenders submitted by post shall be sent “REGISTERED POST ACKNOWLEDGEMENT DUE” and shall be posted with the due allowance for any postal delay. The tenders received after the due date and time of opening are liable to be rejected. Telegraphic offers and offers received by telex may not be considered unless confirmed in writing by a detailed offer.
- 1.1.4 Tenders shall be opened by the authorised officer of BHEL at his office at the time and date as specified in the tender notice in the presence of such of those tenderers or their authorised representatives who may be present.
- 1.1.5 The Tenderer shall closely peruse all the clauses, specifications and drawings indicated in the Tender Documents before quoting. Should the tenderer have any doubt about the meaning of any portion of the Tender Specifications or find discrepancies or omission in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, scope of work etc., he shall at once contact the authority inviting the tender for clarification before the submission of the offer.
- 1.1.6 Before tendering, the tenderer is advised to inspect the site of work and the environments and be well acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour. No claim will be entertained later on the ground of lack of knowledge.
- 1.1.7 Tenderers must fill up all the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the Tender Specification & deceleration must be signed bearing seal and submitted along with the offers by the Tender in token of complete acceptance thereof. The information furnished shall be complete by itself. The booklet of G.S.C.C may be retained by the bidder if deceleration is enclosed along with the bid duly filled in and signed and sealed.
- 1.1.8 The tender shall quote the rates in English language and international numerals. The rates shall be in whole rupees. These rates shall be entered in figures as well as in words. For the purpose of the tender, the metric system of units shall be used.
- 1.1.9 All entries in the tender shall either be typed or be in ink. Erasures and overwriting are not permitted and may render such tenders liable to summary rejection. All cancellations and insertions shall be duly attested by the tenderer.
- 1.2 Qualifications of Tenderers :
Only tenderers who have previous experience in work of this nature and description detailed in this tender specification and/or registered with BHEL, PS-ER-SAS for such works are expected to quote for this work duly detailing their



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experience along with the offer. Offers from tenderers who do not have established experience in the field are not likely to be considered.

1.3 Data to be enclosed :

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

1.3.1 Financial Status :

- a) A certificate from BHEL's scheduled Bank to prove his financial capacity/capability to undertake the work of solvency certificate from the concerned Government Authority.
- b) Contractors other than those who are registered in ER, should submit their audited annual accounts for three years preceding the financial year in which tenders are called for.

1.3.2 Income Tax / Sales Tax Certificate :

A certificate of Income Tax / Sales Tax verification from the appropriate authority in the forms prescribed therefor duly indicating annual turnover. The certificates shall be valid for one year from the date of issue or for the period prescribed therein for all tenders submitted during the period.

1.3.3 Previous Experience :

A statement giving particulars duly supported by documentary evidence of the various services rendered for each similar work by the tenderer indicating the particulars and value of each work, the site location and the duration and date of completion and also a list of site locations and particulars and value of various services that are under progress.

1.3.4 Organisation Chart :

The organisation pattern that is totally available with the tenderer and that will be employed by the tenderer for this work duly indicating the number of Engineers and Supervisors, their qualification and experience in the line, the number of skilled and unskilled workmen etc.

1.3.5 An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor, shall also be attached.

1.3.6 In case of an individual :
His full name, address and place and nature of business.

1.3.7 In case of Partnership firms:
The name of all the partners and their addresses. A copy of the Partnership Deed (Instrument of partnership) duly certified by the Notary Public shall be enclosed.

1.3.8 In case of Companies:



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Date and place of registration including Date of Commencement Certificate in case of public companies (certified copies of Memorandum and Articles of Associations are also to be furnished).

- 1.3.9 Nature of business carried on by the Company and the provision of the Memorandum relating thereof.
- 1.3.10 Names and particulars including addresses of all the Directors and their previous experience.
- 1.3.11 A list of tools and tackles that the tenderer is having and those that will be earmarked for this job.
- 1.3.12 In addition to the above, the particulars required in various annexures.

EARNEST MONEY DEPOSIT:

- 1.4.1 Every tender Must be accompanied by the prescribed amount of Earnest Money Deposit in any one of the following forms:
- 1.4.1.1 CASH - The amount should be remitted by the party to the Cashier of Bharat Heavy Electricals Limited, PS-ER,Kolkata between 14.00 hours and 16.00 hours on working days and cash receipt issued by him shall be enclosed along with the tender.
- 1.4.1.2 Crossed Demand Draft OR Pay Order payable at Kolkata duly pledged in favour of Bharat Heavy Electricals Limited, Kolkata.
- 1.4.1.3 Parties who are registered as Contractors in this Region for services jobs may deposit a sum of Rs. 1,00,000/- (Rupees One lakh only), non-interest bearing, towards one time Earnest Money Deposit (OEMD) in which case they are exempted from paying E.M.D. on case to case basis. This facility can also be availed by non-registered contractors getting regular enquiries also .
- 1.4.2 Tenders received without Earnest Money in full in the manner prescribed above are liable to be rejected.
- 1.4.3 The Earnest Money Deposit of the successful tenderer will be retained towards part of Security Deposit of the due fulfilment of the Contract. However, the same may be released as soon as the Security Deposit mentioned clause 1.8 is furnished.
- 1.4.4 In the case of unsuccessful tenderers the Earnest Money will be refunded to them within a reasonable time on acceptance of award of work by the successful tenderer.
- 1.4.5 BHEL reserves the right of forfeiture of Earnest Money Deposit in case the successful tenderer.
- a) fails to start the work, as may be in the Letter of Intent.
- b) after opening of tender, revokes his tender within the validity period or increases his quoted rates.
- c) Fails to mobilise the site with required T&P and manpower within the time specified in Letter of Intent.



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1.5 Authorisation and Attestation :

1.5.1 Tenders shall be signed by persons duly authorised/empowered to do so. Certified copies of such authority and relevant documents shall be submitted along with the tenders.

1.6 Validity of Offer :

The rates in the tender shall be kept open for acceptance for a minimum period of six months from the due date of opening of tenders. If a tenderer withdraws or revokes his tender or increases the tender rates and/or conditions for any item within the aforesaid period, his Earnest Money Deposit is liable to be forfeited. In case the Bharat Heavy Electricals Limited calls for negotiations, such negotiation shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

1.7 Execution of Contract:

The successful tender's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The successful tenderer may be required to execute an agreement in the prescribed form with the BHEL within a reasonable time after the acceptance of his tender and in any case before submitting first RA bill for payment. The expenses for completing and stamping the agreement shall be borne by the tenderer.

1.8 Security Deposit :

1.8.1 Upon acceptance of tender, the successful tenderer within the time specified in the Letter of Intent must deposit the required amount towards Security Deposit before start of the work.

1.8.2 The total 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 amount exceeding Rs 10 lakhs.
c) Above Rs 50 lakhs	Rs. 4 [Four] lakh plus 5% of the amount exceeding Rs 50 lakhs.

1.8.3 If the value of the work done at any time exceeds the accepted agreement value, the Security Deposit shall be correspondingly enhanced and the extra Security Deposit shall immediately be deposited by the contractor or recovered from payments due to him.

1.8.4 Regarding adjustment of Earnest Money Deposit towards part of Security Deposit, refer clause 1.4 above, the successful tenderer shall not commence any work under the contract before remitting the Security Deposit except as directed by BHEL.

1.8.5 Failure to deposit the Security within the stipulated time may lead to forfeiture of Earnest Money and cancellation of the award of work.

1.8.6 Security Deposit may be furnished in any one of the following forms

- i) Cash (as permissible under the Income Tax Act)
- ii) Pay Order, Demand Draft in favour of BHEL.



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- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.
(Certificates required in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act .The Bank Guarantee format should have the approval of BHEL. Bank Guarantee for S.D. must be posted by the Bank by registered post direct to us, and it should not be submitted by the bidder direct to us.
- vi) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act . The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii) Security deposit can also be recovered at the rate of 10% from the running bills.
However in such cases at least 50% of the Security Deposit shall be collected before start of the work and the balance 50% will be recovered from the running bills.
- viii) EMD of the successful tenderer may be converted and adjusted against the security deposit.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) 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 the collection of interest or renewal of the documents or in any other matter connected therewith.

1.8.7 However, the deposits should cover up to the period of warrantee also. However, if S.D. (50%) is furnished in the form of Bank Guarantee, it should be valid for at least a period covering the scheduled duration of the job plus six months.

1.8.8 BHEL reserves the right of forfeiture of Security Deposit in addition to other claim and penalties in the event of the contractor's failure to fulfill any of the contractual obligations including statutory or in the event of termination of contract as per terms and conditions of contract.

1.8.9 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 return properties belonging to BHEL handed over, lent or hired by him for carrying out the said works the security deposit will be released to the contractor after deducting all costs or expenses or other contracts entered into with the contractor, only after the satisfactory completion or guarantee period as per clause 2.13.

1.8.10 No interest shall be payable by BHEL on Earnest Money / Security Deposit or any money due to the contractor from BHEL.

1.8.11 in no case Security Deposit can be released before settling all claims under this contract.

1.9 Rejection of Tender and other conditions:



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- 1.9.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever:
- a) to reject any or all of the tenders.
 - b) To split up the work amongst two or more tenderers.
 - c) To award the work in part.
 - d) Either of the contingencies stated in (b) and (c) to modify the time for completion suitably.
 - e) To modify the scope of work after mutual agreement.
- 1.9.2 Conditional and unwitnessed tenders:
- Tenders containing absurd or unworkable rates and amounts and tenders which are incomplete and otherwise considered defective and tenders not in accordance with the tender conditions, specifications etc. are liable to be rejected.
- 1.9.3 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.
- 1.9.4 BHEL will not be bound by any Power of Attorney granted by the tenderer or by changes in the compositions of the firm made subsequent to the execution of the contract. They may, however, recognise such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
- 1.9.5 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract, if awarded and forfeit the Earnest Money/Security Deposit.
- 1.9.6 Canvassing in any form in connection with the tenders is strictly prohibited and the tenders submitted by the contractor who resort to canvassing are liable to rejection.
- 1.9.7 Should a tenderer or contractor or in the case of a firm or Company of Contractors 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 along with the offer, failing this, BHEL may at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.
- 1.9.8 The successful tenderer should not sub-contract the part or complete work detailed in this tender specification undertaken by him without permission of BHEL. The tenderer is solely responsible to BHEL for the work awarded to him. Any deviation in this regard will entail termination of such contract by BHEL at the risk and responsibility of contractor.
- 1.9.9 The successful tenderer shall inform/keep BHEL informed if he has already undertaken any work/is likely to be awarded any job with the same customer with whom BHEL is entering into contract.



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SECTION – II

GENERAL TERMS & CONDITIONS OF THE CONTRACT

2.1 Definition :

The following terms and expressions shall have the meaning hereby assigned to them except where they context otherwise requires :

- 2.1.1 'BHEL' (or B.H.E. Ltd.) shall mean Bharat Heavy Electricals Limited, a company registered under Indian Companies Act., 1956, with its Registered Office at BHEL House, SIRI FORT, NEW DELHI-110049, Power Sector, Eastern Region, Service After Sales – Services, DJ-9/1, Salt Lake, Kolkata – 700091 or its Administrative officers or its site Engineer or the employees authorised to deal with any matters with which these persons are concerned on its behalf.
- 2.1.2 "GENERAL MANAGER"/DEPUTY IN CHARGE" shall mean the Officer in Administrative charge of BHEL, PS-ER, SAS – Services, Kolkata or their other regional offices.
- 2.1.3 "ENGINEER" or "ENGINEER IN CHARGE" shall mean Engineer deputed by BHEL. The terms includes "SITE ENGINEER", "RESIDENT ENGINEER" and "ASSISTANT SITE ENGINEER" of BHEL at the site as well s the officers in-charge at Kolkata office.
- 2.1.4 "SITE" shall mean the place or places at which the plants/equipment are to be overhauled and services are to be performed as per the specification of this contract.
- 2.1.5 "CLIENTS OF BHEL" or "CUSTOMER" shall mean the Project authorities to whom BHEL is supplying the equipment/services.
- 2.1.6 "CONTRACTOR" shall mean the individual, firm or company who enters into this contract with BHEL and shall include their executors, administrators, successors and permitted assigns.
- 2.1.7 "CONTRACT" or "CONTRACT DOCUMENT" shall mean and include the agreement or work order, the accepted appendices of rates, schedule of quantities, if any and general condition of contract, the special conditioning of contract instructions of the tenderers, the drawings, the specifications, the special specification, if any, the tender specifications, the special specification, if any, the tender documents and the Letter of Intent/Accepting Letter issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or supporting letters shall not form part of the contract unless specifically accepted in writing by BHEL and incorporated in the agreement.
- 2.1.8 "GENERAL CONDITIONS OF CONTRACT" shall mean the instructions to tenderers and general conditions of contract pertaining to the work detailed.
- 2.1.9 "TENDER SPECIFICATION" shall mean the "Specific Conditions, technical specifications, appendices, site information and drawings, "pertaining to the work for which the tenderers are required to submit their offer. Also this will include the specifications detailed in NIT of client of BHEL for overhauling, erection, testing and commissioning of plant. Individual specification no. will be assigned to each tender specification.



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- 2.1.10 "TENDER DOCUMENTS" shall mean the General conditions of contract (2.1.8) and tender specification (2.1.9)
- 2.1.11 "LETTER OF INTENT" shall mean the intimation by a letter to the tenderer that the tender has been accepted in accordance with provisions contained in that letters. The responsibility of the contractor commences from the date of issue of this letter and all the terms and conditions of contract are applicable from this date.
- 2.1.12 "COMPLETION TIME" shall mean the period by date specified in the acceptance of tender for handing over the overhauled equipment/plant which are found acceptable by the engineer being of required standard and conforming to the specification of the contract or recommissioning of the machine successfully whichever is later. Completion time will be reckoned from the date of LOI with the period for mobilisation as prided with LOI, added to the same.
- 2.1.13 "PLANT" shall mean and cannot the entire assembly of the plant and equipments covered by the contract.
- 2.1.14 "EQUIPMENT" shall mean all equipments, machineries, materials, structurals, electricals and other components of the plant covered by the contract.
- 2.1.15 "TESTS" shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL, in order to ascertain the quality workmanship, performance and efficiency of the contract work or part thereof.
- 2.1.16 "APPROVED" "DIRECTED" or "INSTRUCTED" shall mean approved, directed or instructed by BHEL.
- 2.1.17 "WORK OR CONTRACT WORK" shall mean and include supply of all categories of labour, specified consumables, tools and tackles required for complete and satisfactory site transportation, handling, stacking, storing, overhauling erection, testing and commissioning of the equipment to the entire satisfaction of BHEL.
- 2.1.18 "SINGULAR AND PLURAL ETC" words carrying singular number shall also include plural and vice versa, where the context so requires, words importing the masculine gender shall be taken to include any company or Association or body of individuals, whether incorporated or not.
- 2.1.19 "HEADINGS" The Leadings in these general conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in interpretation or construction thereof or of the contract.
- 2.1.20 "MONTH" shall mean calender month.
- 2.1.21 "WRITING" shall include any manuscript, type written or printed statement under the signature or seal as the case may be.
- 2.2 Law governing the contract and Court Jurisdiction:

The contract shall be governing by the Law for the time being in force in the Republic of India. The Civil Court having ordinary original civil jurisdiction, Kolkata



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shall alone have exclusive Jurisdiction in regard to all claims in respective of this contract.

2.3 Issue of Notice :

The contractor shall furnish to the BHEL Engineer the name, designation and address of his authorised agent and all complaints, notices, communications and reference shall be deemed to have been duly given to the contractor if delivered to the contractor or his authorised agent or left at or posted to the address either of the contractor or of his representative and shall be deemed to have been so given in the case of posting on the day on which they would have reached such address in the ordinary course of post or on which they were so delivered or/or left.

2.4 Use of Land:

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

2.5 Commencement of Work:

2.5.1 The contractor shall commence the work within the time indicated in the Letter of Intent from BHEL and shall proceed with the same with due expedition without delay. For computing the scheduled completion date, commencement, of work will be reckoned from the date of complete mobilisation as per LOI, unless specifically amended by Head (Services), BHEL, Kolkata.

2.5.2 If the successful tenderer fails to start the work within the stipulated time, BHEL as its discretion will have the right to cancel the contract. His Earnest Money and / or Security Deposit with BHEL will stand forfeited without any further reference to him, without prejudice to any and all of BHEL's other rights and remedies in this regard.

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

2.5.4 The erected overhauled plant or work performed under the contract shall be taken over when it has been completed in all respects and or satisfactorily put into operation at site.

2.6 Mode of payment and measurement of the work completed.

2.6.1 "All payment due to the contractor shall be paid only by Account payee Cheques"

2.6.2 The contractor shall present his bill on the format prescribed by BHEL for every payment. After verification of such bills by BHEL, all items having financial value shall be entered and certified in BHEL Measurement Book by BHEL Engineer and the bills prepared based on the same and connected technical documents which form part of this tender specification.

2.6.3 Lumpsum omission will be entered for deduction. Measurement shall be restricted to that for which it is required to ascertain the financial liability of BHEL under this Contract.



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- 2.6.4 Work which is to be measured in details shall be measured as per standard procedure without reference to any local procedures without reference to any local procedures excepting where it is otherwise stated in the tender documents. The measurement shall be taken jointly by person duly authorised on the part of BHEL and by the contractor.
- 2.6.5 If, at any time due to reason whatsoever, it becomes necessary to remeasure the work done in full or in part, the expenses towards such remeasurement shall be borne by the contractor.
- 2.6.6.1 The contractor shall bear the expenditure involved, if any, in making the measurement. The Contractor shall, without extra charges, provide all the assistance with appliances with appliance and other things necessary for measurement.
- 2.6.7 The measurement entered in the Measurement Books and the bills prepared shall be signed and dated by both the contracting parties.
- 2.6.8 The Contractor will be intimated in writing by the site Engineer, the proposed date of measurement. If the contractor, representative fails to participate in the joint measurement, the BHEL engineer shall have the power to proceed by himself to take measurement in which case the measurement shall be accepted by the contractor as final.
- 2.6.9 Passing of measurement as per bills does not amount to acceptance of the completion of work mentioned. Any left out work has to be completed if pointed out at a later dated by BHEL.
- 2.7 Right of BHEL :
- BHEL reserves the following rights in respect of contract without entitling the contractor for any compensation.
- 2.7.1 To get the work done through other agency at the risk and cost of the contractors poor progress, or inability to progress the work for completion as stipulated in contract, poor quality of the work etc., and to recover compensation for such losses from the contractor including BHEL's supervision charges and overheads from security deposit other use.
- 2.7.2 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.
- 2.7.3 To terminate the contract after due notice and forfeit Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages in the events of :
- 2.7.3.1 Contractor's continued poor progress brought to his notice from time to time .
- 2.7.3.2 With draws from or abandonment of the work before completion of work.
- 2.7.3.3 Corrupt act of Contractor.



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2.7.3.4 Insolvency of the Contractor.

2.7.3.5 Persistent disregard to the instruction in writing of BHEL.

2.7.3.6 Assignment, transfer, sub-letting of the contract without BHEL's written permission.

2.7.3.7 Non fulfilment of any contractual obligations :

Any delay in works for reasons attributable to the contractor will have to be compensated by either increasing manpower and resources or by working extra hours and more than one shift without any extra cost.

2.7.4 To recover any money due from the contractor, from any money due to the contractor under this contract or any other contract or from the Security Deposit.

2.7.4.1 The term 'any other contract' will also include any contract entered with the contractor by any other unit division of BHEL, in addition to the ones awarded by BHEL, PSER, Kolkata.

2.7.5 To claim compensation for losses sustained including BHEL's supervision charges and overheads in completion, on termination of contract, to impose penalty for delay in completion of the work, at the rate of 0.5% (half percent) of the Contract value per day of delay or part thereof subject to a ceiling of 10% of the contract value.

2.7.6 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.

2.7.7 To effect recovery from any amounts due to the Contractor under this or any other contract etc. in any other form, the money BHEL, is forced to pay to any body, due to contractor's failure to fulfil any of his obligations.

2.7.8 While every endeavour will be made by BHEL they cannot guarantee uninterrupted work due to conditions beyond their control. Contractor will not be entitled to any compensation / extra payment on this account.

2.7.9 In the event of any dispute of any nature, the decision of BHEL shall be final and binding on the contractor.

2.8 Responsibilities of the Contractor :

The following are the responsibilities of the contractor in respect of observation of local laws, employment of personnel, payment of taxes and execution of job etc.

2.8.1 As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.

2.8.2 The Contractor at all times during the continuance of this contract, shall in all his dealing with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.

2.8.3 The contractor shall comply with all state and central Laws, Statutory Rules, Regulations etc., such as :

The payment of wages Act, Minimum Wage Act, Workmen compensation Act, Employers Liability Act, Industrial Disputes Act, Employees Provident Fund Scheme,



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Employees Insurance Scheme, Contract Labour (Regulation & Abolition) Act 1970 and other Acts, Rules & Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The Contractor shall give to the local Governing Body, Police and other relevant authorities all such notices as may be required by law.

- 2.8.4 The Contractor shall pay all taxes, fees, licence charges, deposits duties, tools, royalty, commission or other charges which may be leviable on account of any of his operations in executing the contract. In case, BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from the contractor either from his bills or otherwise as deemed fit.
- 2.8.5 The Contractor shall be responsible for provision of health and sanitary arrangements, more particularly described in contract Labour (Regulation & Abolition Act) safety precautions etc., as may be required of same and satisfactory execution of the contract.
- 2.8.6 The contractor shall fulfil all his obligation in respect of accommodation including proper medical facilities for the personnel employed by him.
- 2.8.7 The contractor shall be responsible for the proper behaviour at site and observance of all regulations by the staff employed by him.
- 2.8.8 The Contractor shall ensure that no damage is caused to any person / property of other parties working at site. If any such damages is caused, it is the responsibility of the contractor to make the losses or compensate for the same.
- 2.8.9 All the properties / equipments / components of BHEL / their client loaned with or without deposit to the contractor in connection with the contract shall remain the properties of BHEL / their client. The Contractor shall use such properties for the purpose of execution of this contract. All such properties / equipment / components shall be deemed to be in good condition when received by the contractor unless he notified within 48 hours to the contrary. The Contractor shall return them in good conditions as and when required by BHEL / their client. In case of non-return, loss damage, repairs, etc. the cost thereof, as may be fixed by the site Engineer, will be recovered from the contractor.
- 2.8.10 It is not obligatory on the part of BHEL to supply any tools and tackles or other materials other than those specifically agreed to do so by BHEL. However, depending upon the availability / possibility BHEL's customers' handling equipment and other plants may be made available to the contractor on payment of the hire charges / free of charges as fixed, subject to the condition laid down by BHEL. Customer from time to time, Unless paid in advance, such hire charges if applicable shall be recovered from contractor's bill / security Deposit in one instalment.
- 2.8.11 The contractor shall not claim any compensation of the scope of the work, due to changes in design which curtails quantum.
- 2.8.12 The Contractor shall fully indemnify BHEL against all claims of whatsoever nature arising during the course of erection / overhauling / performing work under the contract.



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- 2.8.13 In case the contractor is required to undertake any major work outside the scope of this contract the rates payable shall be decided by BHEL Resident Engineer.
- 2.8.14 The contractor shall keep the area of work clean and shall remove debris etc., while executing day to day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places to be specified by the BHEL Engineer. The contractor will also demolish all hutments, sheds, partitions, offices, constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be removed by the BHEL. The expenses thereof will be recovered from contractor.
- 2.8.15 The contractor shall arrange and co-ordinate his work in such a manner as to cause no inconvenience to other agencies working in the area.
- 2.8.16 All safety rules and codes applied by the client / BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment / material and work to be performed by him and shall maintain all light, fencing guards, signs etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards and atmospheric conditions. Suitable number of electrical staff, watch and ward, store keepers to take care of the equipment, materials and construction tools and tackles, shall be posted at site by the contractor till completion of the work under this contract. The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite tests of handling equipment, lifting tools, tackles etc, as per prescribed standards and practices.
- 2.8.17 The contractor will be directly responsible for payment of wages to his workmen. A pay roll sheet giving all the payments given to workers and duly signed by the contractor's representative should be furnished to BHEL site office for record purpose. BHEL site In-charge may be intimated the date of disbursement of wages to the workmen engaged for the work, so that his representative can witness the same.
- 2.8.18 The intent of specification, is to provide services according to most modern and proven techniques and codes. The omission of specific reference to any method, requirement or material necessary for the proper and efficient performance of work shall not relieve the contractor of the responsibility of providing such facilities to complete the work.
- 2.8.19 In case of any clause of the work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the BHEL Engineer.
- 2.8.20 No levy or payment or charge made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied or demanded or charged.
- 2.8.21 The details drawings, specifications, instructions manual, if any available with the BHEL Engineer will form part of tender specification . These documents will be made available for reference only to the contractor during execution of work.
- 2.8.22 Should any error or ambiguity be discovered in the specification or information, the contractor shall forthwith bring the same to the notice of BHEL before



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commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.

- 2.8.23 No idle labour charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour being rendered idle due to any cause of any type.
- 2.8.24 No over run charges shall be paid in the event of the completion period being extended for any reason whatsoever.
- 2.8.25 It is possible that some repair/rectification, modification may be needed on the equipments to be overhauled / work to be performed under this specification, for reasons not attributions to the contractor . All such repair / rectification / modification work which can be done, with the available facilities at site shall be carried out by the contractor free of cost and no extra charger shall be paid to contractor.
- 2.8.26 The quality and progress of work will be regularly reviewed. The schedule and progress of work will be given to the contractor in advance and it will be the obligation / responsibility of the contractor to achieve the desired quality and progress of work by suitably reinforcing their labour force and/or by working extra hours or in more than one shift without any extra cost. Workmen found unsuitable for the work will be replaced immediately by the contractor on being informed by BHEL.
- 2.8.27 During the overhauling work under the contract it is very essential that proper and adequate inspection should made constantly to maintain the quality or workmanship so that any deviation from design dimension does not exceed permissible limits. The proper functioning of the unit, while in operation, depends to a great extent on the above factors. The fact that effective supervision and inspection at the execution stage is less costly than any down time of running unit even for a short period need not be over emphasized. For the details regarding alignment and permissible dimensional deviations in the sub-assemblies BHEL Engineer may be consulted.
- 2.8.28 The contractor shall be furnish fortnightly labour report showing by classification of number of employees engaged in various categories or work date wise and submit a progress report of wok as required by BHEL Engineer.
- 2.8.29 The contractor shall execute the work in the most substantial and workmen-like manner in stipulated time. Accuracy of work and timely execution are the essence of this contract. The contractor shall be responsible to ensure that the assembly and workmanship conform to the dimensions and clearances given in the drawings and/or as per instructions of BHEL Engineers.
- 2.8.30 The contractor shall take all responsible care to protect the materials and work till such time the plant/equipment has been taken over by BHEL / their client. Where necessary, suitable temporary fencing and lighting shall have to be provided by the contractor as a safety measure against accident and damage of property of BHEL. Suitable caution notice shall be displayed where access to any part may be deemed to be unsafe and hazardous.
- 2.8.31 It will be the responsibility of the contractor to ensure safe lifting of the equipments taking due precautions to avoid any accidents and damage to other equipments and personnel.
- 2.9 Consequence of cancellation :



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Whenever BHEL exercises its authority to terminate the contract/withdrew a portion of work under the clause 2.7 they may complete the work by any means at the contractor's risk and expenses provided that in the event of the cost of completion (as certified by the site Engineer which is final and conclusive) being less than the contract cost, the advantage shall accrue to BHEL and that if the cost of completion exceeds the money due to the contractor under the contract, the contractor shall either pay the excess amount ordered by BHEL or the same shall be recovered from the contractor by any other means. This will be in addition to the forfeiture of Security Deposit and recovery of liquidated damages as per relevant clauses.

2.9.1 In case BHEL completes the work under the provision of this condition, the cost of such completion to be taken into account in determining the excess cost to be charged to the contractor under this condition, shall consist of materials purchased and / or labour, provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.

2.10 Insurance :

2.10.1 BHEL / their customer shall arrange for insuring the materials / properties of BHEL/customer covering risks during transit, storage, overhauling, erection and commissioning.

2.10.2 It is the sole responsibility of the contractor to Insure his workman against accident and injury while at work as required by relevant rules and to pay compensation, if any, to workmen as per workmen's compensation Act. Contractor shall insure his staff against accidents. The work will be carried out in a protected area and all the rules and regulations of the client / BHEL in the area of project which are in force from time to time, will have to be followed by the contractor.

2.10.3 If due to negligence and /or non-observations of safety and other precautions, any 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. Third party insurance coverage is to be made by the contractor.

2.10.4 If due to contractor's carelessness, negligence or non-observance of safety precautions damage to BHEL's /Customer's property and personnel should occur, and if BHEL is unable to recover, in full, cost from the Insurance Company, the balance will be recovered from the Contractor.

2.11 Strikes & Lockouts :

The contractor will be fully responsible for all the disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the lockout declared is not settled within a period of one week BHEL shall have the right to get the work executed employing the own labour or through any other agencies or both and the cost so incurred by BHEL, shall be deducted from the contractor's bills as per clause 2.7. For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

2.12. Force Majeure :

2.12.1 The following shall amount to Force Majeure :



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Acts of God, Acts of any Government, war, sabotage, riots, civil commotion, police action, revolution, flood, fire, cyclones, earthquake and epidemic and other similar causes over which the contractor has no control.

2.12.2 If the contractor suffers delay in the due execution of the contractual obligation due to delays caused by Force Majeure as defined above, the agreed time of completion of the job covered by this contract or the obligations of the Contractor shall be extended by a period of time equal to the period of delay provided that on the occurrence of any such contingency the Contractor immediately reports to BHEL in writing the causes of delay and the contractor shall not be eligible for any compensation.

2.13 Performance Guarantee :

Even though the work will be carried out under supervision of BHEL Engineers. The contractor shall guarantee against defects attributable to faulty workmanship or procedure adopted in the overhaul for items covered in the contract for a period of six months from the date of re-commissioning of the set after the capital overhaul. The guarantee should cover all defects notified during this period and shall have to be attended to free of cost immediately or at the time our clients are able to give shut down of the set for the required period. when necessary. In case of failure of contractor to attend to such defects as and when required in time, BHEL shall arrange to attend the defects and the charges shall be levied to contractor's account and shall be recoverable from the security deposit / progressive payments.

2.13. Arbitration :

All disputes between the parties to the contract arising out of or in relation to the contract, other than those for which the decisions of the Engineer or of any other person is by the contract expressed to be final and conclusive, shall, after written notice by either party to the contract to other party be referred to sole arbitration of General Manager or his nominee. The arbitration shall be conducted in accordance with the provision of the Indian Arbitration Act, 1996.

The parties to the contract understand and agree that if will be no objection that the General Manager or the person nominated as arbitrator, had earlier in his official capacity to deal directly or indirectly with the matters of which the contract relates or that in the course of his official duties had expressed views on all or any of the matters in dispute of difference. The award of the arbitrator shall be final and binding on the parties to this contract.

In the event of the arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason or his award being set aside by the court for any reason, it shall be lawful for the GM or his successor, as the case may be, either to act himself as the Arbitrator or to appoint another arbitrator in place of the outgoing arbitrator in the matter aforesaid.

The arbitrator may from time to time with the consent of both the parties to the contract enlarge the time for making the award.

Work under the contract shall be continued during the arbitration proceedings. The venue of the arbitration shall be the place from which the contract is issued or such other place as the arbitrator at his discretion may determine.



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**SECTION – III
SPECIAL CONDITIONS OR CONTRACT**

3.1 Quantum of Work :

3.1.1 The scope of work given in the tender specification is only approximate and is liable to variation and alternation at the discretion of BHEL Resident Engineer. No compensation on this account shall be payable to the contractor unless specifically recommended by BHEL Resident Engineer as the variation forming major additions to the original scope of work. All repair / rectification work arising out of normal wear and tear, seizure of parts etc. have to be done by the contractor and the same will be covered by the scope of work of the contract.

3.1.2 The scope of work details out the major activities only. However, as per the general maintenance requirement and site condition, certain related activities may have to be carried out without any extra cost.

3.2 Commencement and completion of work :

3.2.1 The starting time and completion time is the essence of the of the tender. As the time bound programme is firmly committed to customer, the starting time and completion time should be strictly adhered to. It will be not be possible to grant extension in completion time except in extraordinary circumstance, which will be decided entirely at the discretion of BHEL Resident Engineer. Work should normally be carried out in two shifts and sometimes also in three shifts in consultation with BHEL Resident Engineer.

A detailed programme of the various activities covered under this contract with specific time period to fall in the overall frame work of the above dates should be prepared and got approved by BHEL Resident Engineer. The progress against this programme shall be reviewed with BHEL Resident Engineer at the end of each day and critical areas identified and suitable steps taken in time.

If during the review, at any stage of overhauling, BHEL Resident Engineer feels that the delays are not likely to be made up, BHEL reserves the right to take corrective steps as considered necessary by BHEL Resident Engineer to complete work in scheduled time and debit the cost incurred thereon to the contractor. This does not however absolve the contractor of his own efforts in consultation with BHEL Resident Engineer. Every endeavour will be made to see that work proceeds uninterruptedly.

3.2.2 The tenderers should indicate the time required for starting the work once the letter of intent is issued and the time required for completion. The work may have to commence immediately after opening of the tenders. Hence, preference may be given to those tenderers who can commence the work earlier, and also ensure early completion.

3.2.3 The Contractor shall ensure completion of the job in all respects within the day from the date of commencement of work as given in contract.

3.3 Penalty for delay :



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- 3.3.1 In the event of failure to complete the work in given time, an amount equal to ½% [half percent] of the contract value per day subject to a maximum of 10% [ten percent] of the contract value will be levied as penalty, in case the balance work is allowed to be completed by the contractor beyond the scheduled time of completion, which is at the discretion of BHEL. In case of delays on contractor's part, at any stage during the scheduled period or after, BHEL shall have the option of ensuring completion of the job by any other means at its disposal and the charges on this account shall be levied on the contractor. These shall be adjusted against contractor's bills or Security Deposit.
- 3.4 Terms of Payment:
- A minimum time of 15 days will be required for processing the bills and release of payment after the bills are presented to BHEL.
- 3.4.1 Payment will be made up to a total 90% against three progressive bills, or 30% each submitted by the contractor in quadruplicate mentioning the activities completed, based on measurement of work done as per the % break up indicated in the scope of work. The bills will be verified by BHEL site Engineer and certified by BHEL Resident Engineer to ensure payment. Balance 10% shall be payable after successful commissioning.
- All payments are subjects to income tax deductions @1% of the bill amount at source or as per Central Government Laws. No request for advance payment will be entertained by BHEL.
- 3.5 Inspection and Completion:
- The work being carried out by the contractor will be supervised and inspected by our Site Engineers under the overall supervision of BHEL Resident Engineer.
- 3.6 The work will be deemed as complete when it is finally accepted by BHEL Resident Engineer and job completion certificate is issued. No extra payment will be made for any rework carried out by the contractor to rectify any defective work.
- 3.6 The contractor shall not be entitled for labour idling charges under any circumstances.
- 3.6 Tools, Tackles, Test Equipments & Consumables:
- 3.6.1 All tools and tackles and consumables required for day-to-day work like gas and gas cutting sets with accessories, AC/DC welding sets, TIG welding kits, welding cables, electrodes, all necessary power connection at his own cost. However, in case of emergency, BHEL may supply certain items if available, to contractor at actual cost plus handling charges, These will be deducted from contractors' running bills, testing equipment for conducting various tests, during the progress of overhauling / re-commissioning shall have to be provided by the contractor. Spare parts going into permanent installation shall only be provided by BHEL.
- 3.7 Accommodation for site staff and store space :
- 3.7.1 Contractor has to arrange for the stores and office at site ; space for the same shall be made available as per the availability at site. The contractor shall be responsible to provide all necessary facilities like residential accommodation with sanitary facilities, transport, electricity, water, medical bonus etc. as required under various labour laws



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and statutory rules and regulations framed thereunder to the personnel employed by him.

3.8 Responsibilities of the contractor :

3.9 Supervisory staff and labour :

The contractor shall employ, specially skilled labour, supervisor and engineers thoroughly conversant with particular type of work to ensure quality work. BHEL reserves the right to decide on the suitability of the workers and other staff employed by the contractor. BHEL reserves the right to insist on removal of any employees of the contractor at any time if they find him unsuitable and the contractor should forthwith remove him.

3.9 Planning and Execution :

Contractor shall submit a job planning in form of Bar Chart or PERT Chart. A List of manpower category wise, indicating individuals responsibility job activity wise , shall have to be submitted. Daily programme of job shall be displayed on board near work site on day in advance. A daily progress report along with Manpower utilities has to be submitted and backlog of the work, if any, shall be covered up in consultation with BHEL Resident Engineer.

3.9 Safety and Accident Coverage

Contractor shall ensure safety of all his employees at site of work. All employees shall be covered by insurance (workmen compensation) against accident, failing which proper action will be taken against the contractor.

Contractor shall ensure proper safety of the equipments under overhauling by deputing personnel to guard the equipments round the clock. Open oil spaces, steam spaces shall be covered properly against ingress of foreign materials while working.

**RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF SAFETY OF MAN,
EQUIPMENT, MATERIAL AND ENVIRONMENT**

3.8.3.1 Before commencing the work, contractor shall submit a 'SAFETY PLAN" to the authorised BHEL official. The 'Safety Plan' shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified here under. The contractor shall submit safety plan along with his offer. During negotiations before placing or work order and during execution of the contract, BHEL shall have right to review and suggest modifications in the safety Plan. Contractor shall abide by BHEL decision in this respect.

3.8.3.2 The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or it's authorised officials to prevent loss of human lives, injuries to personnel engaged, and damage to property and environment.

3.8.3.3 The contractor shall provide to it's work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorised BHEL officials :



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- a. Safety Helmets conforming to IS-2925 : 1984
- b. Safety Belts confirming to IS – 3521 : 1983
- c. Safety shoes conforming to IS-1989 : 1978
- d. Eye & Face Protection devices conforming to IS-8520 : 1987 and IS-8940 : 1978
- e. Hand & body protection devices conforming to :
 - IS – 2573 : 1975
 - IS – 6994 : 1973
 - IS – 8807 : 1973
 - IS – 8513 : 1977

- 3.8.3.4 All tools tackles, lifting appliances, material handling equipment scaffolds, cradles, safety nets, ladders, equipment etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorised BHEL official who shall have the right to ban the use of any item.
- 3.8.3.5 All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act & Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliance including portable electrical tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed..
- 3.8.3.6 The contractor shall not use any hand – lamp energised by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source not more than 24 volts.
- 3.8.3.7 The contractor shall adopt all fire safety measures as laid down in the “Code for Fire Safety at Construction Sites’ issued by the safety Department of the Construction Management (HQ) of BHEL and as per directions of the authorised BHEL official. A copy of the above referred “Code for Fire Safety at Construction Sites” shall be made available by BHEL to the contractor for reference, on demand by the contractor, during tendering stage itself.
- 3.8.3.8 Where it become necessary to provide and / or store petroleum products, explosives, chemicals, and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and / or storage in accordance with the rules and regulations laid down in the relevant government acts, such as Petroleum Act, Explosives Act, Petroleum & Carbides of Calcium Manual of the Chief Controller of Explosives, Govt. of India, etc. Prior approval of the authorised BHEL official at the site shall also be taken by the contractor in all such matters.
- 3.8.3.9 The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working, when natural daylight may not be adequate for clear visibility.
- 3.8.3.10 The contractor shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instructions, that may endanger safety of men, equipment, material and environment in his scope of work or another contractor’s or agency’s Cost of damage if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.



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- 3.8.3.11 In case of a fatal or disabling injury, accident to any person at construction site due to lapses by the contractor, the victim and / or his / her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and / or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.
- 3.8.3.12 In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover cost of such damages from payments due to the contractor after holding an appropriate enquiry.
- 3.8.3.13 In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have right to recover cost of such delay from payments due to the contractor, after notifying the contractor suitably and giving him opportunity to present his case.
- 3.8.3.14 If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so, and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorised BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
- 3.8.3.15 The contractor shall submit report of the accidents, fires and property damage, dangerous occurrences, to the authorised BHEL official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, periodic reports on safety shall also be submitted by the contractor to the authorised BHEL official from time to time as prescribed.
- 3.8.3.16 Before commencing the work, the contractor shall appoint / nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
- 3.8.3.17 If safety record of the contractor in execution of the awarded job is to the satisfaction of safety Department of BHEL, issue of an appropriate certificate to recognise the safety performance of the contractor may be considered by BHEL after completion of the jobs.
- 3.9 House keeping and preservation :
- 3.9 Work floor/area shall be cleaned every day and be kept absolutely clean. A regular cleaning gang may be engaged for the purpose.
- All dismantled components of the equipments under overhauling should be tag marked and stored properly according to type of components, namely all loose/small parts shall be kept in boxes bearing and matching components shall be kept on wooden planks. A list of such components shall be maintained to identify / locate be preserved properly against probable damages.



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No floor shall be damaged while working and necessary steps shall be taken by the contractor for repair in case of any damage.

3.9 Tools stores and Consumables :

Tools & tackles, other than special tools and tackles supplied along with the equipments, shall be arranged and kept properly by the contractor. A register must be maintained and updated regularly.

All consumables, other than those going permanently into the equipment, shall be stored by the contractor for daily use. Regular check shall be made at end of each day's work and exhausted consumables shall be replenished immediately.

The store may be visited by BHEL Engineers without notice for verification.

3.9 The contractor shall make all necessary arrangement to receive spares from BHEL/Customer's stores , as and when required. The unused and scrap materials shall be returned to BHEL / Customer's stores on completion of the work.

A detailed account shall be submitted by the contractor to this effect at the end of the work certifying no dues remained against them duly signed by Resident Engineer BHEL/Customer.

3.9 General :

3.9.1 Standard printed conditions if enclosed with the offer by the tenderers will not be accepted and only those in main body of the offer will be considered for acceptance.

3.9.2 The tenders are likely to be rejected if the tendered is not acceptable to the ultimate customer.

3.9.3 It will be the responsibility of the contractor to carry out trial run of all the equipments overhauled and confirm the satisfactory operation of equipment. The contractor's personnel shall also be present at time of final commissioning and attend to any defects that shall occur during this time.



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Annexure – V

A) TENDERING

1. Tenders may be submitted through Registered post with acknowledgement due, in the name of the addressee only indicated, or by hand delivery or by courier service obtaining acknowledgements of receipt. Telegraphic / Telex offers received in time can be considered, if only followed by acceptable written tender documents in accordance with the telex / telegram and does not result in any advantage over other tenderers because of any possible manipulation in price or date of completion etc.
2. Each and every page of tender documents from declaration of bidders to Annexure VI enclosed should be signed by the tenderer providing his / their seal and date as taken of their full acceptance of the scope of work, terms and conditions etc., and should be returned alongwith the tender offers.
3. The tenders should be quoted in English language and international numbers.
4. All entries in the tender shall be typed in ink legibly written without ambiguity.
5. Qualifications of Tenderers : for open tenders only, the tenderers who have previous experience in the similar nature of work as detailed in this tender specifications are expected to quote duly detailing their relevant experience / credentials along with the offer. Offers of other than the above are not likely to be considered. (List of similar jobs done)
- Enclosure – 1
6. Financial Status : A current / valid certificate from a scheduled bank to provide the financial soundness / capability of the bidder to undertake the work, is required to be submitted alongwith offer.
- Enclosure – 2
7. Income Tax / Sales Tax certificates : A certificate of income tax / sales tax clearance from the appropriate authority, is to be submitted in the form prescribed therefor, valid for the period of contract.
- Enclosure - 3
8. Organization Chart : The organization pattern and that will be deployed by the tenderer for this work duly indicating the number of supervisors, their qualifications and experience in the line, the number of skilled and unskilled persons / etc. is required to be indicated in the offer.
- Enclosure – 4
9. THE FOLLOWING DOCUMENTS SHOULD ALSO BE ENCLOSED.
 - a) An attested copy of the power of attorney in case the tender is signed by an individual other than the sole proprietor.
 - b) In case of an individual his full name, address, nature of business and valid trade licence.



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- c) In case of partnership firm, the names of all partners and their addresses. (A copy of the partnership deed / instrument of partnership, duly attested by the Notary public shall be enclosed.)
- d) In case of companies, date and place of incorporation / registration including date of commencement certificate (for public companies). (Certified copies of Memorandum and articles of association are also to be furnished).

B) EARNEST MONEY DEPOSIT :

For this, please refer article 1.4 (page 4 of 23) of the General and special conditions of contract – 1991 (GSCC) enclosed / supplied with the form issued for empanelment.

C) VALIDITY OF OFFER :

The rates in the tender shall be kept open for acceptance for a minimum period of six months from the due date of opening of tenders. For details, please refer article 1.6 (page 7) of GSCC enclosed.

D) SECURITY DEPOSIT:

As per clause no. 1.8 of GENERAL & SPECIAL CONDITIONS OF CONTRACT [FOR SERVICES JOB].

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 return properties belonging to BHEL handed over, lent or hired by him for carrying out the said works the security deposit will be released to the contractor after deducting all costs or expenses or other contracts entered into with the contractor, only after the satisfactory completion of guarantee period irrespective of release of last 10% payment. In no case Security Deposit can be released before settling all claims of BHEL on contractor under this contract.

No interest shall be payable by BHEL on Earnest Money / Security Deposit or any money due to the contractor from BHEL.

E) ACCEPTANCE / REJECTION OF TENDERS :

For this, please refer article 1.9 (pages 6 to 10) of GSCC enclosed. Also acceptance of customer is pre-requisite for consideration of bid, wherever applicable.

F) ADDITIONAL SPECIFIC TERMS AND CONDITIONS :

01. EXECUTION.

- i) If the site in question is subjected to industrial relations unrest / disturbances / problems, then the successful bidder should take adequate precautionary measures against dislocation of the job on account short problems. Any liability on this account, lies entirely with the contractor.



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- ii) The contractor shall commence the work at site with full manpower, T&P etc. and complete as specified in the particulars of the tender. In case of any delay on the completion of work attributable to the contractor BHEL reserves full rights to cancel the contract fully or partly and to award the job in full or part to an alternate agency and recover the costs towards the same including BHEL's overheads from the contractor.
- iii) In the event of termination of contract or restriction of quantum of job by our client, before or during the execution of contract, BHEL reserves the right to terminate the contract or restrict the quantum of work of sub-contractors accordingly without paying any compensation.
- iv) Manpower : For various category of manpower and their numbers recommended, please refer to the Annexure IV of the tender enquiry. The contractor shall engage proper skilled / qualified personnel and ensure the expected quality of work. If any of their personnel has been found to be unsuitable, by BHEL / or their client, the contractor shall withdraw them and provide suitable replacement immediately, failing which BHEL reserves full rights to get the job done by alternate suitable persons at risk and cost of the contractor. The delay on this account is attributable to the contractor.
- v) TOOLS (TACKLES & PLANTS) : All tools, tackles and plants including precision measuring instruments, lifting devices shall have to be arranged by the contractor. (List of recommended T&P, for guidance, is provided in Annexure II of the tender enquiry). All lifting tackles and pulling devices to be used must bear valid / latest test certificates for their suitability, and the sales tax furnished along with the offer itself.
- Also certificates of test / calibration with date of validity for various measuring / test instruments have to be submitted by the tenderer preferably along with the offer itself, or else the same is required to be produced at site before start of job failing which the LOI / W.O. is liable to be cancelled without any compensation.
- Successful bidder shall provide valid calibration certificates for IMTEs, fitness certificates for T&Ps and Construction Equipment (e.g. wire ropes, hand operated chain pulley blocks, pulling and lifting machines, electric welding generators, arc welding transformers etc.). Calibration of IMTEs is to be arranged from the accredited agencies. Calibration certificates should have the traceability as per national/international standards. At work site the IMTEs, T&Ps and Construction Equipment shall be checked/tested/inspected by BHEL engineers. The procedure for fitness testing and storage preservation and maintenance of Construction Equipment and T&Ps shall be as per Doc. Nos. PSER:FEX:001:94, PSER:SAS(CAL):016:95 and PSER:FEX:002:94 available with BHEL site engineers.
- vi) CONSUMABLES: All consumables required (list for guidance is given in Annexure III of the tender enquiry) for the job shall be arranged by the contractor



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at his cost. However, any spares / components / consumables / materials going permanently into the clients equipment shall be provided to the contractor.

- vii) Successful bidder has to arrange proper storing facilities at site with traceabilities for IMTEs, T&Ps, construction equipments and consumables used during job execution.
- viii) All the T&Ps, consumables etc. must be mobilized at site at least three days prior to actual start of the job. They must be in accordance with those recommended in the Annexure – II and III respectively of the Tender Enquiry and must be got verified to that effect. Formal clearance in writing must be obtained from BHEL's resident engineer before the contractor starts the job.

T&P found defective / improper / insufficient or not having valid test / calibration certificate should be made good immediately.

If the contractor fails to mobilize at least 90% of the recommended T&P and manpower within the stipulated period, the order on the contractor is liable to be cancelled without paying any compensation on to him.

- viii) Storage : The contractor shall be responsible for proper storing of all dismantled components, spares, T&P etc., identify them properly and preserve them throughout the execution of the job. Any loss or damage of the components caused due to the lapses attributable to the contractor or his personnel, shall be chargeable to the contractor.

- ix) Transportation of Spares / materials / consumables :

Any material / components / spares required for the work must be collected by the vendor and carried safely to the work site from the point of issue in our clients premises, through his own resources and cost.

Similarly, excess materials / spares etc. must be returned to the client's stores / any other place, within the client's premises, indicated by site-in-charge of BHEL.

Any debris, rubbish at the work spot must be cleared very day by the contractor using his own resources and cost, and disposed off at a placement for, as to be informed to him.

- x) Space / Accommodation :

The contractor will be allowed to have his site office, stores etc. by erecting temporary partitions / chambers / sheds etc. at the work spot according to the availability of space, which will have to be vacated and dismantled at the end of the jobs to restore the space to the client. The contractor should make his own arrangements for the security / watch and ward.



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No residential accommodation / spare can be provided by BHEL to the contractor for any residential accommodation of his personnel. Contractor has to make arrangements/accommodation at site at his cost.

- xi) The contractor shall ensure responsible execution of the job and proper behavior of their personnel and observance of all the rules and regulations of our clients.
- xii) Safety :
- a) Standard safety norms/ regulations shall be conserved by the contractor during the execution of the job. The contractor should provide the necessary / stipulated safety devices to his personnel deputed to the site, such as grinding / welding goggles, masks, safety belts, helmets etc. No worker will be permitted to work without necessary safety appliances. Delay of work due to work without necessary safety appliances. Delay of work due to these lapses are attributable to the contractor.
 - b) All norms related to Health, Safety & Environmental (HSE) norms conforming to ISO-14001 & OHSAS-18001 shall be followed by successful bidder. Bidders may contact SAS-PSER office for getting detailed norms to be followed by bidder at Site
 - c) The contractor shall comprehensively insure all his site personnel against any hazard / accident and submit a copy of the insurance certificate covering all his site personnel to our resident engineer before commencement of work.
 - d) In case of any accident / hazard, the contractor shall arrange for medical attendance immediately shall compensate the personnel concerned in accordance with the workmen's compensations act in force and shall keep BHEL indemnified against any provisions of the act.
 - e) The successful bidder is to arrange a full set of First Aid kit for attending to manpower deployed by him at site as per requirement.
 - f) Successful bidder should follow all safety norms at work site. The Doc. No. PSER:PMX:004:94 in this regard is available with BHEL engineer at site.

02. STATUTORY COMPLIANCE :

- i) The contractor shall comply with all state and central laws, statutory rules regulations etc. such as :



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The payment of wages act, maximum wages act, workmen's compensation act., industrial disputes act, employees provident funds act / scheme, Employees' state insurance scheme, contract labour (Regulation & abolition) act, 1970 etc. and all other acts, rules & regulations for employment of labour as may have been and as may be enacted by the Government during the tenure of the contract and having force or jurisdiction at site. The contractor shall give to the local government body, police, labour authorities and other relevant authorities and all such intimation and notices as may be required by law and appraise BHEL site-in-charge of such compliance.

- ii) The contractor shall pay all taxes, fees, licence charges, deposits, duties, fines, royalty commissions or other charges which may be leviable on account of any of his operations in executing the contract. In case, BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from the contractor either form his bills or other issue as deemed fit.
- iii) The contractor shall obtain requisite licence from appropriate authority of the ministry of labour under the provision of the contract labour (Regulation and abolition) Act as soon as the work is avoided to him and indemnify BHEL against the application of any provisions of the act.
- iv) The contractor shall be responsible for provision of welfare and health of his employees / workmen, more particularly described in the contract labour (Regulation & abolition) act / rules, and safety precautions etc., as may be required for satisfactory execution of the contract.
- v) The contractor shall fulfil all his obligations in respect of canteens, rest rooms, accommodation including proper medical facilities etc. for the personnel employed by him, more particularly described in the contract labour (regulation & abolition) act / rules.
- vi) The contractor will be directly responsible for payment of wages to his workmen more specifically described in the contract labour (regulation and abolition) act / rules. A pay roll sheet showing all the wage payments representative should be furnished to BHEL site office for record purpose. BHEL site in-charge may be intimated the date of disbursement of wages to the workmen engaged for the work; so that his representative can witness the same. The contractor shall indemnify BHEL against any statutory liability on account of dues to his workmen.
- vii) The bidders should be having appropriate licence from the local Boiler Inspectorate if the job involves welding of pressure parts. Also they should be having alloy steel / carbon steel high pressure welders (for PIG and submerged arc welding approved by the local Boiler Inspectorate for welding the pressure parts. The bidders should clearly indicate the same in the offer.



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03. TERMS OF PAYMENT:

- i) No advance shall be payable to the contractor unless specifically spelt out in the tender enquiry.
- ii) A minimum time of fifteen days will be required for the processing of bills presented and for their payment.
- iii) 90% of the contract value shall be payable against submission of three progressive running bills. Each of the billed amount shall correspond to the quantum of job actually completed and to that effect the claim can be preferred based on percentage allotments (to be given in the work order) made. This, however, has to be certified by the resident manager / engineer of the site. Balance 10% of contract value shall be paid after successful synchronisation / commissioning and on receipt of final payment by BHEL from Customer.
BHEL at its discretion may further split up the percentage break up given in billing schedule and effect payment to suit site condition, cash flow requirement etc. according to progress of work.
- iv) The bidder should be financially sound to maintain the site establishment with regard to timely payment of wages to his workmen, arrangements of other inputs viz. T&P consumables etc.

Non-receipt of progressive payment from BHEL due to any reasons should not be a constraint for the smooth execution of the job at site.

- v) The bidder should make all out efforts to provide all inputs in consultation with BHEL engineers at site for completing the job in the specified time frame.
- vi) No over run/escalation / idle charges are payable against any services job under any circumstances. (in exceptional cases such claims may be considered provided BHEL's customer admits of such payment).
- vii) Extra work rate being admitted off by BHEL for other similar contracts have been stated on the page no.10 of this annexure.

For any additional work not envisaged in the scope of work or quantities exceeding the stated quantities, these rates shall be applicable.

- viii) All claims for extra works should be settled before claiming the final (10%) bill. The contractor should prefer the final claim with the certificate that 'no other claim is due from BHEL against this contract', without which final bill cannot be processed for payment.
- ix) For reduction / deletion / withdrawal in the scope of work proportionate deduction in contract value will be made.



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4. PERFORMANCE:

- i) As soon as job is awarded, the contractor has to submit a barchart to the resident engineer nominated showing the detailed schedule for all activities.

This schedule will be reviewed by the resident engineer from time to time to enable the contractor to recast the barchart matching the planned completion of the job.

- ii) It shall be the responsibility of the contractor's supervisor to distribute the work among his workmen deployed at site and get day to day activities executed as per BHEL's requirement.

BHEL's engineers / supervisors will check the correctness of the job done and will also give the daily programme of work to the contractors supervisor. The contractor has to ensure completion of daily programme and if there is any spill over, the same has to be completed by putting in same additional resources. (Technical guidance wherever required will be provided by BHEL).

- iii) The scope of work mentioned in this tender enquiry gives the broad outline of the actual work involved and it not is possible to mention all minute details of the work. For proper evaluation, the bidders may seek clarifications from this office. Or else, they may visit site and study the job content before submitting offers and be well informed and acquainted with the actual working and other prevalent conditions of the site, facilities available etc.

No claim will be entertained later on the ground of lack of knowledge.

- iv) The bidders have to furnish the bio-data and experience details of the site-in-charge, other key workmen, supervisors, senior technicians etc. to be deployed. In case of award of contract, the key members of the contractor's team may be interviewed at site by BHEL's resident engineer to ascertain their suitability. Replacement of non-acceptable personnel will have to be arranged by the contractor immediately at his own cost.
- v) Penalty for the delay in job completion will be 0.5% per day of delay, limiting to maximum 10% of the contract value, to be imposed on the contractor in case the delay in work completion is attributable to the lapses on the part of the contractor.
- vi) Performance Guarantee: Even though the work will be carried out under supervision of BHEL Engineers, the contractor shall guarantee against defects attributable to faulty workmanship or procedure



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adopted in the overhaul for items covered in the contract for a period of Six months from the date of re-commissioning of the set after the overhaul. The guarantee should cover all defects notified during this period and shall have to be attended free of cost immediately or at the time our clients are able to give shutdown of the set for the required period, when necessary. In case of failure of contractor to attend to the defect as and when required in time, BHEL shall arrange to attend the defects and the charges shall be levied to the contractor's account and shall be recoverable from the security deposit / progressive payments.

5. MISCELLANEOUS:

- i) The bidders shall submit a list of jobs being carried out by them or expected to be taken up by them during the period as called for in the participation of the tender.

Enclosure – 6.

- ii) The contractor has to engage a cleaning gang at site to ensure continuous cleaning of the floor at work site to protect the parts and to give safe access at the work site.
- iii) Obtaining licenses / permits / road permits in connection with the fulfillment of the contractual obligations is entirely the contractors responsibility. However, wherever applicable BHEL can only offer support to the extent possible.
- iv) For all matters bearing on the execution of the job at site, the decisions of the resident engineer are final and binding upon the contractor.
- v) The contractor has to retain suitable minimum work force at site for a period of one month from the date of completion or work / commissioning, to attend any small / miscellaneous problems, as leakage etc.
- vi) The contractor has to mobilize on a short notice (within 4 days) to attend any troubles encountered in the equipment worked on, during warranty period of six months.
- vii) After dismantling and during execution of the job, successful bidder has to suitably tag the components and sub-assemblies for traceability and store properly before final assembly. This is as per Doc. Nos. PSER:PMX:002:94 & PSER:PMX:001:94.
- viii) Process control of Special Processes like Welding and Heat Treatment shall be carried by successful bidder as per Doc. Nos. PSER:QLY:001:99, PSER:QLY:001:94 (3 VOL) and PSER:QLY: 003:99.



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- ix) Proper segregation, identification, tagging and up-keep of all dismantled items at work site during job execution have to be done by successful bidder.
- x) Successful bidder is to obtain necessary "No Dues" certificates before demobilisation from site.
- xi) Any NDT within the scope shall be as per Non-Destructive Examination manual (Doc. No. PSER:QLY:002:99 available with BHEL site engineer).
- xii) Unless otherwise mentioned specifically in this tender elsewhere, the storage & preservation of components, sub-assemblies, IMTEs, T&Ps, Construction Equipments etc, maintenance of stores, watch and ward of stores and BHEL site office is in the scope of the successful bidder.
- xiii) The successful bidder is to arrange extra illumination at work site to augment the existing site illumination if required to enable round-the-clock safe working.

Note: Any of the documents mentioned above can be referred before submission of tender at the office of PSER:SAS(CAL).

EXTRA WORK RATES CURRENTLY BEING ADMITTED BY BHEL, PS-ER

A. The following all inclusive manhour rates will be applicable for modification, rectification work and services work.

(For all categories)

a) Average single manhour rate including overtime if any, supervision, T&P, other site expenses and incidentals including consumables as certified by site-in-charge of BHEL.

Rs.18/- per manhour (Rs. Eighteen per manhour only)

b) Same as above (a) but excluding supply of consumables by vendor.

Rs.12/- per manhour (Rs. Twelve per manhour only)

B. The following all inclusive rates will be applicable for modification work involving welding of high pressure butt joints only. Extra work involving other types of joints will be done on the above manpower basis.

Unit rate per equivalent joint of size OD 63.5 mm x 6.3 mm thick

Average unit rate per equivalent joint,
including NDT and stress relieving.



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Carbon Steel

Rs.200/- (Rs. Two hundred only)

Alloy Steel

Rs.250/- (Rs. Two hundred fifty only)



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List of enclosure to be furnished by the bidder along with tender documents.

- | | | |
|----|---|----------------|
| a) | Experience certificate | Enclosure 1 * |
| b) | Banker's certificate of financial soundness as per BHEL' format | Enclosure 2 * |
| c) | IT / ST clearance certificate | Enclosure 3. |
| d) | Organisation Chart | Enclosure 4. * |
| e) | List of concurrent jobs held by the contractor / bidder. | Enclosure 5. |
- (* Vendors registered with BHEL should submit documents in support of sl. no. c only.)

List of documents to be furnished by the contractor to the resident engineer before commencement of the jobs / during the execution.

- i) Barchart (if not furnished in the offer)
- ii) List of T&P being mobilized. Test / Calibration certificate with date of validity for lifting / pulling devices and measuring / test instrument (if not furnished in the offer).
- iii) Category wise list of manpower being mobilized. iv)
List of consumables being mobilized.
- v) Licence from the department of Labour under contract Labour (Regulation & Abolition) Act / Proof of Application for Licence.
- vi) ESI coverage, if applicable.
- vii) Insurance certificate covering the site personnel.
- viii) Proof of remittance of provident fund to the concerned authorities, for all workmen employed for this job.
- ix) Third party insurance coverage.



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ANNEXURE - VI

QUESTIONNAIRE TO BE FILLED IN BY THE BIDDER, SIGNED WITH DATE AND SEAL, AND TO BE RETURNED ALONG WITH TECHNICAL TENDER.

BIDDER'S NON-ACCEPTANCE OF TENDER REQUIREMENTS CAN DISQUALIFY HIS BID FOR OPENING OF "PRICE BID"

TENDER NO: PSER:SCT: DATE:/...../20.....

- 01 NAME OF THE ORGANISATION.
ADDRESS, TELEPHONE / FAX NO. :
.....
.....
.....
- 02 MODE AND PARTICULARS OF EMD
ENCLOSED
- 03 BANKER'S CERTIFICATE FOR FINANCIAL SOUNDNESS / CAPABILITY TO UNDERTAKE WORK. : Enclosed / Not enclosed.
04. IS THE FIRM HAVING VALID TESTED / CALIBRATED TOOLS AND MEASURING INSTRUMENT REQUIRED FOR THIS TYPE OF JOB AND EQUIPMENT. : YES / NO.
05. ORGANISATION CHART / MANPOWER : Enclosed / Not enclosed.
06. STATUTORY REQUIREMENTS AS PER RELEVANT ACTS WITH LATEST AMENDMENT (Pl. tick out) :
- i) LICENCE FOR EMPLOYING CONTRACT LABOUR : Will be complied with
 - ii) MINIMUM WAGES ACT : - do -
 - iii) INSURANCE OF SITE PERSONNEL EMPLOYED. : - do -
 - iv) WORKMEN'S COMPENSATION ACT : - do -
 - v) THIRD PARTY INSURANCE : Will be complied with
 - vi) EMPLOYEE'S LIABILITY ACT
 - vii) INDUSTRIAL DISPUTES ACT : - do -
 - viii) EMPLOYEE'S PROVIDENT FUNDS ACT : - do -



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- ix) CONTRACT LABOUR : - do -
(REGULATION AND ABOLITION)
ACT / RULES
- x) SAFETY APPLIANCES / DEVICES : - do -
FOR WORKMEN
- xi) BOILER INSPECTORATE : - do -
- xii) ARBITRATION ACT : - do -
07. AGREEABILITY TO "NO OVERRUN : Agreeable
CHARGES" CLAUSE
08. AGREEABILITY TO "NO IDLE TIME : Agreeable
CHARGES" CLAUSE
09. AGREEABILITY TO EXECUTE FULL : Agreeable
SCOPE OF WORK OF TENDER ENQUIRY
(INCLUDING RELATED MINOR
ACTIVITIES).

Signature of the bidder :

Date :

Name of the person signing :

Designation :

SEAL
