NOTICE INVITING TENDER

FOR

BOUNDARY WALL, WATCH TOWER & SECURITY ROOM

FOR

AMMONIA-UREA FERTILIZER PLANT

AT

HURL BARAUNI

NIT NO. : PNPM/EM270/E/B-211

PREPARED AND ISSUED BY

PROJECTS & DEVELOPMENT INDIA LTD.
(A Govt. of India Enterprise)
PDIL Bhawan, A-14, Sector-1,
NOIDA-201301, U.P., India

December, 2018

LETTER INVITING BID

NIT NO. : PNPM/EM270/E/B-211

SUBJECT : Tender Document for Boundary Wall, Watch Tower & Security Room for Ammonia-Urea Fertilizer Plant at HURL Barauni

(OPEN DOMESTIC COMPETITIVE BIDDING)

Dear Sir(s),

Projects and Development India Limited (PDIL), hereinafter referred to as CONSULTANT on behalf of Hindustan Urvarak & Rasayan Ltd. (HURL), hereinafter referred as OWNER, has the pleasure of inviting eligible bidders to submit Bid ONLINE through Central Public Procurement (CPP) Portal in Single Phase Two Bid System, for the subject Project in compliance with the NIT. The entire set of Bidding documents is also placed on the website at HURL website www.hurl.net.in, PDIL website www.pdilin.com, and CPP Portal http://eprocure.gov.in/cppp/

BRIEF SCOPE OF WORK:

- **BOUNDARY WALL**

The scope of work is to construct boundary wall. The scope shall consist of but not limited to the followings:-

1. Foundation :

   Type: RCC with tie beam at plinth level.

2. Wall :

   a) Precast RCC panels for height up to 3 m.

   b) Combination of Cast-in-situ & precast RCC walls for height beyond 3 m (wherever required).

3. Concertina coil at top

- **WATCH TOWER**

The scope of work is to construct Watch towers. The scope shall consist of but not limited to the followings:-

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1. Watch tower

   Type: RCC framed structure.

➢ **SECURITY ROOM**

The scope of work is to construct security room (2 Nos.) .The scope shall consist of but not limited to the followings:-

a) Size : 10m x 5 m x 3.6 m ht(Approx)

b) Type: RCC framed.

c) Wall: Brick wall

d) Washroom in security room.

➢ **GATE**

The scope of work is to construct M.S Gate (2 Nos.) . The scope shall consist of but not limited to the followings:-

a) Foundation: RCC

b) Size: 14m x 3.0 m ht(Approx)

c) Material: Steel tubes & hard drawn steel wire mesh

d) Roller support at bottom.

➢ **DISMANTLING OF EXISTING BOUNDARY WALL & EXISTING WATCH TOWERS.**

A) CIVIL WORKS

The scope of civil works shall include the following main items or works and related works:

1. Earth work concerning site grading, top soil removal, filling and/or mass excavation (if any), excavation for foundation.
2. Reinforced cement concrete works consisting of reinforced concrete , foundations and structures.
3. Precast wall.
4. Concrete trenches for piping/cables etc.
5. Slab, Staircase.
6. Concrete paving.
7. Drains.
8. Brick Works.

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9. Fire Walls.

10. Plastering, Whitewashing, Painting.

11. Epoxy Coating of Concrete slab at different level.

12. Other miscellaneous work.

B) STRUCTURAL WORKS

The scope of structural works shall include Providing, Erecting and preparation of fabrication drawings of structural steel works for:-

1. Providing & Erecting Structural Members.

2. Providing & Fixing grating planks for platforms.

3. Providing & Fixing chequered plates.

4. Providing & Fixing Hand railings etc.

5. Providing & Fixing Anchor bolt.

6. Providing & Fixing Rail Section.

7. Other miscellaneous work.

The scope of work shall also include any other item of work required to complete the work in all respects as per the specifications, drawings and instructions of Engineer-in-charge whether specifically mentioned or not in the tender documents.

All dimensions mentioned above are indicative and it may vary at the time of final design/execution.

REFER PART-II, TECHNICAL PART FOR DETAILED SCOPE OF WORK

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NIT Document consists of:

PART-I : COMMERCIAL PART
PART-II : TECHNICAL PART

SALIENT FEATURES OF NIT :		
1.	**NIT NO.**	**PNPM/EM270/E/B-211**
2.	Issue Date	03.12.2018
3.	Last Date & Time for Submission of Technical & Commercial Bid and Priced Bid (ONLINE through CPP)	**26.12.2018, at 15:00 hrs. (IST)**
4.	Date & Time of opening of EMD and Technical and Commercial Bid	**27.12.2018, at 15:00 hrs. (IST), at PDIL, Noida**
5.	Earnest Money Deposit (EMD)	**Rs. 18,25,000.00** (Rupees Eighteen Lacs Twenty Five thousand only)
6.	Submission of EMD, in Original, at PDIL Noida	**On or before Bid Closing Date i.e. 26.12.2018.**
7.	Time Schedule	**08 Months** from the Effective Date of Contract
8.	**Address for Communication with**	
8.1.	Projects & Development India Limited (PDIL)	Projects & Development India Limited, Project Management Department PDIL Bhawan, A-14, Sector-1, Noida, U.P., India Kind Attention: Mr. Pawan Kumar Project Manager Tel no. : 0120-2529842, Extn. 209 Fax no. : +91-120-2529801 E-mail : pawankumar@pdilin.com
8.2.	Hindustan Urvarak & Rasayan Limited (HURL)	Hindustan Urvarak & Rasayan Ltd., Core-2, 2nd Floor, Scope Minar, Laxmi Nagar District Centre, Delhi-92 Kind Attention : Mr. Manish Goyal Senior Project Manager Tel no. : 011-22502267 Email : goyalm@hurl.net.in
8.3.	Contact Person for Site visit	Contact Person: Mr. Bipin Bobby Minz DGM (PJ & Admn.), HURL Fertlizer Plant (FCI), Barauni Mob.: +91-7781003933 E-mail: minzbb@hurl.net.in
8.4.	NIT overview on websites	"Letter Inviting Bid" & "Instruction to Bidders" is available at following websites: HURL (www.hurl.net.in) PDIL (www.pdilin.com) CPP Portal (www.eprocure.gov.in)

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The bidder shall submit the bid ONLINE through Central Public Procurement (CPP) Portal. However, Earnest Money Deposit (EMD) in original along with No Deviation Certificate and Integrity Pact shall be submitted at PDIL, Noida on or before Bid Submission Date.

Owner/Consultant reserves the right to accept/reject any or all Bids without assigning any reason whatsoever.

Bids complete in all respects should reach on or before the Bid Due Date and time. **Bids through Fax / E-mails will not be accepted**. OWNER / CONSULTANT take no responsibility for delay, loss or non-receipt of Bid sent by post/courier. Please be noted that all the dates mentioned herewith are firm and OWNER / CONSULTANT expect strict adherence since this is a pricrity project.

Transfer of Bidding Document is not permissible.

Bidder may depute their representative with proper authorization letter to attend Technical and commercial opening of bids.

Eligible bidders are requested to confirm their intention, within seven (07) days from the placement of NIT at CPP Portal, to participate in subject bidding through a letter or fax message

Thanking you,

For & on behalf of
Projects & Development India Ltd.

3/12/18

PAWAN KUMAR
PROJECT MANAGER- HURL, BARAUNI

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MASTER INDEX

NIT NO. : PNPM/EM270/E/B-211
NIT DESCRIPTION : TENDER DOCUMENT FOR BOUNDARY WALL, WATCH TOWER & SECURITY ROOM FOR AMMONIA-UREA FERTILIZER PLANT AT HURL BARAUNI

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PART-I : COMMERCIAL

SECTION-1.0

PART-I: COMMERCIAL

SECTION – 1.0

INSTRUCTIONS TO BIDDERS

0	03.12.2018	FOR TENDER	PS	PK	RRK
REV.	**DATE**	**PURPOSE**	**PREPARED**	**REVIEWED**	**APPROVED**

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INSTRUCTION TO BIDDERS

1.0 INTRODUCTION

1.1. Government of India has formed a joint venture company of M/s. National Thermal Power Corporation Ltd. (NTPC), M/s. Coal India Limited (CIL), M/s. Indian Oil Corporation Ltd. (IOCL) & FCIL/HFCL by name M/s Hindustan Urvarak & Rasayan Ltd. (HURL) hereinafter also referred to as "OWNER", for setting up a brown field Ammonia Urea Complex along with its associated offsite & utility facilities at existing fertilizer complex of HFCL, Barauni, in the State of Bihar.

1.1.1 Projects & Development India Ltd. (PDIL) has been retained as Consultant for providing Engineering Consultancy Services and Project Management Services for the aforesaid project.

1.2 LOCATION OF THE PROJECT SITE

The existing Barauni Fertilizer unit of Hindustan Fertilizer Corporation Ltd. (HFCL) is located in the Begusarai district of Bihar. Broad gauge Railway Station (Barauni) is at a distance of 0.8 km from the plant site. The Barauni Refinery of IOCL lies adjacent to the fertilizer plant. The plant is well connected by rail and road. National Highways No. 31 passes nearby. The nearest airport is at Patna about 100 km from Barauni.

BRIEF SCOPE OF WORK:

- **BOUNDARY WALL**

The scope of work is to construct boundary wall. The scope shall consist of but not limited to the followings:-

1. Foundation :

   Type: RCC with tie beam at plinth level.

2. Wall :

   a) Precast RCC panels for height up to 3 m.

   b) Combination of Cast-in-situ & precast RCC walls for height beyond 3 m (wherever required).

3. Concertina coil at top

- **WATCH TOWER**

The scope of work is to construct Watch towers. The scope shall consist of but not limited to the followings:-

1. Watch tower

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Type: RCC framed structure.

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The scope of work is to construct security room (2 Nos.) .The scope shall consist of but not limited to the followings:-

a) Size : 10m x 5 m x 3.6 m ht(Approx)

b) Type: RCC framed.

c) Wall: Brick wall

d) Washroom in security room.

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The scope of work is to construct M.S Gate (2 Nos.) . The scope shall consist of but not limited to the followings:-

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c) Material: Steel tubes & hard drawn steel wire mesh

d) Roller support at bottom.

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The scope of civil works shall include the following main items or works and related works:

1. Earth work concerning site grading, top soil removal, filling and/or mass excavation (if any), excavation for foundation.
2. Reinforced cement concrete works consisting of reinforced concrete , foundations and structures.
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5. Slab, Staircase.
6. Concrete paving.
7. Drains.
8. Brick Works.

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9. Fire Walls.

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B) STRUCTURAL WORKS

The scope of structural works shall include Providing, Erecting and preparation of fabrication drawings of structural steel works for:-

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5. Providing & Fixing Anchor bolt.

6. Providing & Fixing Rail Section.

7. Other miscellaneous work.

The scope of work shall also include any other item of work required to complete the work in all respects as per the specifications, drawings and instructions of Engineer-in-charge whether specifically mentioned or not in the tender documents.

All dimensions mentioned above are indicative and it may vary at the time of final design/execution.

REFER PART-II, TECHNICAL PART FOR DETAILED SCOPE OF WORK

2.0 BIDDING DOCUMENTS

The bidder is expected to examine the bidding documents, including all instructions, Pre-Qualification Criteria, Forms, Annexure, Terms and Conditions of Contract, Specifications, Drawings and other documents and to fully familiarize itself with the requirements of the bidding documents. Failure to furnish all the information required by the Bidding Documents or the submission of a bid not substantially responsive to the Bidding Documents in every respect may result in the rejection of the Bid.
In case of any inconsistency, in the interpretation of meaning of any part of this Tender Documents, the BIDDER shall give his best endeavor to resolve the inconsistency by expressing his assumption through his proposal to OWNER.

3.0 AMENDMENT OF BIDDING DOCUMENTS

Bidders shall examine the Bidding documents thoroughly and inform the OWNER of any apparent conflict, discrepancy or error.

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At any time prior to the deadline for submission of bids as well as up to priced bid opening, the OWNER may, for any reason whether at its own initiative or in response to a clarification or modification requested by any prospective Bidder(s), modify the Bidding documents, if required.

Notice of issuance of any Amendment to the bidding document (Corrigendum/Addendum/Amendment) if any, shall be hosted on PDIL website and shall not be advertised in press. The same shall also be notified in the websites of any one or more of the JV companies comprising HURL (viz. IOCL, NTPC, CIL & FCIL/HFCL). Bidders are therefore advised to visit the website regularly for downloading the details of amendment to bidding document. The Bidders will be required to acknowledge notification of any such amendment to the Bidding documents. Bidders shall confirm the inclusion of Addendum/Corrigendum in their bid and shall follow the instructions issued along with addendum/corrigendum

In order to afford Bidders reasonable time to take the amendment, issued prior to submission of Bids, into account in preparing their Bids, OWNER may, at its discretion, extend the deadline for the submission of Bids.

4.0 LANGUAGE OF THE BID

The Bid prepared by the Bidders and all correspondence and documents relating to the Bid exchanged by the Bidder and the CONSULTANT/ OWNER shall be written in the **English language and all units shall be in Metric system.** Any printed literature furnished by the Bidder may be written in another language, provided that such literature is accompanied by an English translation, in which case, for purpose of interpretation of the Bid, the English translation shall govern.

5.0 TIME SCHEDULE

6.1 Bidder shall be required to complete the WORK under the CONTRACT in accordance with the following:

PROJECT COMPLETION DATE	**08 Months from the Effective Date of Contract (EDC)**

6.2 The **"Effective Date of Contract"** shall be the date of issuance of LOI (Letter of Intent) by the Owner/Consultant.

6.3 The basic consideration and essence of the Contract is the strict adherence to the time schedules for performing the specified works as stipulated in the Contract.

6.0 SIGNATURE ON BIDS

7.1 The Bid must contain the name, designation and place of business of the person or persons making the Bid and must be signed and sealed, on each page, by the Bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature. The Bidder shall submit authority letter / Power of Attorney / Board

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Resolution in favour of the authorized signatory(s) of the Bid. The Bidder's name stated on the proposal shall be the exact legal name of the Bidder.

7.2 Bids by bodies corporate/ limited Companies must be signed with the legal name of the Corporation/Limited Company by the President, Managing Director or by the Company Secretary or any other person or persons holding Power of Attorney for signing their Bid.

7.3 Power of Attorney issued by the Board of Directors / CEO / MD / Company Secretary of the Bidder/ all partners in case of Partnership Firm / Proprietor in favor of the authorized employee(s) of the Bidder, in respect of the particular tender for signing the Bid and all subsequent communications, agreements, documents etc. pertaining to the tender and to act and take any and all decision on behalf of the Bidder, is to be submitted. The authorized employee(s) of the Bidder shall be signing the Bid and any consequence resulting due to such signing shall be binding on the Bidder.

7.4 Bid shall contain no cuttings, erasures or overwriting except as necessary to correct errors made by the Bidder in which case each such corrections or other changes in the Bid documents shall carry the initials of the person(s) signing the Bid.

7.5 Bids not conforming to the above requirements of signing may be disqualified.

7.0 PRE-QUALIFICATION CRITERIA (PQC)

Evaluation of Technical and Commercial offers shall be carried out for only those Bidders who shall meet the Pre-qualification Criteria.

8.1 TECHNICAL CRITERIA

8.1.1 The Bidder, meeting the requirements must have executed **Similar Works*** during last Seven (07) years ending last day of the month previous to the one on which NIT is invited, should be either of the following :

One completed Work with contract value not less than **INR 11.82 Crore**

OR

Two completed Works each works with contract value not less than **INR 7.38 Crore**

OR

Three completed Works each works with contract value not less than **INR 5.91 Crore**

***Similar Works means: Construction of Civil and Structural works.**

To meet the criteria (8.1.1) above, the bidder shall submit photo copies as a documentary proof of the following documents:

i. Work Orders with full technical details including Detailed Scope of the Work and Completion Period.
ii. Completion Certificate from end user/owner regarding satisfactory completion indicating LOA / Work Order no., Name of Work, Contract Value, Scope of Work, Contract period and actual Date of Completion

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For clause 8.1.1, a Job executed by a Bidder for its own plant/ project cannot be considered as experience for the purpose of meeting PQC of the tender. However, jobs executed for Subsidiary / Fellow subsidiary / Holding company will be considered as experience for the purpose of meeting PQC subject to submission of tax paid invoice (s) duly certified by Statutory Auditor of the Bidder towards payments of statutory tax in support of the job executed for Subsidiary / Fellow subsidiary / Holding company. Such Bidders to submit these documents in addition to the documents specified to meet PQC.

8.2 FINANCIAL CRITERIA

8.2.1 Average Annual financial turnover during three (03) financial years i.e. 2017-18, 2016-17, and 2015-16 of the bidder meeting the requirement as per clause above experience criteria should be at least **INR 4.43 Crore.**

8.2.2 Net Worth of the Company should be positive during the last financial year ending 31st March 2018.

8.2.3 The Bidder will submit Solvency certificate not more than six months old from the date of issue of NIT from their Banker for a value not less than **INR 5.91 Crore** or minimum credit ratings of "A" from ICRA/CRISIL etc OR equivalent reputed institutions, OR financing / unutilized credit limits from bank of value not less than **INR 5.91 Crore** valid as on date of issue of NIT.

To meet the criteria (8.2.1 & 8.2.2) above, bidder shall submit Audited Annual Statements (Balance Sheet and Profit & Loss account) of the company for three (3) financial years i.e. 2017-18, 2016-17 and 2015-16.

8.3 AUTHENTICATION OF ALL DOCUMENTS SUBMITTED AGAINST PQC

Technical Criteria: All documents in support of technical criteria of PQC to be furnished by the bidder shall necessarily be:

Duly certified / attested by **Chartered Engineer and Notary Public with legible stamp.**

Financial Criteria: All documents in support of financial criteria of PQC to be furnished by the bidder shall necessarily be:

Shall submit "Details of Financial capability of Bidder" in prescribed format (as per Annexure-1.21), **duly signed & stamped by a Chartered Accountant.** Further, a copy of Audited Annual Financial Statements submitted in bid shall be duly certified / attested by **Notary Public with legible stamp.**

Note: The Authentication of PQC Documents of the Bidders Qualified after Techno-commercial (unpriced) Evaluation may be checked through Original documents.

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8.0 EARNEST MONEY DEPOSIT (EMD) AND COMPLIANCE TO ALL THE PROVISIONS OF THE BIDDING DOCUMENT / NIL DEVIATION

9.1 EARNEST MONEY DEPOSIT (EMD)

9.1.1 Bids must be accompanied with 'Earnest Money Deposit (EMD) / Bid Security' in the form of 'Demand Draft' or 'Banker's Cheque' or 'Bank Guarantee'. The amount of EMD shall be as indicated in the LIB (Letter Inviting Bid). The Bidder shall furnish as part of his Bid, EMD in the form of a Bank guarantee. The bidder shall furnish as part of his bid, EMD in the form of a Bank guarantee.

9.1.2 In case EMD is submitted in form of BG, then the EMD offered shall be an irrevocable Bank Guarantee, issued by any scheduled nationalized bank (refer Annexure-1.25 for the list of approved banks) on a stamp paper of appropriate value. Performa of the Bank guarantee is enclosed as Annexure-1.11.

9.1.3 The Bank Guarantee shall be valid for a period of 90 days beyond validity of the Bid. The amount shall be as indicated in the Letter Inviting Bid for this NIT. The Bank Guarantee shall be extended suitably if there is a delay in awarding the contract. The relevant extension shall be on Bidders' account.

OR

EMD can also be furnished in the form of Demand Draft in favour of **M/s. Hindustan Urvarak & Rasayan Limited, payable at Delhi** for value as outlined in the Letter Inviting Bid (LIB) for this NIT.

EMD will not carry any interest.

9.1.4 **The Bank details for EMD are:**
Account Name: Hindustan Urvarak & Rasayan Limited
Current Account No: 37880422277
Branch Code: 17313
IFSC Code: SBIN0017313

Branch Address:
State Bank of India,
Corporate Account Group- II,
Redfort Capital Parsvnath Towers 4th and 5th Floor,
Bhai Veer Singh Marg,
Gole Market,
New Delhi

9.2 COMPLIANCE TO ALL THE PROVISIONS OF THE BIDDING DOCUMENT / NIL DEVIATION

The Bidders are advised that while making their Bid and quoting prices, all conditions may appropriately be taken into consideration. No deviation, whatsoever, is permitted by the Owner to the provisions of Bidding Documents and its subsequent Amendment(s) /

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Clarification(s) / Addenda / Errata if any, issued by the Employer. Bidders are required to certify their full compliance to the complete Bidding Documents and its subsequent Amendment(s) / Clarification(s) / Addenda / Errata if any, issued by the owner by submitting the 'No Deviation Certificate' as per Annexure-1.3 in the tender documents. In case the Certificate as per Annexure-1.3 duly signed and stamped is not furnished, the bid shall be rejected.

Acceptance of above shall be considered as Bidder's confirmation that any deviation to the Bidding Documents found anywhere in their Bid Proposal, implicit or explicit shall stand unconditionally withdrawn, without any cost implication whatsoever to owner, failing which the bid shall be rejected and bid security shall be forfeited

9.2.1 Bidders shall submit their EMD in original along with No Deviation Certificate and Integrity Pact, at following address.

The envelope shall be super scribed with:

"Tender Document for Boundary Wall, Watch Tower & Security Room for Ammonia-Urea Fertilizer Plant at HURL Barauni"

Projects & Development India Ltd.
(A Govt. of India Enterprise)
PDIL Bhawan, A-14, Sector-1,
Noida-201301, UP, India

Kind Attention : Mr. Pawan Kumar, Project Manager
EPBX No. + 91-120-2529842 / 43 / 47 / 51 / 53 / 54 Extn. 209
Fax no. + 91-120-2529801 / 91
E-mail : pawankumar@pdilin.com

9.3 The bid must be accompanied by EMD in original along with No Deviation Certificate and Integrity Pact. The owner allows only those bids to be opened whose EMD in original has been received by the owner before the Techno-Commercial bid opening.

9.4 The EMD of unsuccessful Bidders will be returned by OWNER/CONSULTANT without any interest to the unsuccessful Bidders as promptly as possible on acceptance of Bid of the successful Bidder or when the Bidding process is cancelled by OWNER/CONSULTANT, whichever is later. Bidders may indicate the name and address in whose favour the said EMD shall be returned.

9.5 The successful Bidder's EMD will be discharged upon the Bidder accepting and signing the Contract and furnishing the Security cum Performance Bank Guarantee.

9.6 The EMD shall be forfeited and appropriated by OWNER/CONSULTANT in regard to the NIT without prejudice to any other right or remedy to OWNER under the following conditions:

a) If a Bidder withdraws his Bid during the validity or extended validity period.
b) If the bid is varied or modified in a unilaterally by the bidder during the validity or extended validity period.
c) Any effort by the bidder to influence the Owner on bid evaluation, bid comparison or contract award decision.

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d) In the case of a successful Bidder, if the Bidder fails to duly sign the CONTRACT within the stipulated timeframe, and/or meet the stipulations for signing the CONTRACT within the said timeframe.

OR

If the successful bidder is seeking modifications to the agreed terms and conditions after issue of Letter of Intent ("LOI") and prior to signing of the Contract.

OR

If the successful bidder fail to furnish Security cum Performance Bank Guarantee within 30 days of issuance of the LOI.

9.0 COST OF BIDS

The Bidder shall bear all costs associated with the preparation and submission of the Bid, and OWNER / CONSULTANT will, in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

10.0 MODIFICATION AND WITHDRAWAL OF BIDS

11.1 The Bidder may modify or withdraw its Bid after the Bid's submission, but before the last date and time of Bid submission as specified in this NIT provided that written notice of the modification or withdrawal is received by OWNER/ CONSULTANT prior to the deadline prescribed for submission of Bids.

11.2 A withdrawal notice may also be sent by E-mail in signed and scanned form not later than the deadline for submission of Bids.

11.3 In case any clarifications are sought by the OWNER/CONSULTANT after opening of tenders, then the replies of the Bidder should be restricted to the clarification sought. Any modification of a Bid by the Bidder (including a modification which has the effect of altering the value of the said Bid) after opening of Technical and Commercial Bids without specific reference by the OWNER shall render the Bid liable to be rejected without notice and without further reference to the Bidder.

11.4 No bid may be withdrawn in the interval between the deadline for the submission of bids and the expiration during the validity or agreed extension validity period duly agreed by the bidder. Withdrawal or unsolicited modification of a bid during this interval shall result in the Bidder's forfeiture of its EMD.

11.0 INFORMATION REQUIRED WITH THE BID

12.1 All technical information shall be furnished as per Part-II, Technical. In addition, the bidder shall ensure that Technical and Un-priced Commercial Bid has been submitted.

12.2 Requirement of Manpower / Equipment / Tools & Tackles for timely completion of the project.

12.2.1 Bidder shall furnish tentative month wise manpower requirement till completion of the job.

12.2.2 Bidder shall also furnish a tentative break up of equipments, tools & tackles for timely execution of job.

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12.0 PRELIMINARY EXAMINATION

13.1 Full compliance to the complete provisions of the Bidding Documents and its subsequent Amendment(s) / Clarification(s) / Addenda / Errata if any, issued by the owner will be checked first in terms of para clause 9.2 above and other requirements of the bidding documents in respect of No deviation Certificate and Integrity pact. In case those documents duly signed and stamped are not found in separate envelope / techno-commercial bid and / or they are not found as per format of the bidding document, the bidder will be asked to furnish the same as per the format before price bid opening. Failure to comply with this requirement, the bid shall be rejected.

13.2 The Owner/Consultant will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, whether validity of the Bid is in conformity with ITB and whether the bids are generally in order.

13.3 Prior to the detailed evaluation, the Owner/Consultant will determine the substantial responsiveness of the bids, in line with clause 20.0 of ITB.

13.4 A Bid determined as substantially non-responsive is liable to be rejected by the Owner/Consultant and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

13.5 The Owner/Consultant may waive any minor informality or non-conformity or irregularity in a Bid, which does not in their opinion constitute a material deviation.

13.6 Under two stage bidding system, after a preliminary screening based on both technical and un-priced commercial evaluation, Bidders will be short-listed. In the event that any clarifications are required, then such clarifications shall be obtained from such short listed bidders only. Based on the clarifications, the technically acceptable Bidders shall be asked to submit the revised price.

13.0 LOCAL CONDITIONS

14.1 It will be imperative on each Bidder to fully make aware himself of all local conditions and factors which may have any effect on the execution of the works covered under these specifications and documents. Bidder shall inspect the site, examine and obtain at its cost and responsibility, all information required and satisfy himself regarding all matters and things such as access to site, communications, transport, right of way, the type and number of equipment and facilities required for the work, availability of local labour, materials and their rates, local working conditions, weather, flood levels, sub-soil conditions, natural drainage, and all information that may be necessary for preparing its Bid, performance of work and other obligations and related matters. By submitting the Bid the Bidder shall be deemed to have acknowledged and agreed that ignorance of the site and other said conditions shall not be basis for any claim for compensation or extension of time or loss of profits etc. and the OWNER shall not be liable on account thereof in any manner whatsoever to the Bidder or any person claiming through or under the Bidder.

14.2 Bidders must before submission of their Bids, acquaint themselves with all applicable regulatory and other legal requirements pertaining to insurance and health, safety and environment requirement in India and rules related to work permit and visa requirements in India or in any way or manner affecting the performance of Scope of Work, the Contractor and the Plant operation and performance including social security, safety, pollution control,

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permits, licenses, and the other statutory requirements and regulations. The submission of a Bid by the Bidder will be construed as evidence that such an examination was made and the Bidder shall not raise at any time later any claims/disputes against the Owner and the Owner shall not be liable for the same in any manner whatsoever.

14.3 The Owner shall not entertain any request for clarification from the bidder, regarding such local conditions.

14.4 The Bidder shall be deemed to have prepared the Bid on the basis of its independent judgment and to have made all necessary allowances and provisions to ensure that the PROJECT will meet all technical specification prescribed hereunder in the tender document and will be entirely suitable for the purpose for which it is intended. Accordingly, at the time of submission the Bid Price will, without extra price and/or extension of time, be held to include everything implicitly or otherwise required or necessary for the proper and timely completion of the WORK in accordance with the CONTRACT. Further, in case of any contract awarded under these specifications and documents, neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the Owner, which are based on the lack of such clear information or its effect on the cost of the works to the Bidder.

14.5 Visit to site at BIDDER's cost and expense.

14.0 PRICE BASIS & CURRENCY OF BIDS

15.1 The Bidder shall quote in Indian Rupees only.

15.2 The price/rate to be quoted by the Contractor shall be fixed and firm shall be valid until completion of the Contract to be executed with the successful Bidder pursuant hereto and shall not be subject to variation/escalation on any account except as otherwise specifically provided in the Contract documents.

15.3 Site is located at Barauni, Bihar and the bidder are required to check & confirm before bidding for applicability of all taxes & duties for the procurement of supply and service by them for the execution of contract.

15.4 The Bidders shall quote in their proposals, the firm Price/Rate for the entire scope of work as per Schedule of Rates (SOR), inclusive of all taxes, duties, levies, BOCW Cess (if any) etc. except GST. GST shall be paid/ reimbursed at actuals on submission of the GST invoice limited to their quote in price bid. **(Refer Section-5 of Part-II, Technical for Schedule of Rates)**.

15.5 All bank charges of bidders bankers shall be to the Bidder's account and all Bank charges of Owner's bankers shall be to Owner's account.

15.6 Income Tax, or any other tax and surcharge as applicable shall be deducted at source from the bills of the contractor and a certificate to that effect shall be issued by the Owner.

15.0 CONSORTIUM BIDS

Joint Venture / Consortium Bids are not acceptable.

16.0 NUMBER OF BIDS

17.1 A bidder shall on no account submit more than one bid either directly or indirectly.

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17.2 A bidder shall be deemed to have submitted an indirect bid if a subsidiary of the bidder is also a direct or indirect bidder in an independent bid or if the bidder or its subsidiary has with its consent been indicated as a sub-contractor in any other bid or even if not so indicated has entered into any arrangement (whether disclosed or undisclosed) with any other bidder or with a sub-contractor of that bidder for the performance of any work for that other bidder upon an award of the work to that other bidder.

17.3 If a bidder makes more than one bid and/or directly or indirectly participates in another bid as contemplated under 17.2 above, all the bids of the bidder, including the bid of the bidder in whose bid the first named bidder has directly or indirectly participated, may be considered as cartel bids and may be rejected. If the factum of such bid(s) is discovered after the notification of award, the resultant contract shall be liable to be terminated pursuant to the provisions for termination contained in the General Conditions of Contract.

17.0 CONFIDENTIALITY OF DOCUMENTS

Bidders shall treat the bidding documents and contents therein as strictly confidential.

18.0 TAXES AND DUTIES

19.1 The Prices/Rates shall include all taxes & duties, levies, BOCW Cess (if any) etc. including but not limited to custom duty, personnel and corporate tax, except GST. GST shall be paid/ reimbursed at actuals on submission of the GST invoice limited to their quote in price bid.

19.2 Bidders are required to ascertain themselves the prevailing rates of applicable taxes & duties including income tax rates as applicable on the scheduled date of submission of price bids and Owner would not undertake any responsibility whatsoever in this regard. However, due to any subsequent change in law, liability of the Owner as regards to payment of duties and taxes would be governed by Clause 39.0 of Special Conditions of Contract on subsequent legislation.

19.3 Please note that the responsibility of payment of above taxes thereupon lies with the Service Provider only. Contractor providing taxable service shall issue an Invoice as per the law, a Bill or as the case may be, a Challan which is signed, serially numbered and in accordance with GST rules. The invoice shall also contain the following:

(a) Name, Address & GST Registration No. of such Person/Contractor
(b) Name & Address of the Person/Contractor receiving Taxable Service
(c) Description, Classification & Value of Taxable Service provided like HSN/SAC Code.
(d) GST Amount /Cess thereupon, if any.

Payments to Service Provider for claiming GST amount will be made provided the above formalities are fulfilled. Further, OWNER may seek copies of challan and certificate from Chartered Accountant for deposit / submission of Return of GST thereupon collected from Owner.
Any changes in statutory rules and regulations under GST regime shall be followed by Contractor.

Refer Annexure-1.20 of Part-I (Commercial) for General Guidelines for Goods & Service Tax (GST).

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19.0 DETERMINATION OF BID'S RESPONSIVENESS

20.1 The Owner's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence. If a bid is not substantially responsive, it will be rejected by the Owner, and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

20.2 It is important that Bidder clearly demonstrates his experience and capability, giving OWNER/CONSULTANT a high level of confidence that if awarded, the Bidder will be able to perform the works within the stipulated Time Schedule and quoted rate/price and meeting all other requirements listed in the Bidding document.

20.3 Bidder is requested to furnish the complete and correct information required for evaluation of his Bid. If the information with regard to resources and concurrent commitments or any other information/documentation forming basis of evaluation is found incomplete/incorrect, the same may be considered as adequate ground for rejection of the Bid.

20.3 Examination of bids and determination of responsiveness

20.3.1 The owner's determination of bid's responsiveness is based on the content of the bid only. Prior to the detailed evaluation of Bids, the Owner will determine whether each Bid:-

(a) Meets the "Pre-Qualification Criteria" of the Bidding Documents;
(b) Has been properly signed;
(c) Is accompanied by the required 'Earnest Money; No Deviation Certificate, and Integrity Pact.
(d) Is substantially responsive to the requirements of the Bidding Documents; and
(e) Provides any clarification and/or substantiation that the Owner may require to determine responsiveness pursuant to Clause-20.3.2 of this ITB

20.3.2 A substantially responsive Bid is one which conforms to all the terms, conditions and specifications of the Bidding Documents without material deviations or reservations or omissions for this purpose Owner defines the foregoing terms below:-

(a) "Deviation" is departure from the requirement specified in the tender documents.
(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirement in the tender documents.
(c) "Omission" is the failure to submit part or all of the information or documentation required in the tender document.

20.3.3 A material deviation, reservation or omission is one that,

(a) If accepted would,

i) Affect in any substantial way the scope, quality, or performance of the job as specified in tender documents.
ii) Limit, in any substantial way, inconsistent with the Tender Document, the Owner's rights or the tenderer"s obligations under the proposed Contract.

b) If rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

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20.3.4 The Owner shall examine all aspects of the bid to confirm that all requirements have been met without any material deviation, reservation or omission.

20.3.5 If a Bid is not substantially responsive, it may be rejected by the Owner and may not subsequently be made responsive by correction or withdrawal of the material deviation, reservation or omission.

20.0 SUBMISSION OF BIDS

21.1 The Bid shall be submitted in electronic format (through CPP portal) as per time schedule mentioned in the Letter Inviting Bid.

The Bidder shall submit Bid Security / EMD along with the No deviation Certificate and Integrity Pact, in physical form only at the address mentioned at Clause 9.0 of Instruction to Bidders.

21.2 **Instruction for Online Submission of Bid**

Instructions to the Bidders to submit the bids online through the Central Public Procurement Portal for e-Procurement at *https://eprocure.gov.in/eprocure/app*

1) Possession of valid Digital Signature Certificate (DSC) and enrolment/registration of the contractors/bidders on the e-procurement / e-tender portal is a prerequisite for e-tendering.

2) Bidder should do the enrolment in the e-procurement site using the “Click here to Enroll” option available on the home page. Portal enrolment is generally free of charge. During enrolment/registration, the bidders should provide the correct/true information including valid email id. All the correspondence shall be made directly with the contractors/bidders through email id provided.

3) Bidder need to login to the site thro’ their user ID/ password chosen during enrolment/registration.

4) Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY / TCS / nCode / eMudra or any Certifying Authority recognized by CCA India on eToken / SmartCard, should be registered.

5) The DSC that is registered only should be used by the bidder and should ensure safety of the same.

6) Bidder may go through the NIT / tenders published on the site and download the required NIT documents/schedules for the tenders he/she is interested.

7) After downloading / getting the NIT/ Tender document/schedules, the Bidder should go through them carefully and then submit the documents as asked, otherwise bid will be rejected.

8) If there are any clarifications, this may be obtained online thro’ the tender site, or thro’ the contact details. Bidder should take into account the corrigendum published before submitting the bids online.

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9) Bidder then logs in to the site through the secured log in by giving the user id/ password chosen during enrolment/registration and then by giving the password of the e-Token / Smart Card to access DSC.

10) Bidder selects the tender which he/she is interested in by using the search option & then moves it to the 'my tenders' folder.

11) From my tender folder, he / she selects the tender to view all the details indicated.

12) It is construed that the bidder has read all the terms and conditions before submitting their offer. Bidder should go through the tender schedules carefully and upload the documents as asked otherwise, the bid will be rejected.

13) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/schedule and generally, they can be in PDF/xls/rar/zip/dwf formats. If there is more than one document, they can be clubbed together and can be provided in the requested format. Each document to be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip/rar and the same can be uploaded, if permitted. Bidders Bid documents may be scanned with 100 dpi with black and white option. However of the file size is less than 1 MB the transaction uploading time will be very fast.

14) If there are any clarifications, this may be obtained through the site, or during the pre-bid meeting if any. Bidder should take into account the corrigendum published from time to time before submitting the online bids.

15) The Bidders can update well in advance, the documents such as certificates, annual report details etc., under My Space option and these can be selected as per tender requirements and then send along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.

16) Bidder should submit the EMD as specified in the tender. The original should be posted/couriered/given in person to the Tender Inviting Authority, within the bid submission due date & time for the tender. Scanned copy of the instrument should be uploaded as part of the offer.

17) While submitting the bids online, the bidder reads the terms & conditions and accepts the same to proceed further to submit the bid packets.

18) The bidder has to select the payment option as offline to pay the Tender FEE/ EMD as applicable and enter details of the instruments.

19) The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise submitted bid will not be acceptable.

20) The bidder has to digitally sign and upload the required bid documents one by one as indicated. Bidders to note that the very act of using DSC for downloading the bids and uploading their offers shall be deemed to be a confirmation that they have read all sections and pages of the bid document including General conditions of contract without any exception and have understood the entire document and are clear about the requirements of the tender requirements.

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21) The bidder has to upload the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected.

22) If the price bid format is provided in a spread sheet file like BoQ_xxxx.xls, the rate offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Price Bid / BOQ template must not be modified/ replaced by the bidder; else the bid submitted is liable to be rejected for this tender.

23) The bidders are requested to submit the bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.

24) After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the acknowledgement number, given by the system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and will also act as an entry pass to participate in the bid opening date.

25) The time settings fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.

26) All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not viewable by unauthorized persons during bid submission & not be viewable by any one until the time of bid opening.

27) Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

28) The confidentiality of the bids is maintained since the secured Socket Layer 128 bit encryption technology is used. Data storage encryption of sensitive fields is done.

29) The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.

Note: A bidder shall submit only one bid in the same bidding process. A Bidder who submits more than one bid will cause all their bids disqualified in the said bidding process.

21.3 The Bidder is expected to examine all instructions, forms, terms and conditions in the NIT. The NIT together with all its attachments thereto, shall be considered to be read, understood and accepted by the Bidders. Failure to furnish all information required or submission of a Bid not responsive to the NIT in every respect will be at the Bidder’s risk and may result in the rejection of the Bid.

21.4 **Pre-qualification Bid and Technical & Commercial Bid** in two Sections, as specified below.

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SECTION-I : PRE-QUALIFICATION BID (Refer Clause 8.0)

i.	Letter of Submission
ii.	Pre Qualification Criteria in favour of **Experience Criteria as per Exhibit-1** along with Copies of Work Orders, Certificates from End User/OWNER and completion certificates in support of prequalification requirement.
iii.	Pre Qualification Criteria in favour of **Financial criteria as per Exhibit-2** along with copies of Work Orders, Completion/ Acceptance certificates and Annual audited Report for the last three financial years. Annual Reports shall be a verifiable statement of annual accounts certified by a Chartered Accountant or Public Accountant in the form of printed annual reports or similar document.
iv.	**Format for Financial Capability of Bidder** as per Annexure-1.21
v.	**Solvency Certificate** from Bidder's bankers as per Annexure-1.18. Date of Issue of this certificate should not more than six months old from the date of issue of NIT.

SECTION-II : TECHNICAL AND COMMERCIAL BID

i)	Photocopy of Earnest money Deposit (EMD)
ii)	Power of Attorney of Bid Signatory from the Competent Authority as per Annexure-1.26
iii)	Tender Acceptance Letter as per Annexure-1.1
iv)	Commercial Questionnaire as per Annexure-1.2
v)	No Deviation Certificate as per Annexure-1.3
vi)	Details of Similar Works Executed as per Annexure-1.4
vii)	Current Commitments of the Bidder as per Annexure-1.5
viii)	Deployment Schedule of Supervisory Personnel as per Annexure-1.6
ix)	Deployment Schedule of Construction Equipment as per Annexure-1.7
x)	Details of Equipment Proposed to be used for this work as per Annexure-1.8
xi)	Contents of Bid and Check List as per Annexure-1.9
xii)	A declaration shall be submitted as per Annexure-1.14 to the effect that Bidder have or had not been banned or blacklisted/del-listed by any PSU / Government Organizations.
xiii)	Declaration by Bidder regarding Bidding Document as per Annexure-1.16
xiv)	Photocopy of Integrity Pact as per Annexure-1.17
xv)	EFT details as per Annexure-1.19
xvi)	A declaration shall be submitted to the effect that Bidder submitting their Bid is not under liquidation, court receivership or similar proceedings as per Annexure-1.22
xvii)	Declaration by bidder for Past Safety Record as per Annexure-1.24

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xviii)	Bidder to furnish PAN Number, TIN Number, PF/ESI Number, GST Number, Labor License Registration Number, Latest Income Tax Clearance Certificate / ITR etc. along with the bid.
xix)	**Price confirmation copy** - A Photocopy of the Schedule of Prices, to be submitted strictly as per **Section-5 of Part-II, Technical**, prices being blanked out and in place indicating "**Quoted**" against each head**,** shall be submitted duly signed and stamped.
xx)	Master Index along with a copy of complete set of Bidding Documents of all technical and commercial amendments/addendums if any issued, duly signed and stamped on each page as a token of having received and read all parts of the bidding document and having accepted and considered the same in preparing their bid.
xxi)	Any other information required in the Bidding Documents or considered relevant by the Bidder.

For convenience, the Bid shall be compiled in the form of Specific Sections conforming to the above. In case of non-submission of above documents or submission of incomplete documents, the OWNER/CONSULTANT reserves the right not to evaluate such offers further and not to enter into correspondence in this regard after opening the Technical and Commercial Bid.

21.5 **PRICED BID**

21.5.1 Priced Bid shall consist of in the following manner:

(i) Preamble to Price Bid.

(ii) Priced Bid, duly filled in and completed in all respects, as per **Section-5 of Part-II, Technical** given in the Bidding Documents.

21.5.2 Priced Bid shall be submitted duly signed and stamped on each page. This part shall not contain any condition whatsoever failing which the Bids shall be liable to be rejected. In case of any correction, the bidder shall put its signature and its stamp. Eraser fluid will not be allowed for making any correction.

If the bidder has indicated "Not Applicable/Not Quoted" in the price bid, their bid will liable to be rejected and will not considered for price evaluation. However, if the bidder has indicated "Nil / Blank", it will be consider as "Nil Percentage" and the Estimated Amount will be considered for evaluation and award, in case the bidder becomes successful.

21.5.3 Prices must be strictly filled in format for "Schedule of Rates as per Section-5 of Part-II, Technical" enclosed as part of bidding document. If quoted in separate typed sheets and any variation in description, unit is noticed, the bid is liable to be rejected. In any case Bidder shall be presumed to have quoted against the description of work and the same shall be binding on the Bidder.

21.6 **Bidders shall indicate the PERCENTAGE RATE ABOVE (+) OR BELOW (-) on the Estimated Amount provided in the Schedule of Rates.** The Quoted Percentage indicated by the bidder should be strictly quoted as specified in Section-5 of Part-II, Technical otherwise the bid may be rejected.

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21.7 Bidder is requested to Quote the Percentage (Above or Below) within 2 Decimal places. However, Digits beyond 2 decimal places will be ignored.

21.0 DEADLINE FOR SUBMISSION OF BIDS:

22.1 Bids must be submitted not later than the time and date as specified in the Letter inviting Bid.

22.2 The OWNER/ CONSULTANT may extend this deadline for the submission of Bids by amending the NIT documents in accordance with Clause No. 4.0 above. In such case all rights and obligations of the OWNER and Bidders under this NIT shall be subject to the extended deadline.

22.3 Any bid received after the deadline specified in the NIT or as extended shall be liable to be rejected.

22.0 OPENING OF BIDS

23.1 Owner / Consultant will open Bids in the presence of Bidder's representatives who choose to attend at Date and time specified on cover page of NIT or as informed by Owner / Consultant. The Bidder's representative(s) present during the Bids opening shall sign a Bids opening record sheet evidencing their attendance.

23.2 The Bidder's name, modifications, Bid withdrawal and such other details, as the Owner / Consultant at its discretion may consider appropriate, will be announced during Bids opening. The owner allow only those bids to be opened whose EMD in original has been received by the owner before the Techno-Commercial bid opening.

23.3 The Bids shall be opened and evaluated in two stages:

23.3.1 STAGE-I: OPENING & REVIEW OF EMD, PRE-QUALIFICATION BID, TECHNICAL AND COMMERCIAL BIDS

On the date of Public Bid opening as indicated on the Letter Inviting Bid of this NIT, cover containing EMD shall be opened and reviewed.

The OWNER / CONSULTANT will review the Bank Guarantee (BG) submitted by Bidder against EMD, with respect to:

a. its value,
b. validity &
c. issuing Bank.
d. the format attached with the tender document.

In case the BG submitted by the Bidder against EMD is not as per the requirement of NIT with respect to the above mentioned parameters. The Owner/Consultant will inform the Bidder who shall have to rectify the same before the date of opening of the Price Bid. In case the bidder fails to rectify the EMD, its bid will be rejected and the Bidder will be informed to take back its Bid, including the Price Bid.

Thereafter, OWNER / CONSULTANT will open, Pre-qualification Bid, Technical and Commercial Bids.

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OWNER / CONSULTANT will first review Pre-qualification requirement. Technical and Commercial Bids shall be evaluated only for those bidders whose bid is found to be Pre-qualified based on the Pre-qualification Criteria.

The owner, at its discretion, may hold post bid discussions with any one or all the bidders at a mutually suitable date & time. However, it will not be construed from invitation/ holding of post bid discussions that the bidders have been considered eligible for opening of their Price Bid. The discussion will cover all the aspects of bidder's offer in the Techno-commercial proposal

23.3.2 STAGE – II: OPENING OF PRICE BID

Before opening the Priced Bid of the technically and commercially acceptable Bidders, if required, a meeting with the Bidders shall be arranged. Date and Venue of such meeting shall be informed at the appropriate time.

The date of the opening of the Price Bid shall be intimated to technically and commercially acceptable Bidders. The price bids of such shortlisted Bidders will be opened in the presence of Bidder's representative who chooses to attend, on the date and time to be intimated. The bidder's name, bid price and such other details as the OWNER at its discretion may consider appropriate, will be announced at the opening of price bids.

The evaluation of the priced Bids shall be done as described under Clause No. 30.0 of the ITB.

23.3.3 If the Bids as judged by the OWNER are unresponsive, the NIT may be declared void and a new procedure for selection of CONTRACTOR as deemed appropriate by OWNER may be adopted.

23.0 CORRECTION OF ERRORS

Bids determined to be substantially responsive will be checked by the Owner/Consultant for errors.

Errors will be corrected by the Owner/Consultant as follows:

i) In case of any difference in the Quoted Percentage in Figures and in Words, the Percentage Quoted in Words shall prevail.

ii) All errors in totaling of the amount column and in carrying forward total shall be corrected.

The amount stated in the summary of Schedule of Rate will be adjusted in accordance with the above procedure for the correction of errors. If the Bidder does not accept the derived corrected value, the Bid will be rejected, and the EMD shall be forfeited.

24.0 POLICY FOR BID UNDER CONSIDERATION

Bids shall be deemed to be "Under Consideration" immediately after they are opened and until such time that the official intimation of award / rejection is made by the OWNER / CONSULTANT to the Bidders. While the bids are under consideration, bidders and/or their representatives or other interested parties are advised to refrain from contacting by

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any means, the OWNER / CONSULTANT and/or his employees / representatives on matters related to the bids under consideration.

The OWNER / CONSULTANT, if necessary will obtain clarifications on the bids by requesting for such information from any or all the Bidders, either in writing or through personnel contact as may be necessary. The Bidder will not be permitted to change the substance of the bid after the bid had been opened.

25.0 DISCUSSIONS WITH BIDDERS DURING TECHNO- COMERCIAL EVALUATION

After opening of the Bids, to assist in the examination, evaluation and comparison of Bids, OWNER / CONSULTANT may, at its discretion, ask the Bidder for clarification on its Bid. The request for such clarification and the response shall be in writing either through fax or email.

Further OWNER / CONSULTANT may ask BIDDER to visit OWNER's/ CONSULTANT's office for technical, commercial or financial clarifications.

BIDDER is expected to undertake such visits and participate in such meetings as and when called by the OWNER/ CONSULTANT. All costs related to such visits shall be borne by BIDDER.

Consequent upon the discussions, if required OWNER / CONSULTANT may issue final amendment to the bid document. Bidders shall be required to submit their unconditional acceptance to final amendment.

The price implication (positive/negative) shall be given in the prescribed Format, to be provided along with the request letter for submission of supplementary Price (to be intimated later as per requirement) super scribed as "SUPPLEMENTARY PRICE BID for NIT No.:.....". The same shall be considered along with the original price bid for the purpose of evaluation. OWNER/ CONSULTANT's decision in this regard shall be final and binding on the bidders.

After opening of the Price Bid, no change in the quoted rate/price shall be sought, offered or permitted.

26.0 EFFECT AND VALIDITY OF BID

27.1 The submission of any bid connected with these documents and specifications shall constitute an agreement that the Bidder shall have no cause of action or claim against the OWNER/ CONSULTANT for rejection of his bid. The OWNER / CONSULTANT shall always be at liberty to reject or accept any bid or bids at his sole discretion and any such action will not be called into question and the Bidder shall have no claim in that regard against the OWNER/ CONSULTANT.

27.2 The bids should be kept valid for acceptance for a period of 120 Days from the date of opening of Technical and Commercial Bids. A Bid valid for shorter period may be rejected by the Owner as being non-responsive.

Under the exceptional circumstances, prior to expiry of the original Bid validity period, the OWNER/ CONSULTANT may request the Bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing or by telefax or by E-mail.

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27.3 In the event of OWNER/ CONSULTANT seeking extension of period of validity of the Priced Bids, the validity of EMD shall also be suitably extended.

27.4 A Bidder agreeing to the request of OWNER/ CONSULTANT seeking extension will not be required nor permitted to modify his bid, and will be required to extend the validity of his EMD correspondingly. However, Bidders request for revision/adjustment of Priced Bid under such circumstances may be considered by the OWNER/ CONSULTANT. The provisions of Clause-9.0 regarding discharge and forfeiture of EMD shall continue to apply during the extended period of Bid Validity.

27.0 COMPLETE SCOPE OF SUPPLIES / WORK

28.1 The complete scope of supplies and work/services has been defined in the bidding documents. Only those bidders who take complete responsibility and who bid for the complete scope of supplies and work/services as contained in the bidding document shall be considered for further evaluation subject to meeting Pre-Qualification Criteria.

28.2 If the contractor is required to engage a sub-contractor for any part of work, then such sub-contractors shall have prior proven experience of similar work and shall require specific approval by OWNER.

28.3 If a proposed sub-contractor has been approved by the OWNER, the CONTRACTOR shall not replace such approved sub-contractor with another sub-contractor without obtaining the OWNER's prior approval for the proposed replacement.

28.0 FIRM RATES / PRICE

The price/rate quoted by the Contractor shall be fixed & firm and shall be valid until completion of the Contract, pursuant hereto and shall not be subject to variation / escalation on any account except as otherwise specifically provided in the Contract documents. The rates shall include all taxes & duties, levies, BOCW Cess (if any) etc. except GST. GST shall be paid/ reimbursed at actual on submission of the GST invoice limited to their quote in price bid.

29.0 EVALUATION AND COMPARISON OF BIDS

30.1 General

30.1.1 The OWNER wishes to finalise the award of work of the facilities covered under this bidding documents within a limited time schedule. The bidders are advised to submit their bids complete in all respects conforming to all terms and conditions of the bid document.

30.1.2 Bids shall be evaluated based on the information / documents available in the bid. Hence bidders are advised to ensure that they submit appropriate and relevant supporting documentation along with their proposal in the first instance itself. Bids not complying with the requirements of Bid Documents are liable to be rejected. Bidders are advised to fill up all Annexure carefully and provide reference to all relevant documents given in their bid offer.

30.1.3 Bidders shall indicate the PERCENTAGE RATE ABOVE (+) OR BELOW (-) on the Estimated Amount provided in the Schedule of Rates. The Quoted Percentage indicated by the bidder should be strictly quoted as specified in Section-5 of Part-II, Technical otherwise the bid may be rejected. Any conditional discount offered by the bidder shall not

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be considered for the purpose of evaluation, however, the same shall be considered for purpose of award.

The comparison shall be on the basis of Total Evaluated Cost derived by Quoted Percentage (Above or Below) in SCHEDULE OF RATES (Section-5 of Part-II, Technical) corrected pursuant to Clause No. 24.0 of the ITB taken together with Supplementary Schedule of Prices (SP), if any, in line with clause 26 above.
The Owner's evaluation will also include the costs resulting from application of the evaluation procedures described in ITB Clause 30.2. Any adjustments in price that result from the below procedures as per ITB Clause 30.2 shall be added, for the purposes of comparative evaluation only.

30.1.4 The work is not bifurcated. Hence, evaluation of bids shall be done as per clause no. 30.2 below. The order will be placed on overall lowest basis.

30.2 The financial comparison for selection of Lowest (L-1) Bidder / Contractor shall be arrived by using the following methodology:

30.2.1 TOTAL EVALUATED PRICE: Total Evaluated Price shall be derived after multiplying a Factor (i.e. 1 ± Quoted Percentage Rate indicated by the bidder for the items/100) by Estimated Amount plus charges towards GST.

If any bidder does not indicate both GST rate and GST charges in Schedule of Rates (SOR) by stating NIL / Blank / Not Applicable / NA, **GST @ 18% shall be loaded in their quoted price for the purpose of evaluation for such bidder.** GST shall be paid/ reimbursed to such bidder at actual on submission of the GST invoice limited to the aforementioned rate i.e. 18% considered for the purpose of evaluation, in case of award to such bidder.

30.2.2 If two or more bidders emerge as the Lowest evaluated bidders after evaluation, in such an event, Revised Percentage (which should be lower than Original Quoted Percentage) will be sought from those bidders and Re-evaluation will be carried out for selection of Lowest (L-1) Bidder.

30.0 PRICE VARIATION

The Bidder shall quote firm rate/price in the **"Schedule of Rates (Section-5 of Part-II, Technical)"**. Firm rate/price shall not be subject to any escalation on any account. Bids with variable prices shall be disqualified.

31.0 REBATE

32.1 No suo-moto reduction in price(s) by Bidders is permissible after opening of the price bid. If any Bidder unilaterally reduces the price(s) / percentage quoted by him in his bid after opening of price bids, such reduction shall not be considered for comparison of prices but shall be binding on the Bidder if he happens to be selected for award of work

32.0 CONTACTING OWNER

33.1 A Bidder shall not contact the OWNER/CONSULTANT on any matter relating to his bid from the time of priced bid opening to the time that the Contract is awarded, unless requested to do so in writing. Any effort by a Bidder to influence the

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OWNER/CONSULTANT in the OWNER's/ CONSULTANT's decisions in respect of bid evaluation or contract award will result in the rejection of that Bid.

33.0 AWARD OF CONTRACT

34.1 Subject to ITB Clause 36.0, the OWNER will award the CONTRACT to the successful Bidder whose Technical and Commercial bid has been determined to be qualified, substantially responsive and Price Bid to be the lowest evaluated Bid, further provided that the Bidder is determined to be qualified to perform the CONTRACT satisfactorily.

34.2 After selection, Letter of Intent s ("LOIs") as per mode of contracting shall be released by the OWNER to the selected Bidder. The selected bidder will return the duplicate copy duly signed & stamped as token of acceptance within 15 days.

34.3 The Bidder shall enter into a Contract Agreement with the OWNER as per clause 35.0, failing which the Bid Security/EMD is liable to be forfeited.

34.0 SIGNING OF CONTRACT

35.1 At the same time as the OWNER notifies the successful Bidder that its Bid has been accepted, the OWNER will send to the Bidder a draft of the Contract provided in the Bidding Documents, incorporating all agreements between the parties. The bidder shall provide 10 DVD's of scanned signed Contract Agreement apart from 3 sets of Original Contract Agreement.

35.2 Within Thirty (30) days of receipt of the CONTRACT, the successful Bidder shall sign and date the Contract Agreement and return it to the OWNER. Cost of execution of the Contract, including payment of stamp duty thereon, shall be borne by the Bidder.

35.0 OWNER'S RIGHT TO ACCEPT / REJECT BIDS

36.1 The OWNER reserves the right to accept or reject any Bid and to annul the bidding process and reject all Bids at any time prior to award of Contract without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the ground of OWNER's action.

36.2 It is observed that many bidders indulge in trading in contracts by entering into undisclosed back-to-back arrangements for the whole or a substantial portion of a CONTRACTOR's obligations under the contract. If a bidder proposes to enter into any such arrangements upon a successful award of work or has in place any such arrangement which will become operative upon the award of work, the bidder must make a complete disclosure of such arrangement or proposed arrangement in its proposal, and all provisions applicable to sub-contractor(s) in terms of bidding documents shall apply to such arrangements.

36.3 If the existence of such an undisclosed arrangement is reasonably apprehended by the OWNER in the case of a bidder, the OWNER may reject such bidder's bid as not responsive.

36.4 If such an undisclosed arrangement is discovered after the award of work, such arrangement(s) shall be deemed to constitute an assignment of contract and a ground of termination pursuant to the provisions of termination under the General Conditions of Contract.

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36.5 Owner/Consultant reserves the right to accept or reject any tender in whole or part and/or accept other than the lowest quotation without assigning any reason. The whole work may be split up between two or more contractors if considered expedient by the Owner/Consultant on their sole and absolute discretion. The bidder shall have no claim in this regards whatsoever.

36.0 CONTRACT SECURITY CUM PERFORMANCE BANK GUARANTEE (CPBG)

37.1 As a Contract Security, a successful Bidder, to whom the work is awarded, shall be required to furnish a Security cum Performance Bank Guarantee in the form attached as Annexure-1.12 within fifteen (15) days of issuance of LOI. This Bank Guarantee shall be an irrevocable Bank Guarantee, issued by any scheduled nationalized bank on a non judicial stamp paper of appropriate value. The Bank Guarantee amount shall be equal to ten per cent (10%) of the TOTAL CONTRACT PRICE and it shall guarantee the faithful performance of the CONTRACT in accordance with the terms and conditions specified in these documents and specifications. The Performance Bank Guarantee shall be valid for a period till Project Completion Date / Preliminary Acceptance of Work by Owner plus Defect Liability period of 12 months plus a claim period of 06 months. In case of breach of contract the guarantee amount shall be payable to the Owner without any conditions whatsoever.

37.2 Failure of the successful Bidder to comply with the requirement of Clause 37.1 hereof shall constitute sufficient grounds for forfeiture of Bid Security/EMD without prejudice to its rights and remedies as set forth in this NIT or otherwise in law.

37.0 INCOME TAX & CORPORATE TAX

38.1 Income tax deduction shall be made from all payments made to the contractor as per the rules and regulations in force and in accordance with the Income Tax Act prevailing from time to time.

38.2 Corporate Tax liability, if any, shall be to the contractor's account.

38.3 MENTIONING OF PAN NO. IN INVOICE / BILL

As per CBDT Notification No. 95/2015 dated 30.12.2015, mentioning of PAN no. is mandatory for procurement of goods / services/works/consultancy services exceeding Rs. 2 Lacs per transaction.

Accordingly, supplier/ contractor/ service provider/ consultant should mention their PAN no. in their invoice/ bill for any transaction exceeding Rs. 2 lakhs. As provided in the notification, in case supplier/ contractor/ service provider/ consultant do not have PAN no., they have to submit declaration in Form 60 along with invoice/ bill for each transaction.
Payment of supplier/ contractor / service provider/ consultant shall be processed only after fulfillment of above requirement.

38.0 GENERAL INSTRUCTIONS

39.1 **TRANSFER OF TENDER DOCUMENTS/PROPOSAL**

39.1.1 Transfer of Bid submitted by one BIDDER to another is not permitted. No alteration in the essence of a Bid, once submitted, shall be permitted.

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39.1.2 OWNER/CONSULTANT reserves the right to verify all statements/information submitted to confirm the Bidder's claim on experience on the performance of equipment offered and capabilities of the Bidder to perform the Scope of Work. OWNER/CONSULTANT may inspect similar facilities built by the Bidder. Bidder shall co-ordinate and arrange for visit. However all expenses of such visit of OWNER's Officials / OWNER's Representative will be borne by OWNER.

39.1.3 OWNER/CONSULTANT shall not entertain any correspondence with any Bidder on acceptance or rejection of any Bid.

39.1.4 Oral statements made by the Bidder at any time regarding any matter including quality, or arrangement of the equipment or any other matter will not be considered and will not be binding on the OWNER/CONSULTANT.

39.1.5 Standard catalogue pages and other documents of the Bidder may be used in the Bid to provide additional information and data as deemed necessary by the Bidder.

39.1.6 Bidder will furnish the Bid with all relevant information's as called for. Bids with incomplete information are liable for rejection.

39.1.7 If at any later date, it is found that documents, information and data submitted by the Bidder in the Bid, and based on which the Bidder has been considered eligible or successful or has been awarded the Contract is incorrect or false to the extent that had the correct or true information been made available to the OWNER at the time of Bid evaluation, the bid would have been declared ineligible or unsuccessful, the Bidder shall be forthwith disqualified or, as the case may be, the contract awarded based on such incorrect or false information shall be cancelled and the EMD/PBG shall be liable to be forfeited.

39.0 INTEGRITY PACT

Bidders are required to unconditionally accept the "Integrity Pact (IP)", as per Annexure 1.17, (executed on plain paper) and submit the same duly signed on all pages by the bidder's authorized signatory along with the EMD. In case, Annexure-1.17 duly signed & stamped is not found in the sealed envelope / techno-commercial bid and / or is not found as per the format required as per the bidding document, the bidder will be asked to furnish the same before price bid opening. Failure to comply with this requirement, the bid shall be rejected.

40.0 RATES FOR EXTRA ITEMS

Rates for additional, altered or substituted work shall be determined by the Engineer-in-Charge as follows:-

a) If the rate for the additional, altered or substituted item of work is not specified in the said schedule of quantities, the rate of that item shall be derived from the rate for the nearest similar item specified therein.

b) If the rate for any additional, altered or substituted item of work cannot be determined in the manner specified in sub-para (a), then such item of work shall be carried out at the rate entered in the C.P.W.D. Delhi Schedule of Rates, 2016.

c) If the rate for any additional, altered of substituted item of work cannot be determined in the manner specified in sub para (a) to (b), the contractor shall within 7 days of the

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date of receipt of the order to carry out the said work, inform the Engineer-in-charge of the rate which he proposes to Claim for such item of work, supported by analysis of the rate claimed by the rate of labour and materials. In the event of the contractor failing to inform the Engineer-in-Charge within the stipulated period of time and rate which he proposes to claim, the rate for such item shall be determined by the labour and materials and quantum of labour and materials as per actual observation, provided all these elements are justifiable, plus 15% to cover the contractor's profit and over head.

d) If any altered, additional or substituted item of work ordered comprises of more than one part/sub item and each part/sub item could be priced in different manners according to the principles laid in sub para a to c, the decision of the Engineer-in-Charge as the appropriate principle of pricing applicable to the particular part/sub item shall be final.

e) No deviation from specifications stipulated in this contract shall be made or additional items of work shall be carried out by the contractor unless the rates of such substituted, altered or additional items have been approved in writing by the Engineer-in-Charge failing which Owner shall not be liable to pay any claim on this account.

41.0 BIDDER TO QUOTE FOR ALL ITEMS

The bidders shall quote their rates with reference to each item and must tender for each and all the items shown in the attached schedule of quantities.

42.0 BIDDER TO SIGN ALL PAGES

All pages of the tender documents shall be signed and stamped by the bidder.

43.0 ERASURES AND ALTERATIONS

Tenders containing erasures and alterations in the tender documents may be rejected. All rates shall be indicated both in words and figures. Where there is a difference between the rates quoted in words and figures, the rates given in words shall prevail.

44.0 INCOMPLETE AND LATE TENDER

Unsolicited/Incomplete/late tenders are liable to rejection without any further reference.

45.0 EXECUTION OF CONTRACT

The successful bidder shall be required to execute contract with Owner within reasonable time.

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SECTION-2.0

PART-I: COMMERCIAL

SECTION – 2.0

GENERAL CONDITIONS OF CONTRACT

0	03.12.2018	FOR TENDER	PS	PK	RRK
REV.	**DATE**	**PURPOSE**	**PREPARED**	**REVIEWED**	**APPROVED**

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GENERAL CONDITIONS OF CONTRACT

ARTICLE-1: DEFINITIONS

In this contract the following words shall have the meaning herein assigned to them respectively.

a. **i-"Tenderer"** means any person, firm or company invited to submit their tenders; including their authorised representative for the work.

ii-"Bid/Tender" shall mean offer/proposal/document that the bidder/tenderer submit in the required and specified form in accordance with the provisions of NIT duly signed by the bidder or authorized signatory under the seal of firm document, LOI.

b. "**The Work**" means all duties, responsibilities and obligations to be discharged by the Contractor pursuant to the Scope of Work and Technical Specifications mentioned in the contract.

c. "**The Contractor's Equipment**" means all machinery, apparatus, materials and equipment to be provided by the Contractor pursuant to the Contract for and in connection with the work but not forming or intending to form a permanent part of Plant.

d. "**Site**" shall mean the plants location at Barauni for which this Purchase Order/Contract has been issued and where the Equipment / Works to be erected / executed. The location of plant site is in Barauni, Bihar.

e. "**Date of Completion**" means the date specified in the body of the contract hereto or such later date as may be agreed to in writing from time to time by the Owner/Consultant.

f. "**Month**' shall mean English Calendar month.

g. "**Contractor**" **or "Supplier" or "Vendor"** shall mean any person, firm or company awarded the work through Letter of Intent and accepted by him/them.

h. **"Purchaser / Owner / HURL"** shall mean **HINDUSTAN URVARAK & RASAYAN LIMITED (HURL)** having their site at Barauni, Bihar, India.

i) **"Consultant"** shall mean M/s Projects & Development India Ltd (PDIL) having their office at A-14, Sector-1, Noida, Dist.-Gautam Budh Nagar, UP- 201301, India is acting for and on behalf of M/s. Hindustan Urvarak & Rasayan Limited (HURL) for providing Consultancy Services for the Project.

ii) **"Engineer-In-Charge"** shall mean person designated as such By HURL or his duly authorized representative and includes those who are expressly authorized to act for and on its behalf respectively for operation of the contract and who will be in-charge of the works and under whose supervision and direction the work shall be carried out.

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i. "**Principal Rotating Equipment**" shall mean those items of equipment comprising of centrifugal compressors, steam turbines, high pressure boilers feed pumps, from 3300 volts electric motors, turbine generator, diesel generator and gear boxes associated with any of these equipment.

j. "**Goods**" means all of the Equipment, machinery, and/or other materials which the Supplier/Contractor is required to supply/execute to the purchaser under the Purchase Order/Contract.

k. "**Services"** means supervision to installation, commissioning, provision of technical assistance, training and other such obligations of the Supplier covered under the Purchase Order.

l. "**Subcontract**" shall mean Order/Contract placed by the Supplier/Contractor, for any portion of the Order or Work, after necessary consent of Owner/Consultant.

m. "**Subcontractor**" or "Sub Vendor" or "Sub Supplier"- shall mean any person or persons or firm or their legal representatives, successors, assignees to whom part of Order has been sub-let by the Supplier/Contractor.

n. "**Battery Limit**" shall mean the area within which Plant/Equipment are to be located.

o. "**Plant"** shall mean entire assembly of the Equipment within specified Battery Limit.

p. "**Drawings"** shall mean and include Engineering drawings, sketches showing plants, sections and elevations related to the Purchase Order/Contract together with modifications and/or revisions thereto.

q. "**Specifications**" shall mean and include schedules, detailed description, statement of technical data, performance characteristics, standards (Indian as well as international) as applicable and specified in the Purchase Order/ Contract.

r. "**Engineer**" shall mean the Engineer or Executive-in-charge at Site nominated by Owner/Consultant.

s. "**Inspector**" shall mean any person or outside agency nominated or agreed by Owner/Consultant to inspect Equipment stage-wise as well as final inspection, before despatch, at Supplier's/Contractor's work and on receipt at Site as per the terms of the Purchase Order/ Contract.

t. "**Tests"** shall mean such process or processes to be carried out by the Supplier as are prescribed in the Purchase Order/Contract or considered necessary by Owner/Consultant or their representatives in order to ascertain quality, workmanship, performance and efficiency of Equipment or part thereof.

u. **"Approval**" shall mean and include the written consent, either manuscript, type - written or printed statement, under signature or seal, as the case may be, of the Owner/Consultant or

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their authorized representative on documents, drawings or other particulars in relation to the Purchase Order.

v. **"LOI/Work Order/Contract"** means the agreement entered into between Owner/Consultant and the Supplier, as recorded in the Purchase Order form, signed by the Owner & accepted by Supplier, including all attachments and Annexure thereto and all documents incorporated by reference therein together with any subsequent modifications thereof in writing.

w. **'CONTRACT PRICE' or 'TOTAL CONTRACT PRICE' or 'CONTRACT PRICE' or 'LUMP SUM PRICE or CONTRACT VALUE'** shall mean the total price (including Duties, Cesses, Levies etc but excluding GST) payable to the CONTRACTOR for the full and proper performance of its contractual obligations under the CONTRACT.

x. **"Schedule of rates"** shall mean the rates/percentage quoted by the tenderer with his tender/bid and which have been finally accepted by Owner.

y. **"Effective date of Contract''** shall be the date of Issuance of Notification of Award (Letter of Intent) by Fax/Email/Letter unless otherwise agreed.

Z1 **"Act/code"** shall mean any law, rules, regulations, notification, issued and passed by Central/State or local authority for the time being in force in India.

Z2. **"Completion period"** shall mean the period of date on/by which the work shall be completed in all respect as agreed to between Owner and the contractor.

Z3 **"Project"** shall mean the work under the contract.

ARTICLE-2: CONTRACTOR'S SERVICES

a. The Contractor shall supply material under scope and provide, execute, complete and maintain the work in Accordance with the Contract. The contractor shall also perform the services described in various sections of Invitation to Tender.

b. The contractor undertakes to cooperate with the Consultant/Owner and other contractor's appointed by the Owner for the Plant and agrees to exchange technical information as may be reasonably asked for to obtain most efficient and economical Plant for owner.

c. The contractor shall be responsible for ensuring that the positions, levels and dimensions of the work are correct according to the Contract notwithstanding that he may have been assisted by the Consultant in setting out the said positions, levels and dimensions. Any discrepancies shall be promptly intimated to the Owner/Consultant for his final decision.

d. The work to be done under the contract shall be executed with all due diligence and in the manner specified in the Contract and to the satisfaction of the Owner/Consultant. The contractor hereby undertakes that work shall be ready for tests on completion not later than the date of completion.

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e. The contractor shall carryout all such tests as are specified in the Contract and/or required in accordance with good engineering practices or directed by Owner/Consultant for ensuring the quality and performance of the equipment and materials supplied and work done under the contract at his own cost.

f. Contractor shall arrange for all handling, safe storage and security of all the equipment/ material issued to him for erection.

g. Contractor shall arrange all tools, tackles, cranes and other material handling equipment's, welding equipment and cables, welding rods, scaffoldings (metallic only), consumable stores, safety equipment & appliances and all other equipment/accessories required for execution of work including erection and testing. These shall not be removed from the site without the written permission of the Owner.

h. Contractor shall bear all postage/courier, telephone/fax, telegraph and other communications etc. expenditure during his work at the site.

I. Contractor shall provide necessary supervisory staff and inspectors, erection engineers, skilled and unskilled labour, clerical staff, watch and ward staff, store keepers, drivers, etc. required in connection with the execution of the contract.

j. Contractor shall provide all amenities, including but not limited to, accommodation/ conveyance to his staff and labour employed by him for the work at the site.

ARTICLE-3: CONTRACT PRICE

a. The Owner shall pay to the Contractor sum not exceeding to what is set out in the Letter of Intent /Work Order/Contract, reduced or increased by such sums (if any) as under the Contract are to be taken into account in ascertaining the Contract Price. The Contractor shall take written permission from Owner for carrying out works beyond stipulated contract value as and when such situation arises.

b. The contractor shall credit the Owner with the sums which may become allowable or due under the Contract at the times and in the manner hereinafter specified.

c. The prices shall be fixed for the duration of the contract and shall not be subject to escalation of any description including extension of time, if any granted by owner on any ground, what-so-ever it may be.

d. CONTRACT PRICE is inclusive of all duties, Levies, Cess, Custom Duty etc. **but excluding GST**, as applicable.

ARTICLE-4: OWNER'S REPRESENTATIVE/CONSUTLANT

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a. All instructions and orders to the Contractor shall, except as herein otherwise provided, be given by the Owner through his nominated representative(s).

b. All the work shall be carried out under the direction of and to the satisfaction of the Owner/Consultant.

c. The contractor shall proceed with the work in accordance with decisions and orders given by Owner/Consultant in accordance with the contract provided that:

i. If the contractor being given any decision, instruction or order other than in writing and if the contractor without any undue delay require it to be confirmed in writing, such decision, instruction or order shall not be effective until written confirmation thereof has been received by the contractor, and

ii. If the contractor after receiving any decision, instruction from the Owner/Consultant in writing or written confirmation thereof, intimates within fourteen days any dispute or questions the decision, instruction, or order by written notice to the Owner/Consultant giving his reasons for so doing, either party shall be at liberty to refer the matter to arbitration pursuant to Article-35 hereof, but such an intimation shall not relieve the contractor of his obligations to proceed with the work in accordance with the decision, instruction, or order in respect of which the intimation has been given.

ARTICLE-5: CONTRACTOR TO INFORM HIMSELF FULLY

The contractor shall be deemed to have carefully examined the specifications, schedules and drawings and also to have satisfied himself as to the nature and character of the work to be executed and, the Site conditions and other relevant matter in detail, before entering in to the contract. No claim whatsoever, if subsequently made in this regard, shall be entertained by the owner/consultant.

ARTICLE-6: FINANCIAL GUARANTEE FOR SECURITY AND PERFORMANCE

A) The Contractor shall provide the Owner with the financial guarantee for the due and faithful performance of the contract for a sum equal to 10% (ten percent) of the contract value or the sum as defined in the body of the contract. Such guarantee shall be in the form of a Bank Guarantee from any Scheduled/ Commercial Bank recognised by Reserve Bank of India on the format attached herewith. Contractor shall inform the Owner/Consultant name and address of its banker along with Fax Number and E-Mail.

The Bank Guarantee shall be furnished within 15 days of placement of letter of intent and shall be valid until expiry of the maintenance period referred to in Article - 31.

B) For increase of 20% in contract value, performance guarantee originally submitted shall remain valid. For increase beyond 20% additional guarantee to cover total increase from original contract value shall be submitted by the contractor.

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C) The validity of performance guarantee shall be suitably extended in accordance with final date of completion of work plus 12 months maintenance period from the date of certified final completion of work plus 6 months (claim period).

D) The proceeds of performance security shall be appropriated by the Owner/Consultant as compensation for any loss resulting from the Supplier's/Contractor's failure to complete its obligations under the Purchase Order without prejudice to any of the rights or remedies the Owner/Consultant may be entitled to as per terms and conditions of Purchase Order/Contract.

ARTICLE-7: DRAWING AND DESIGNS

a. The drawings and detailed technical specification shall be supplied in stages, after the award of work, keeping in view the site requirements.

b. All drawings, designs, specifications and other documents furnished by the Owner/ Consultant to the contractor, including all features whether patented or patentable or not, or whether separately or collectively shown, are the exclusive property of the Owner and shall be confidential and shall not be lent or reproduced in whole or in part nor used for any purposes other than in execution of the Contract without the previous written consent of the Owner/Consultant. Such drawings, designs and other documents are loaned by the Owner/Consultant to the Contractor and subject to return on demand.

c. Where with the written permission of the Owner/Consultant the Contractor reproduces any drawing or design in whole or part, the contractor shall stamp it as follows:

This drawing/design, including all patented and patentable features separately or collectively shown is reproduced from a drawing/design which has been furnished by the (Owner/Consultant) and is not to be reproduced or used for any purpose other than those specifically permitted in writing by the (Owner/Consultant).

d. Any reproduction of any such drawings, designs, specification or any other document shall be equally subject to return on demand or on completion of work as the clause (b) above, whichever is earlier.

ARTICLE-8: PATENT AND OTHER RIGHTS

a. The contractor shall fully indemnify the Owner against any action, claim or demand, costs or expenses, arising from or incurred by reason or any infringement or alleged infringement of any letters, patent, registered design, trade mark of name copy right or other protected right in respect of the work or method of using, fixing, or working the Equipment's authorised or recommended by the Contractor.

b. The Owner warrant on their part that any design or instructions furnished or given by him for performance of work hereunder to the contractor shall not be such as will cause the

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contractor to infringe any letters patent, registered design, trademarks or copy right in the performance of the contract.

In the event of any action being brought or any claim or demand being made against owner on account of any such matter as aforesaid, the Contractor shall immediately be notified and he shall at his own expenses fully cooperate with Owner and shall do all that the Owner may reasonably require in defence in such action or to resist such claim or demand.

ARTICLE-9: ROYALTIES

All payments and royalties payable in respect of any letters, patent and other rights whether payable in one lump-sum or by installments or otherwise are included in the Contract Price. Owner/consultant shall not be liable to pay such dues or sums.

ARTICLE-10: ASSIGNMENT AND SUBLETTING

a. The Contractor shall not without the consent in writing of the Owner/Consultant assign or transfer the contract or benefits or obligations or any part thereof to or enter into any sub-contract with any other person. Any such consent shall not relieve the Contractor from his obligations under the Contract.

b. If any sub-contractor engaged upon the work with due permission from Owner/Consultant at the site executes any work which in the opinion of the Owner/Consultant is not of the requisite standard (the opinion of the Owner/ Consultant being final in this regard), the Owner/Consultant may by written notice to the Contractor require the Contractor to terminate such sub-contract, and contractor shall upon the receipt of such instructions terminate such sub-contract at the risks and cost of the Contractor, and shall keep Owner/Consultant indemnified against all the consequences.

ARTICLE-11: GUARANTEE

a. All Equipment supplied and work done by the Contractor pursuant to the Contract shall be guaranteed by the Contractor to be in accordance with the specifications contained in the contract, new and of the best quality and workmanship and to be of expert design conforming to generally accepted Indian/International standard to be of sufficient size and capacity and of proper materials so as to fulfill in all respects requirements specified in regard thereto.

b. If at any time during the execution of the work or during the maintenance period specified in Article-31 hereof, the Owner/Consultant shall decide that any equipment supplied or work done by the contractor fails in any respect to conform to the guarantees given by the contractor in paragraph (a) hereof, the Owner/Consultant may as soon as reasonably practicable, give the contractor a notice in writing of the respects in which the equipment supplied or the work fails to conform to the such guarantee and the contractor shall thereupon, at his own expense, replace any equipment and carry out any further work that

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may be necessary to ensure that the equipment supplied and the work done conforms to such guarantee.

c. If the contractor fails within a reasonable time not exceeding 15 days from the date of notice in this behalf from the Owner/Consultant to take such steps as may be necessary to fulfill his obligations under paragraph (b) hereof then the Owner/Consultant may, at the expense of the contractor shall conform to such guarantee.

d. If any replacement of equipment or the work done by the contractor pursuant to this article shall be of such a nature as to effect the efficiency or performance of the whole or any portion thereof, Owner/Consultant may give notice to the contractor in writing requiring that a test or tests shall be carried out at the expense of the contractor and in accordance with the technical standards prescribed by Bureau of Indian Standards.

ARTICLE-12: VARIATIONS AND OMISSIONS

a. The contractor shall not; alter any of the work except as directed in writing by the Owner/Consultant but the Owner/Consultant shall have the full power from time to time during the execution of the contract by notice in writing to direct the contractor to alter, amend, omit, add to, or otherwise carry out any of the work, and the contractor shall carry out such variations, and be bound by the contract so far as applicable as though the said variations were stated in the contract. In any case, in which, the contractor has received any such direction from the Owner/Consultant which either then, or in the opinion of the contractor, will later involve an increase or decrease in the contract price, the contractor shall within seven (7) days of such direction, advise the Owner/Consultant in writing to that effect. The Owner/ Consultant shall thereupon approve in writing such variations which are to be given effect together with the amount of increase or decrease in the contract price on that account. The contractor shall then give effect to such variations. The difference in cost, if any, occasioned by any such variations, shall be added to or deducted from the contract price and paid in the same way as the contract price.

b. If in the opinion of the contractor any such variation is likely to prevent or prejudice him from fulfilling any of obligations under the contract, he shall notify the Owner/ Consultant thereof, in writing and the Owner in consultation with consultant shall decide forth with whether or not such variations; shall be carried out. If the Owner/ Consultant amends his instructions in writing, the said obligations shall be modified to such an extent as may be agreed in writing between the owner and the contractor, provided however, that the contractor may not call upon the owner to agree to any such variations as would in any way, have the effect of modifying the obligations of the contractor under the provisions of Article-8 and 11 hereof.

If any variation in the scope of work necessitates any extension in the time for completion, the provisions of Article-25 here of shall apply.

ARTICLE-13: EXECUTION OF WORK IN INCLEMENT WEATHER

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The contractor shall, during inclement, weather, carryout the work in accordance with the contract and the contractor shall not be entitled to any additional payment over and above the contract price by reason of his being unable to carry out the work owning to inclement weather.

It is presumed that the Contractor has familiarized himself with the weather conditions prevailing in the area therefore in such weather parameters if it appears to the Engineer –in –charge (EIC) that certain weather condition may damage the work or specified quality of the work can be achieved without stoppage of the work, the EIC in such conditions may require the Contractor to stop the work till such time as he thinks fit and appropriate. It is understood by the contractor that no compensation will be admissible on this count. However in exceptional circumstances at the recommendation of the EIC, Consultant/owner may grant reasonable extension of Time.

ARTICLE-14: CONTRACTOR'S DEFAULT

If the contractor shall fail or neglect to execute the work with all diligence and expedition, or shall refuse or neglect to comply with any reasonable orders given to him in writing by the Owner /Consultant in connection with the work, or shall contravene the provisions of the contract, the Owner/Consultant may give notice in writing to the contractor specifying the time within which to make good such failures, neglect or contravention. Should the Contractor fail to comply with the notice within the time specified in the notice, then the Owner either on its own or in consultation with the consultant shall be at liberty forthwith to make good such failure, neglect or contravention and to execute such part of the work as the contractor may have failed or neglected to do, all without prejudice to other rights the owner may have under contract, to take the work wholly or in part out to the contractor's hands and enter into contract with any other person, firm or company to complete the work or any part thereof, and in such events the owner shall have free use of all contractor's hands and enter into contract with any other person, firm or company to complete the work or any part thereof, and in such events the owner shall have free use of all contractor's equipment and other things that may be at any time on the site in connection with the work, without being responsible to the contractor, for fair wear and tear thereof, and to the exclusion of any right of the contractor over the same, and the owner shall be entitled to retain any balance amount which may be otherwise due under the contract to the contractor or such part thereof as may be necessary to the payment of the cost of executing the said part of the work or of completing the work as the case may be and of meeting claims of third parties against the owner and arising from or in consequence of the contractor's failure, neglect, refusal or contravention as aforesaid, if the cost of completing the work or executing a part thereof or of meeting claims of third parties as aforesaid shall exceed the balance due to the contractor under this contract the owner shall have right to recover the balance from amounts payable to the contractor under any other contract or from his performance guarantee. The contractor shall not resort to unilateral stoppage of work due to any reason whatsoever. If he does so, it shall be treated as default and breach of contract.

ARTICLE-15: BANKRUPTCY AND WINDING UP

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If the contractor shall become bankrupt or insolvent or have a liquidator/receiver appointed over his company, or compound with his creditors, or being a corporation, commence to be wound up, not being a member's voluntary winding up for the purpose of reconstruction, or carry on its business under a receiver for the benefit of its creditors or any of them, the owner shall be at liberty -

a. to terminate the contract forthwith by notice in writing to the contractor or to The Receiver or Liquidator or any person in whom the contract may become vested, and to act in the manner provided in Article-14 hereof as referred to in such Article and the work had been wholly taken out of contractor's hands or

b. to give such receiver, liquidator, or other person the option of carrying out the contract subject to his providing guarantee for the due and faithful performance of the contract to the extent of work desired by the owner and upto the amount to be agreed within; the over all contract value.

ARTICLE-16: INSPECTION AND TESTING

a. The representatives of the Owner and the consultant shall be entitled at all reasonable time to inspect the work or any part thereof. The contractor shall provide all necessary assistance to the Owner/Consultant and shall make available all such tools to enable the owner/consultant may require carrying out such tests/inspection. The contractor shall uncover any part of the work or make openings for inspection as the Owner/Consultant direct and shall reinstate and make good such part to the reasonable satisfaction of the Owner/Consultant. The contractor shall ensure that his sub-contractors and vendors also provide such facilities for inspection and tests by the Owner/Consultants that have been mentioned in this clause.

b. On receiving notice from the contractor that the work is ready for inspection, the Owner/Consultant shall without unreasonable delay, attend for the; purpose of inspecting the said work. The Owner/Consultant reserves the right to waive participation in any test requirements, which however shall not absolve the contractor of his liabilities herein. When the tests have been completed satisfactorily, the contractor shall furnish the test certificates for owner/consultant's signatures within two days of completion of such tests.

c. The owner/consultant shall have the right, according to his judgment and specifications to for-bid the use and the dispatch of all such materials which, during tests and inspections, fail to comply with requirements.

d. The contractor shall not dispatch any equipment without the completion of final inspection by the owner/consultant. The waiver from participation in the final inspection shall be made by the owner only.

e. Whenever it is necessary to cover up any work in respect of which previous inspection is desired and the contractor has been notified accordingly by the owner/consultant in writing, the contractor shall give notice in writing to the owner/consultant before the work is covered

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up. No such work shall be covered up or built upon unless it has been inspected and approved by the owner/Consultant or unless the owner's consent in writing to this was being done without his previous inspection and approval has been obtained in advance.

f. Inspection/waiver by Owner/Consultant shall not, however, relieve the contractor of its obligations including guarantees and warranty obligations hereunder.

ARTICLE-17: ORIGIN OF MATERIALS

a. The Owner shall have the right, at any time, to call upon the contractor for evidence of origin of raw materials and parts of equipment.

b. All equipment supplied or used shall be new and of first class and quality of the grade specified.

ARTICLE-18: MILL CERTIFICATES

All mill certificates covering physical and analytical tests are to be produced as called for by the owner/consultant at no extra cost.

ARTICLE-19: FLAME PROOF ELECTRICAL EQUIPMENT

Where the equipment include flame-proof electrical equipment to a recognized Indian Standard or code of practice, then the contractor shall forward copies of the relevant certificates to the owner at no extra cost.

ARTICLE-20: TEST CERTIFICATES

The contractor will, if so required by the owner/consultant supply specified numbers of test certificates and/or materials analysis certificates. Reports from recognized agencies of repute (The agencies shall be approved by consultant/owner). In case of any doubt the contractor shall repeat the test at his own cost.

ARTICLE-21: ACCESS TO AND POSSESSION OF THE SITE

a. Subject to paragraph (c) hereof, access to and possession of the site shall be afforded to contractor by the owner/consultant in reasonable time.

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b. In the execution of the work, no persons other than contractor's employees or labours shall be allowed on the site, except by the written permission of the owner, but facilities to inspect the work at all times shall be afforded to the owner/consultant and his representatives and other authorized officials or representatives of the owner/consultant.

c. The access to and possession of the site referred to in paragraph (a) hereof shall not be exclusive to the contractor but only such as shall to enable him to execute the work. The contractor shall afford to the owner/consultant, and to other contractors authorized by owner/consultant every reasonable facility for the execution of work concurrently with his own.

d. Unless otherwise provided in the contract, the owner shall give contractor facilities as far as possible for carrying out the work on the site continuously during the normal working hours as fixed by the owner, the owner may, after consulting with the consultant direct that the work shall be done at other times if it shall be practicable in the circumstances for the work to be so done.

e. Construction Water shall be provided at a single point to the contractor at free of cost.

f. Construction Power shall be provided on chargeable basis at a single point to the contractor and unit rate for the power shall be Rs.10 per unit.

ARTICLE-22: CONTRACTOR'S EQUIPMENT

a. The contractor shall, at his own risk and expenses, provide all equipment necessary to execute and complete the work, If any equipment is available with owner at the site, the contractor may, with the written consent of the owner, use the same on payment of necessary charges as fixed by the owner.

b. All contractors' equipment shall be used solely for the purpose of the work at site and shall not be removed from site by the contractor, without the permission in writing of the Owner, and the contractor shall be liable for the loss or destruction thereof or damage thereto. If there shall be any due owing or accruing to owner, from the contractor any money in respect of this contract, the owner shall be at liberty, at the cost of the contractors, to sell and dispose of any such (Contractors) equipment, as the owner shall think fit, and to apply the proceeds in or towards the satisfaction of such money as aforesaid.

ARTICLE-23: CONTRACTOR'S REPRESENTATIVES AND WORKMEN AT SITE

a. The contractor shall employ one or more competent and authorized representative whose name or names with specimen signature shall have previously been communicated in writing to the owner/consultant by the contractor, to superintend and carrying out the work.

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The said representative shall be present at site during working hours and any orders or instructions which the owner/consultant may give to the said representative shall be deemed to have been received by the contractor.

b. The consultant and/or owner shall be at liberty to serve by notice in writing to the contractor to object to any representative or person employed for execution or otherwise for the work, who, in the opinion of the owner/consultant, misconduct himself or is incompetent or negligent. On receipt of such notice, the contractor shall remove such person from the site forthwith.

c. The consultant and owner shall be given the opportunity to approve the employment of casual labour hired for the work.

d. The contractor and his employees shall abide by the site working rules.

e. The contractor shall immediately notify the owner/consultant in writing of any labour dispute affecting the work. Such notice shall describe the nature of labour dispute and the actions being taken by the contractor to settle the disputes.

f. The contractor shall keep the owner/Consultant indemnified from and against all personal and third party claims whatsoever (inclusive of all costs incurred between attorney and client) arising out of any act, omission or intermission on part of contractor, any sub contractor or agent, sub-agent, consultant or employee of the contractor or any sub-contractor whether committed, omitted or arising within or without the scope of the contract, sub-contract agency or employment, as the case may be.

ARTICLE-24: LIABILITY FOR ACCIDENTS, DAMAGE AND INSURANCE

a. The contractor shall, during the execution of the work, properly cover up and protect any part of the work liable to injury by exposure to the weather and; shall take every reasonable precaution against accident or injury to the work from any cause.

b. All contractors' equipment shall be at the sole risk of the contractor.

c. The contractor will insure all his personnel employed for the execution of the work against any personal injury that may be sustained by them as a result of the execution of the work and present satisfactory evidence to the owner/consultant that such insurance is in force.

d. The contractor shall be responsible for workman's compensation insurance and all other statutory requirements in regard to the personnel in the contractor's employment.

e. Contractor will be taking storage / erection policy. The contractor at his own cost shall arrange, secure and maintain all insurance that may be pertinent to the works and obligatory in terms of law to protect his interest and interest of the owner against all points including accident insurance in the joint names of contractor and the owner. Contractors All Risk Insurance Policy covering a) fire & lightening / lighting, b) accident damage during construction for example due to dropping or falling or defective workmanship and materials,

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lack of skill, negligence, malicious act or human error, c) water damage, flood, storm, tempest inundation, earthquake, d) Collapse, collisions, impact e) theft and burglary, malicious damage) subsidence, land slide, rock slide. The period of insurance cover shall be from commencement of work upto completion and handing over of the work to the owners. The sum insured should represent the completed value of work done including cost of all materials etc.

ARTICLE-25: TIME FOR COMPLETION

a. The terms and conditions agreed upon with respect to this agreement shall be subject to 'Force Majeure'. 'Force Majeure' shall be deemed to be only cause beyond the reasonable control of the contractor or the owner, as the case may be, which prevents or impedes the due performance of the agreement and which by the due diligence the affected party is unable to avoid or overcome through its individual concerted effort. For the purpose of this Article, Force Majeure shall mean and be limited to the following:

i) Any war or hostilities;
ii) Any riots or civil commotion;
iii) Any earthquake, flood, tempest, lightening or other natural physical disaster;
iv) Any accident fire or explosion not caused by the negligence of the contractor;
v) Any legal strike / lock-out or other industrial disturbance (only those exceeding 10 continuous days in duration) affecting the performance of the contractual obligation.
vi) Any law or order of any Government Department or other authority which delays or impedes the contractor in the execution of the work.

b. If either party is prevented or inordinately delayed in the performance of any of its obligations under the agreement by Force Majeure and if affected party gives written notice to the other party specifying the matter constituting Force Majeure with necessary evidence that a contractual obligation is thereby prevented or delayed, and the further period which it is estimated that such prevention or delay will continue, then the effected party shall be excused the performance or delayed performance as the case may be of such obligations as from the date of such notice for so long as may be justified.

c. Any occurrences of Force Majeure shall be informed in writing within seven days of occurrence otherwise it shall not be deemed as force majeure. Such Force Majeure shall be effective from the date of receipt of such notice from either party. Continuance of Force Majeure shall be informed every week.

d. If by virtue of the proceeding paragraphs either party shall be excused the performance or punctual performance of any obligation for a continuous period of six months the parties shall consult together with a view to agreeing what action should in the circumstances be taken and what amendments to the terms of the contract ought to be made.

e. For variation in the scope of work resulting into additional 25% in estimated contract value, no extension in completion time shall be admissible. Notwithstanding any other provision in the contract, the Owner/Consultant may at any time of its own initiative or at the request of the contractor, if satisfied of the existence of any ground (s) may extend the completion

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period by duration as deemed reasonable. The decision of the Owner/Consultant in this regard shall be final and binding upon the contractor.

f. Within (7) seven days from the date of receipt of LOI/work Order the contractor shall submit to the owner/consultant for approval in respect of each job site or groups of work or a detailed Progress schedule in graphical or other suitable form giving dates of starting and finishing of various operations and works related to the work providing sufficient margin to cover for contingencies and for final testing and consequential repair etc., if any required. The owner/consultant and contractor shall thereafter within seven days settle the progress schedule and the progress schedule so settled shall be the approved progress schedule and shall form part of the contract with attendant obligations upon contractor to commence the various works/operations involved on or before the date(s) mentioned in; the progress schedule and to conclude the said work(s)/ operation(s) on or before date mentioned in this behalf in the approved progress schedule, and default by contractor to commence or complete within prescribed date(s) any work or operation shall be deemed to be a breach of contract by the contractor to which the provisions of clause 30 relating to termination of contract shall be applicable, but without prejudice to any other rights or remedies that owner may have in this behalf.

g. **PREDETERMINED AGREED DAMAGES FOR DELAY**

If for reasons not attributable to the owner or due to conditions not constituting force majeure as defined in this contract the work is not completed in accordance with the provisions hereof within and in accordance with the Time Schedule hereto/the TIME FOR COMPLETION, it is clearly understood and agreed that the Owner shall be entitled to and the contractor shall pay to the Owner the following as mutually agreed damages for delay after taking into consideration all circumstances and not as penalty and without the owner being required to establish and prove the actual loss/damage suffered by the owner on account of such delay :

i. The pre estimated mutually agreed damages for delay pursuant hereto shall be payable at the rate of 1/2% (half percent) of total contract value per week or part thereof's delay in completion of the work subject to a maximum of 5% of final Contract value . It is expressly agreed by and between the owner and the contractor that no prior notice will be required to be given by the owner to the contractor, before effecting recovery of compensation amount from their bills/other due if any.

ii. Notwithstanding anything to the contrary contained in this Contract and without prejudice to the rights of the Owner under this CONTRACT and the entitlement to the said pre-estimated mutually agreed compensation for delay and in addition and not in derogation or substitution thereof the owner shall be entitled to terminate this contract in whole or in part without being liable to the contractor in any manner whatsoever or to have the uncompleted portion of the work to be executed/performed pursuant hereto by the contractor completed/ executed/performed at the risk and cost of the contractor in the event of, and despite 30 days notice in writing the contractor failing to complete/execute/perform all or any part of the work to be completed / executed / performed pursuant hereto by the contractor within and in accordance with

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the Time Schedule hereto/the TIME FOR COMPLETION as extended in accordance with the provisions hereof or by the owner.

ARTICLE-26: COMPLETION TEST

Completion test if applicable shall be carried out as per technical specification in Contract / BIS.

ARTICLE-27: TAKING OVER

a. taking over shall be done at one stage after completion of the entire job except where desired by owner otherwise. Only one completion certificate shall be issued after completion of all jobs.

b. Within 15 days of carrying out final inspection of the works at any job site covered by the contract, the contractor shall clear the job site covered by the contract, the contractor shall clear the job site of all scaffolding, wiring, pipes, surplus materials, contractor's labour's equipment and machinery and shall, demolish, dismantle and remove all contractor's site offices and quarters and other temporary works, structures and constructions and other items and things whatsoever brought upon or erected at the job site or any land allotted to the contractor by the owner and not incorporated in the permanent works and shall remove all rubbish from the job site and the land allotted to contractor and shall clear level and dress the job site and said land to the satisfaction of the owner/consultant and shall put the owner in undisputed custody and possession of the job site and all land allotted by the owner to the contractor, and unless the contractor shall have fulfilled the provisions of this clause the works shall not be deemed to have been completed.

c. The contractor shall submit following documents as desired by owner before completion certificate is issued:

   i) The Technical Documents according to which the work was carried out;
   ii) Complete set of working drawings showing therein corrections and modifications (if any) made during the course of execution of the works, signed by the owner;
   iii) Certificates of final levels as set for various works, signed by the owner;
   iv) Final Test Certificate;
   v) Certificates of owner; of satisfactory fulfillment of the provisions as above hereof;
   vi) List of owner supplied surplus materials returned to owner's stores, signed by the owner;
   vii) Materials-at-site accounting for owner supplied materials, signed by the owner;
   viii) List of the scrap materials returned to store, signed by the owner.
   ix) Discharge certificate in respect of owner supplied equipment and machinery signed by the owner.
   x) Any other certificate/document which owner/consultant may find necessary.

d. The issue of completion certificate shall be without prejudice to the owner's rights and contractor's liabilities under the contract, including the contractors liability for the defect

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liability period nor shall the issue of a completion certificate in respect of the works or work at the job site be construed as a waiver of any right or claim of the owner against the contractor in respect of work or the works at the job site in respect of which the completion certificate has been issued.

e. Upto and until issue of the completion certificate as provided for herein above in respect of the works or the works at job site the relative work(s) shall be and remain at the risks of the contractor in all respects, including (but not limited to) accident, fire, lightning, earthquake, flood, store, tempest, riot, civil commotion and /or war.

ARTICLE-28: SUSPENSION OF WORK ON INSTRUCTION OF OWNER/ CONSULTANTS

a. The Contractor shall on the written order of the owner/consultant, delay or suspend the progress of the work for such time or times and to such extent and in such manner as owner/consultant may specify.

b. All reasonable expenses incurred by the contractor by reason of such delay or suspension by the owner/consultant otherwise than in consequence of some default on the part of the contractor shall be added to the contract price, provided that no claim shall be made under this article unless the contractor has within 7 days, after the event giving rise to the claim, give notice in writing to the owner/consultant of his intention to make such claim. However, no compensation for suspension of work by the consultant or the owner shall be payable to the contractor if the period of suspension is 30 days or less.

c. If in the opinion of the contractor the suspension shall necessitate any extension in the time of completion, the provision of article no. 25 hereof and related article in respect of extension of time shall apply.

ARTICLE-29: CANCELLATION OF CONTRACT

a. The owner shall be entitled at any time at its discretion to cancel the contract if, in the opinion of the owner, the cessation of the work becomes necessary owing to any cause whatsoever, and a notice in writing from the owner to the contractor of such cancellation and the reason(s) therefore shall be conclusive proof of such cancellation and the reasons thereof.

b. Upon cancellation of the contract, the owner shall take over from the contractor the approved materials lying at job site on the date of the cancellation at the rate(s) for such material(s) as specified in relative item(s) of the schedule of rates, and if the rate(s) for any material(s) be not (in the opinion of the owner which shall be final) specified in the schedule of rates at market rate(s) for such material(s) current on the date of the cancellation. The decision of the owner/consultant as to the approved materials lying at site on the date of cancellation and the quantities and market rate(s) thereof shall be final and binding upon the contractor.

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c. The contractor shall not be entitled to any compensation in addition to the payment for the work actually performed by rates as a result of such cancellation notwithstanding that such cancellation may have resulted in the performance of quantities of work below the quantities indicated in the form of schedule of rates and/or of a value below the total contract value indicated in the work order.

ARTICLE-30: TERMINATION

1 (a) The Owner may, for breach of any provision of the contract by the contractor at any time by notice in writing to the contractor, terminate the contract.

(b) In the event of termination pursuant to paragraph(s) of this Article-

i) The contractor shall carry out instructions of the owner in connection with such termination including the cancellation of orders and the termination of contracts which the contractor may have placed with others.

ii) The owner shall pay the contractor for all materials used and work executed pursuant to the contract, but unpaid at the date of such termination together with any costs necessarily incurred by the contractor in connection with the work as a result of such termination provided that owner shall not be liable for any indirect loss, any business loss or damage or loss of profit suffered by the contractor as a result of such termination.

iii) For the purpose of determining the amount due to the contractor joint measurements shall be taken for the work completed and material supplied as on the date of termination. Bill prepared by the contractor on the basis thereof shall be deemed to be the final bill.

(c) The contractor shall upon receiving notice from the owner in accordance with paragraph (a) of this Article, notify the owner within a reasonable time of the sums for materials used and work executed as mentioned in paragraph (b) (ii) of this Article. These sums and all terms and conditions of termination pursuant to this Article may be agreed in writing between the owner and the contractor.

2. In the event of any breach of the provisions of the agreement or default in the performance of the obligations by the contractor not being remedied by him within 30 days of receipt of notice in that behalf from the owner, the owner shall be entitled to terminate the contract forthwith without prejudice to its other rights and remedies hereunder, by a communication in writing to the contractor and as such on termination the contractor shall be liable to pay to the owner for all loss and damages and sums that may be suffered and incurred by the owner including the additional costs incurred in rectifying default and/or completing unfinished work notwithstanding anything contrary contained in this contract.

3. Upon termination of the contract pursuant to this Article, obligations of the parties hereto shall cease except as to the liabilities of either party to the other for obligations accrued prior to the date of such termination.

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4. Within 15 days of completion of measurements, the contractor shall clear the job site of all scaffolding, wiring surplus materials, labours, construction tools, equipment & machinery and shall dismantle, demolish and remove site office, labours quarters etc. or any other thing instructed by owner. Should the contractor fail to comply with the instructions of owner in this regard, owner shall be entitled to take undisputed possession of site and take action for site clearance at the risk and cost of contractor.

ARTICLE-31: MAINTENANCE PERIOD

FOR ALL WORKS

i) The contractor guarantees that the work shall perform in accordance with the contract. He shall protect the work until the completion of same as certified in writing by the owner/consultant.

ii) He shall also maintain in good and substantial repair, fair wear and tear expected, the whole of the works until the expiration of the maintenance period of 12 months after the certified completion of the works as whole and he shall also be liable for the soundness and stability thereof, and be responsible for injury to any person or property owing to any settlement, failure, defect, damage or fault due to any cause whatsoever other than earthquake or fire during this period. This liability and responsibility shall not be affected or removed by any certificate of satisfaction or for payment of money which the owner/consultant may at any time give or have given. Moreover, the contractor shall at his own cost, restore such settlement, failure, defect, damage or fault without charge to the owner or the owner may restore such settlement; failure, defect or damage at the contractor's risk and cost. In any case, the contractor shall be liable for and shall pay and make good to the owner or other person or parties being entitled thereto, all losses, costs and expenses they or any of them may put to or be liable to be by reason or in consequence of the settlement, failure, damage or defect and the owner may deduct the amount of losses, cost or expenses from any sum due or to become due to the contractor, or may recover the same from his performance guarantee.

iii) The defects or other faults which may appear within the said maintenance period and which in the opinion of the owner/consultant who shall be the sole deciding authority in this respect have arisen from material or workmanship not in accordance with the contract, shall be rectified by the contractor at his own cost to the satisfaction of the owner/consultant within the period mentioned in the notice to be issued by the owner/consultant specifying the defects and directing the rectification thereof. Failing this rectification the owner will be at liberty to rectify the said defects by and through any other agency at their sole discretion entirely at the risk and cost of the contractor. In the event of such rectification being carried out by the owner on default of the contractor Owner shall deduct from the contractor's dues such sum of money as may be certified by the owner/consultant for the rectification for the said defects. The certificate of the owner/consultant in this respect as aforesaid shall be final, binding and conclusive to the contractors, Provided always that the liability of the contractor under this condition shall not extend beyond the maintenance period as aforesaid except as regards the defects and

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faults which the owner/consultant may have previously given notice to the contractor to rectify.

ARTICLE-32: PAYMENT DUE FROM THE CONTRACTOR

All costs, damages or expenses for which the contractor is liable under the contract may be deducted from any money due or becoming due to the contractor on any account whatsoever or may be recovered by action at law or arbitration.

ARTICLE-33: PAYMENTS

Payment Terms shall be applicable as per Annexure-1.10 of Part-I, Commercial Part.

ARTICLE-34: OBSERVANCE AND COMPLIANCE OF STATUTORY RULES/ LAWS

a. The rights and obligations of owner and contractor and provisions of the agreement shall be governed by the Indian Laws.

b. The contractor will be fully responsible for all matters arising out of the performance of the contract and shall comply at his own expenses with all the laws/ enactment's/ orders/ regulations/ statutory obligations, whatsoever, of the Government of India/State Govt./any Statutory or non-statutory authority. The contractor hereby agrees to indemnify and keep harmless the owner/consultant against all liabilities in this respect. The contractor shall be fully and exclusively responsible for the work, conduct, supervision and control of all their own personnel and personnel employed by the sub-contractor engaged by them and owner/consultant shall in no way be responsible for supervision, control etc. of these personnel. Since the contractor shall have full and exclusive supervision and control over the contract awarded to him, and the people engaged for this purpose, the contractor or his sub-contractor, as the case may be, shall be the principal employer under the contract labour (Regulation & Abolition) Act. 1970 and the contractor shall register himself as such; and the owner/consultant shall have no responsibility and liability on this account.

c. The contractor shall observe all safety rules so that no harm or damage is done to the owner’s employees or property. The owner/consultant shall have their right to object to any unsafe practices followed by the contractor or their subcontractors. If on account of the contractor or sub-contractor, owner’s property or personnel are likely to suffer any damage in such cases any directions, issued by owner/consultant shall be complied with by the contractor and their sub - contractors.

d. The contractor shall at all times be responsible for work under the supervision and control of all its personnel in connection with the work awarded to him under this contract, whether the personnel are employed by the contractor or by any sub-contractor engaged by him.

e. If, in the opinion of owner, any employee or employees of the contractor or his sub-contractor is found to be suffering from any disease, infections or otherwise or if any

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employee of the contractor or his sub-contractor is found to commit any misconduct including use of intoxicants or on account of any other reasonable cause, owner/consultant at its sole discretion may if require, the contractor to remove such employee(s) without questioning the decision of the owner/consultant in this respect and owner will be entitled to restrain such employee(s) from entering the premises.

f. The contractor shall engage sufficient number of personnel with suitable qualification and experience so that the work and job assigned to the contractor are completed as per the specifications and within the time schedule.

g. Contractor shall be responsible to keep himself informed of all the statutory laws, rules and Regulations of Central Government, Municipality etc. Contractor shall be responsible to secure compliance with all central and state laws as well as the rules, regulations, bye-laws and orders of the local authorities and statutory bodies as may be in force from time to time.

h. Contractor shall be responsible to ensure that no loss or damage is caused to the adjoining property around the battery limits of the project. In case of any damage or loss to adjoining property which is attributable to them, the contractor shall make good the loss or damage at his own cost.

i. **PAYMENT OF WAGES BY THE CONTRACTOR**

The wages of every labourer employed by the contractor under this contract shall be paid by him before the expiry of 7 days after the last day of the month in respect of which the wages are payable (i.e. wages of the previous month). The minimum wages rates. As notified from time to time by the Government as per the minimum wages act. 1948 and/or such other authority will have to be paid by the contractor to all his workers. The payments shall be disbursed against muster roll in the presence of the owner's representative and the same shall be affected during working hours in the factory premises. In case of any default/delay, the company will have the right to disburse the due payments to the contractor's workmen and the amount so disbursed together with any other expense incurred by the company to meet the contractor's pending bills/security deposit, if any besides, the owner shall also have the right to cancel the contract forthwith.

j. **PROVIDENT FUND:**

The contractor will also strictly observe the provisions of employees provident fund act. The contractor shall have their own P.F. code. The contractor shall have to submit documentary evidence of his P.F. code otherwise bid not be considered. The contractor shall be required to submit documentary proof requiring remittance of P.F. of their workers during execution of work otherwise their bills not be cleared.

k. Contractor shall be responsible to observe and comply with all statutory requirements including Contract Labour Act 1970, Minimum Wages Act 1948, ESI Act 1948, Employees Provident Fund Act 1952, Labour Laws and Regulation and subsequent amendment etc. in vogue of Central Government. Owner/Consultant shall be kept indemnified against any

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action brought against it for any violation/ non compliance of any Act, Rules and Regulations including contribution under ESI Act, 1948, EPF Act 1952, Wages Act 1948, Payment of Wages Act 1936, payment of Bonus Act 1965, Payment of Gratuity Act 1972 etc. and subsequent amendments etc. All expenses for compliance of above Acts and Regulations shall be borne by the contractor. Contractor shall submit documentary evidence against statutory dues like PF, ESI, Bonus etc. for the personnel deputed at site. Deputation of workers on duty and payment of their wages and other benefits (i.e. ESI contribution, PF contribution, overtime, bonus etc.) shall be strictly as per the notification of the Central Government from time to time and all other applicable statutory acts, rules and regulations in force and as amended from time to time.

l. The contractor will provide access to their records so that Owner can check regular and just payment of the minimum wages and remittances of PF of the workmen to their account. In case any discrepancy is noticed or any complaint is received from the personnel deployed regarding non-payment of wages, PF, ESI and / or any other statutory dues, stern action will be taken against the contractor by the Owner.

ARTICLE-35: RESOLUTION OF DISPUTES/ARBITRATION

35.1 The Owner/Consultant and the Supplier shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the Purchase Order.

35.2 If, after thirty (30) days from the commencement of such informal negotiations, the Owner/Consultant and the Supplier have been unable to resolve amicably a Purchase Order dispute, either party may require that the dispute, be referred for resolution to the formal mechanisms as specified hereunder.

35.3 **LEGAL CONSTRUCTION**

Subject to provision of Article 35.4, the Work Order shall be, in all respects, construed and operated as an Indian contract and in accordance with Indian laws as in force for the time being and is subject to the exclusive jurisdiction of the court at Delhi only.

35.4 **ARBITRATION**

a. Any dispute or difference whatsoever arising between the parties out of relating to the construction, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be settled by arbitration in accordance with the provisions of the Arbitration & Conciliation Act, 1996 and any amendments thereafter, and the award made in pursuance thereof shall be binding on the parties.

b. The performance under this contract shall not stop for any reason whatsoever during the said dispute/proceedings, unless the contractor/supplier is specifically directed by Owner/Buyer to desist from working in this behalf.

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c. The Jurisdiction Venue of all arbitration shall be at Delhi only.

d. The language of proceedings shall be English.

e. The Law governing the substantive issues between the parties shall be the Laws of India.

35.4.1 Arbitration [Applicable for Public Sector Unit)

In case the Contractor is an Indian Public Sector Enterprise/ Govt. Deptt. (but not a State Govt. Undertaking or Joint Sector Undertaking which is not a subsidiary of Central Govt. Undertaking), the dispute arising between the Owner and the Contractor shall be referred for resolution to a Permanent Arbitration Machinery (PAM) of the Department of Public Enterprises, Govt .of India.

ARTICLE- 36: RECOURSE

The Owner shall have recourse to the contractor for any costs, claims, demands, proceedings, damages and expenses whatsoever arising out of or in connection with any failure of the contractor to perform any of his obligations under the terms of contract.

ARTICLE- 37: ADVERTISEMENT

No advertisement, publicity matter or other literature in relation to the contract or the work is to be published or utilized by the contractor except with prior written permission of the owner.

ARTICLE-38: CONSTRUCTION OF CONTRACT

The contract to the exclusion of all other agreement, statements or representation whether oral or written constitutes the full agreement between the parties hereto for the work to be performed hereunder.

ARTICLE-39: INTERPRETATION OF CONTRACT

a. The several contract documents forming the contracts are to be read together as a whole and are to be taken as mutually explanatory.

b. Should there be any doubt or ambiguity in the interpretation of the contract documents or error, omission or contradiction therein or in any of them, the contractor shall prior to commencing the relative work, apply in writing to the owner for his decision in resolution of the doubt, ambiguity or contradiction or correction of the error or omission, as the case may

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be. Should the contractor fail to apply to the owner for his decision, as aforesaid prior to commencing the relative work, the contractor shall perform said work as per interpretation of owner whose decision shall be final and binding on contractor.

ARTICLE-40: SECRECY CLAUSE

The technical information, drawings, specifications & other related documents forming part of the WORK ORDER are the property of OWNER and shall not be used by CONTRACTOR for any other purposes, except for the execution of the WORK ORDER. All rights including rights in the event of grant of a patent and registration of design are reserved. The technical information, drawings, specification records and other documents shall not be copied, transcribed, traced or reproduced in any other form or otherwise in whole or in part and/or duplicated, modified, divulged and/or disclosed to a third party nor misused in any other form whatsoever without OWNER's prior written consent except to the extent required for the execution of WORK ORDER. CONTRACTOR confirms that he/it has read and understood the secrecy and confidentiality obligations of the OWNER as provided in this W.O. and agrees to abide by the obligations (including indemnity obligation) cast upon the OWNER. Successful bidder will have to execute secrecy agreement with owner, format of which shall be mutually agreed.

ARTICLE -41: INDEMNIFICATION

Supplier does hereby agree to indemnify and hold harmless the Owner/Consultant from all claims, losses demand clauses of action or suit arising out of the services, labour, equipment and materials furnished by supplier.

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SECTION-3.0

PART-I: COMMERCIAL

SECTION – 3.0

SPECIAL CONDITIONS OF CONTRACT

0	03.12.2018	FOR TENDER	PS	PK	RRK
REV.	**DATE**	**PURPOSE**	**PREPARED**	**REVIEWED**	**APPROVED**

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SPECIAL CONDITIONS OF CONTRACT

1.0 RATES

1.1 The rates shall be deemed to allow for all minor extras and constructional details which are not specifically shown on drawings or given in the specifications but are essential in the opinion of the Owner/Consultant to the execution of work to conform to good workmanship and sound engineering practice. The Owner / Consultant reserve the right to make any minor changes during the execution without any extra payment.

1.2 The Owner / Consultant decision to classify any item 'minor changes', 'minor extras' and 'constructional details' shall be final conclusive and binding on the Contractor.

1.3 The Rates quoted shall include for payment of royalties for obtaining earth, morrum, sand, aggregates, stones, etc. Nothing extra shall be paid to the Contractor on this account.

1.4 Contractor shall be responsible for making all necessary approach roads to the sites of execution for taking his rigs, cranes & equipments. No extra claim in this regard shall be entertained.

1.5 Schedule of rates submitted by the Tenderer shall be the true copy of the schedule of rates enclosed with the tender documents

1.6 Without prejudice to stipulation in General Conditions of Contract, the Bidder should quote firm prices inclusive of all taxes & duties (except GST) and other levies on which no variation will be allowed. Further any statutory variations in respect of other taxes & duties, if any, shall be governed by Clause 39.0 of the SCC.

2.0 SPECIFICATIONS

2.1 If specification for an item of work is not covered by CPWD/BIS specifications or Technical Specifications, the same shall be decided by the Owner/Consultant and shall be binding on the Contractor.

2.2 The Owner/Consultant shall have the right to cause the Contractor to purchase and use such materials of particular make or from a particular source which may in his opinion be necessary for proper and reasonable compliance with the specifications and execution of work.

2.3 (a) As and when required by the Owner/Consultant, the Contractor shall provide all facilities at site or at manufacture's works or in approved laboratory for testing of materials and/or workmanship. All the expenditure in respect of this shall be borne by the Contractor. The Contractor shall, when required to do so by the Owner/Consultant, confirm that the materials have been tested in accordance with requirements of the specifications.

(b) Neither the omission by the Owner/Consultant to test the materials nor the production of manufacturer(s) certificate, etc. shall affect the right of the Owner/Consultant to reject, after delivery, the materials found not in accordance with the specifications.

3.0 GATE PASSES

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All tools, plant and materials shall be brought by the Contractor to the works site through a covering note to be submitted in 3 copies. One copy of the covering note will be delivered to the security staff and one copy to the Owner/Consultant. The third copy shall be retained by the Contractor. The Contractor shall follow all rules and regulations for entry / exit of their men and materials in/from project site as framed by Owner/Consultant.

4.0 CONSTRUCTION SCHEDULE

If at any time, the Owner/Consultant is of opinion that the Contractor has fallen behind the approved construction schedule, the Owner/Consultant may, without any cost to Owner/Consultant, require the Contractor to take such steps as may be necessary to improve his progress, especially require him to employ overtime operations, increase the number of shifts, work on holidays and Sundays or increase the capacity of his construction plant and equipment and require him to submit evidence demonstrating the manner in which the Contractor proposes to comply with the construction schedule. Failure of the Contractor to comply with the above will be considered a failure to execute the work with due diligence.

5.0 CONTRACTOR TO BE LIABLE FOR ALL TAXES ETC.

The Prices / Rates quoted by the Contractor shall be inclusive of all labour, materials, tools and tackles necessary for executing the work and all other miscellaneous expenditure for/or incidental tools in connection with the execution of the contract including but not limited to all taxes & duties, BOCW cess (if any) custom duty, personnel & corporate tax etc. except GST. GST shall be paid / reimbursed at actual by Owner on submission of GST Invoice limited to their quote for GST.
If any bidder does not indicate both GST rate and GST charges in the Summary of SOR/ Price Schedule by stating NIL / Blank / Not Applicable / NA, GST @ 18% shall be loaded in their quoted price for the purpose of evaluation for such bidder. GST shall be paid/ reimbursed to such bidder at actual on submission of the GST invoice limited to the aforementioned 18% GST rate, considered for the purpose of evaluation, in case of award.

Further any statutory variations in respect of other taxes & duties, if any, shall be governed by Clause 39.0 of the SCC.

Payment of taxes etc., is the responsibility of the Contractor and shall not be payable by OWNER. The Contractor shall indemnify OWNER against levy of any taxes, duties, etc., in regard to the contract and in the event of OWNER being assessed for any of the said imports, the OWNER shall have the right to recover the total amount so assessed from the Contractor's dues and the Contractor shall also be responsible for all costs or expenses that may be incurred by OWNER in connection with any proceeding or Litigation in respect of the same.

6.0 ISSUE OF WORKING DRAWINGS

Approved working drawings marked "Good for execution/construction" shall be issued by Owner/Consultant to the Contractor progressively during the pendency of the contract. Sufficient quantum of workings drawings will be issued at the beginning. The Contractor on this account shall not be entitled to put forth any claim whatsoever.

7.0 COST OF TRANSPORT OF MATERIALS ISSUED BY OWNER

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Cost of transport, loading, unloading etc. from Owner's stores to work site etc., will be on Contractor's account.

8.0 ROLE OF OWNER/CONSULTANT

8.1 The Owner/Consultant shall have authority to stop the work, whenever such stoppage may become necessary to ensure the proper execution of the contract. He shall also have authority to inspect and reject all work and materials which do not conform to specifications, to direct the application of Contractor's forces to any portion of the work, as in his judgment is required, and to order the said force increased or diminished and to decide questions which arise in the execution of the work.

8.2 The Owner/Consultant reserve the right to suspend the work or part thereof at any time and no claim whatsoever on this account shall be entertained. In case of any clarification the Contractor may appeal to the Owner whose decision shall be final and binding thereupon.

8.3 The above inspection shall, however, not relieve the Contractor of his responsibilities in regard to defective materials or workmanship and the necessity for rectifying or replacing the same.

8.4 The judgment of Owner/Consultant for determining the category of an item not mentioned in the schedule shall be final.

9.0 SERVICE OF NOTICES OF CONTRACT

The Contractor shall furnish to the Owner/Consultant the name, designation and address of his authorized Agent for the purpose of service of notice(s) regarding all complaints, communications and references and shall be deemed to have been duly given to the Contractor if delivered to the Contractor or his authorized agent or left at or posted to the address so given and shall be deemed to have reached such address in the ordinary course of post or on the day on which they were so delivered or left. In the case of contract by partners, any change in the constitution of the firm shall be forthwith informed by the Contractor to the Owner/ Consultant.

10.0 CONTRACTOR'S GUARANTEE

The Contractor agrees to give the guarantee of his works in the following manner which shall remain valid till the validity of performance guarantee.

i. All equipments / materials incorporated in the work shall be new and both workmanship and materials shall be of good quality.

ii. Should, at a subsequent date, any inside honeycomb/hollowness be detected within a concrete member, he shall investigate other nearby sections for similar occurrence and shall rectify all these members by Pressure grouting at his own cost and as per direction of the Owner/ Consultant.

iii. Should, any element of the structure be detected afterwards not exactly tallying with the working drawing, he shall re-do the element at his own cost and as per instruction of the Owner/Consultant.

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iv. Should, at a subsequent date, any equipment / materials or fittings or workmanship or any element of the structure be detected as of sub-standard quality he shall either remove the same and shall re-do at his own cost or shall accept an equitable deduction in the contract price should the Owner/ Consultant deemed it inexpedient to correct the work.

v. All liquid retaining concrete structures shall be demonstrated about their efficiency or water tightness by filling the said structures with water and retaining it for 72 hours at his own cost. Should the result be found unsatisfactory he shall rectify the structures by pressure grouting at his own cost and as per direction of the Owner/Consultant.

vi. Should, at a subsequent date, the basement wall/floor been noted seeping/leaking he shall rectify the same by pressure grouting at his own cost and as per direction of the Owner/Consultant.

11.0 CONTRACTOR FULLY RESPONSIBLE FOR LAYOUT OF WORK

The Contractor shall remain fully responsible to provide detailed layout of different structures according to the coordinates and reduced levels incorporated in the working drawings by taking reference from the Bench Marks of both the coordinates and the reduced levels which shall be given at a convenient place in the works site by Owner/ Consultant. The Contractor shall provide necessary protection to keep the Bench Marks Undisturbed throughout the pendency of the contract. The accuracy of detailed layout of any element of a structure shall remain exclusively with the Contractor. The Contractor shall have to maintain a number of after beams; Theodolite and levels instruments etc. in good working conditions at site for the above purpose throughout the pendency of the contract, and shall make them available to Owner/Consultant for their use.

12.0 NOTHING EXTRA FOR ADVERSE SUB-SOIL CONDITION

There may be variation in nature of sub-soil both horizontally and vertically. The Contractor shall have to take necessary precaution during excavation against any happening like collapsing of sides etc. Any slip or fall in excavation shall have to be cleared by the Contractor at his own cost. In case of excessive heaving, it shall have to be cut and refilled with lean concrete by the Contractor at his own cost. The Contractor shall have to adopt underwater work in case of occurrence of piping/quick conditions without any cost to Owner/Consultant.

13.0 R.C.C. ELEMENT SHALL BE INTEGRAL FINISHED

For all RCC elements, both underground and above ground, only new plywood and steel shuttering shall be used to produce the concrete surface reasonably plain and smooth which will be integrally finished surface. Any little unevenness shall be made good by rubbing with carborandum stones only. Unless otherwise mentioned, plastering will not be allowed to manipulate and make the surface plain and smooth.

If the surfaces after stripping off the shuttering are found to be contrary to the above conditions then the Contractor shall have to dismantle the member and re-do the same to attain the aforesaid surfaces at his own cost.

14.0 FABRICATION DRAWINGS FOR STRUCTURALS

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a) The CONTRACTOR shall prepare and submit fabrication drawings in **triplicate** for preliminary **approval** of CONSULTANT. Fabrication drawings shall be based on design drawings issued by CONSULTANT. One copy of these preliminary drawings duly corrected and signed wherever necessary shall be returned to CONTRACTOR for incorporation of the corrections. After incorporating the corrections, the CONTRACTOR shall submit in 8 (eight) copies of the drawings for **final approval**. Each drawing shall be accompanied by:-

i) Bill of materials giving all details including sizes, numbers and weights.

ii) Two copies of design calculations for the design of joints. All the joints shall be designed for full strength of members; unless otherwise specified.

Nothing extra shall be payable to Contractor for preparation of fabrication drawings, material lists design calculation etc.

Approval of fabrication drawings, however, will not absolve the CONTRACTOR of his responsibility for the safety and correctness of the fabrication details.

iii) In case the CONTRACTOR wants to get the fabrication drawings prepared from other agencies, Owner/Consultant's approval for appointing such agencies shall be obtained by CONTRACTOR before appointing the agency. For this, CONTRACTOR must submit the credentials of the agency along with the request for approval.

iv) The Contractor shall supply three (3) sets of as built drawings also, after completion of work but well before the submission of final bill.

15.0 CONTRACTOR SHALL SUBMIT BAR BENDING SCHEDULE

The Contractor shall prepare bar bending schedule from the detailed RCC working drawings supplied by Owner/Consultant for execution of work and nothing shall be paid on this account. Four copies of such bar bending schedule shall be made available to the Owner/Consultant for his approval and effecting payment there under.

16.0 CONTRACTOR'S RESPONSIBILITY FOR THE MANNER OF EXECUTION OF WORK

The Contractor shall be responsible for the manner and the method of executing the work. The work shall be subject to the approval of Owner/ Consultant from time to time for purposes of determination of the question whether the work is executed by the Contractor in accordance with the contract.

17.0 NO WORK SHALL BE UNDERTAKEN WITHOUT APPROVED WORKING DRAWINGS

No work shall be undertaken at Site by the Contractor until detailed approved working drawings marked "Good for execution/construction" for the same is issued by Owner/ Consultant. Any work done without the aforesaid working drawing shall be at the Contractor's own risk and costs.

18.0 CONTRACTOR SHALL KEEP FOUNDATION PITS/TRENCHES DRY

The Contractor, during the pendency of contract, shall keep in dry condition of pits, trenches, which are not yet back filled due to technical reasons, if not shall be Bail-

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out/Pump-out all accumulation at his own cost for the safety of the structure /element. During pumping, the Contractor shall have to ensure that 'Loss of Ground' does not occur. Other approved methods shall be undertaken by the Contractor to avoid 'Loss of Ground' if occurred, at his own cost.

19.0 NOTHING EXTRA FOR INTRICATE CONCRETE SHUTTERING OR REINFORCEMENT WORK

Nothing extra shall be paid for any intricate concrete, shuttering or reinforcement work for foundations of equipment and machinery and for other foundation/superstructure works or for any delay inherent in concreting in small and thin sections in concrete or RCC works etc.

20.0 NOTHING EXTRA FOR REBATING ETC.

Nothing extra shall be paid in concrete/RCC works for all rebating, chamfering, grooving, sinking, trotting weathering, molding, etc. to accord with the details shown on the working drawings.

21.0 CONSTRUCTION JOINTS

21.1 In case of execution of massive concrete elements both in foundation and in superstructure and in some other locations as would be permitted except where specified in the working drawings, the work shall be carried out in one single operation without any break in concreting within time limit that would be specified by the Owner / Consultant without any additional cost to Owner/ Consultant.

21.2 All specified construction joints, either horizontal or vertical, in any element of concrete member shall be provided with shear keys of such dimensions as would be determined by the Owner/Consultant. Before adopting the next operation for the other half of the element these shear keys along with the entire surface of the joint shall be roughened and deepened to above 20 mm by chipping, washing and cleaning thoroughly. The Contractor shall provide cement slurry in sufficient quantity over the cleaned surface for proper bond as per the direction of Owner/Consultant. The Contractor shall not be entitled to any extra/payment; on this account.

22.0 SUBMISSION OF BILL

Contractor is to submit the bills and record of measurements in three (3) copies on approved proforma of Owner for works executed by him.

22.1 FOR R/A BILLS:

Contractor is to submit the bills and record of measurements complete in all respect duly certified by Owner/Consultant in three copies on approved proforma of Owner for works executed by him progressively.

22.2 MEASURMENT OF WORKS

Measurement of work shall be made in the units mentioned in the schedule of rates.

22.3 SUBMISSION OF FINAL BILL

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The final bill complete in all respect shall be submitted after certified completion of work. The bill should be accompanied with the following documents:

i. Job completion certificate.
ii. O & M Manuals / Drawings / Other relevant docs. in respect of equipments supplied
iii. No claim certificate on OWNER's prescribed proforma.
iv. Site clearance certificate.
v. Performance guarantee duly amended to cover certified maintenance period.
vi. Indemnity certificate towards labours payment and all other statutory payments.

No claim shall be entertained after receipt of final bill. Settlement of final bill shall be made within 1 (one) month period subject to furnishing of all required documents / clarification and extension of time, if any, by OWNER's competent authority.

In case any claim with regard to the wages of any labour employed by Contractor for the subject job is pending/ reported, OWNER shall be fully entitled to withhold payment of final bill pending finalisation of such claims.

23.0 PROVISION FOR MULTIFARIOUS CHECKING OF WORK

Before commencement of the actual concreting operation the position and layout of foundations, pedestals, inserts, pockets, recess, reinforcement and form work shall be checked repeatedly by Owner/Consultant. No claim whatsoever shall be entertained on this account. The level of foundations shall be accurately maintained as shown in the drawings or as directed by the Owner/Consultant. No padding, plastering or chipping shall be allowed for achieving the results.

24.0 DEFECT LIABILITY PERIOD

Defect Liability Period shall be 12 months from the date of certified Final completion of the work.

25.0 NO COMPENSATION FOR ALTERATION IN OR RESTRICTION OF WORK TO BE CARRIED OUT

If at any time after the commencement of the work, Owner/Consultant shall, for any reason whatsoever, not require the whole work thereof as specified in the tender to be carried out, the Owner/Consultant shall give notice in writing of the fact to the Contractor who shall have no claim of any payment or compensation whatsoever on account of any profit or advantage which he might have derived from the execution of work in full, but which he did not derive in consequence of the amount of the work not having been carried out, neither shall be Contractor have any claim for compensation by reasons of any alternations having been made in original specifications, drawings and instructions which shall involve any curtailment of the work as originally contemplated.

26.0 ACTION AND COMPENSATION PAYABLE IN CASE OF BAD WORK

If it shall appear to the Owner/Consultant or his representative, that any work has been executed with unsound, imperfect or unskilful workmanship or with materials of any inferior

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description or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to at contracted for, or otherwise not in accordance with the contract, the Contractor shall, on demand in writing from the Owner/Consultant specifying the work/materials/articles complained, notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require, or as the case may be, remove other unsuitable materials or articles so specified within a period specified by the Owner/Consultant at his own cost.

27.0 CLEARING, FILLING AND LEVELING OF SITE

The site shown on the layout plan shall be cleared by the Contractor of all obstructions, loose stones, materials, rubbish of all kinds of bushes, trees, grass as well as brush wood. All holes/hollow, whether originally existing or produced by removal of loose stones or brush wood, shall be carefully filled up with earth, well rammed and leveled off as directed by the Owner/ Consultant. The Contractor will not be entitled to any payment in his regard.

28.0 CONTRACTOR TO COMPLY ALL LAWS

28.1 The contract shall be governed by the law in force in the Republic of India.

28.2 The Contractor shall comply with all laws etc. The Contractor shall be responsible to secure compliance with the Central and States Laws as well as the Rules, Regulations, by-laws and orders of the legal authorities and statutory bodies which are in force or as may be in force from time to time. He shall give to the Municipal Corporation Committees, police and other relevant authorities all such notices, etc. as may be required by law and obtain all requisite license for temporary constructions, enclosures, etc. and pay all fees, taxes and such other dues or charges which may be leviable on account of any of his operations in executing the works under this contract. Owner/Consultant shall not pay anything extra to the Contractor on this account. The Contractor shall also make good at his own cost, any damage done by him to any adjoining property, during execution of work.

29.0 CONTRACTOR TO USE THE MATERIALS ONLY AFTER THE APPROVAL OF OWNER

The Contractor shall use the materials only after the approval of Owner/ Consultant, before incorporation of the same in the works.

30.0 COMPLIANCE OF ENTIRE PROVISIONS IS OBLIGATORY TO CONTRACTOR

It shall always prevail, unless otherwise specifically stated, that the entire provisions of the Tender Document have been accepted for compliance by the Contractor without any reservation.

31.0 GENERAL

31.1 The location and general information regarding site on which the proposed work is to be executed is furnished in Attachment-I hereto.

31.2 Contractor shall acquaint himself with access to site, availability of local facilities such as railway siding, transport facilities, materials and labour and shall provide suitable allowances in his Bid, Contractor's quoted rate being firm, it should take into account all expenses likely to arise in this regard.

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31.3 Contractor shall be deemed to have visited site and familiarized himself thoroughly with site conditions before submitting his Bid. Non-familiarity with site conditions will not be considered a reason either for extra claims or for not carrying out work in strict conformity with drawings and specifications.

32.0 DELIVERY AND DOCUMENTS

Delivery of the Goods shall be made by the Contractor in accordance with the terms specified by the Owner/Consultant in the schedule of requirements in Technical Specifications. and the special conditions of purchase, if any and the Goods shall remain at the risk of the Contractor until Delivery has been completed.

33.0 INCIDENTAL SERVICES

33.1 As specified in the special conditions of purchase, the Contractor may be required to provide any or all of the following services:

i) Supervision of on-Site assembly and/or of the supplied Goods.

iii) Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Contractor of any warranty obligations under this Purchase Order, and

33.2 Price charged by the Contractor for the preceding incidental services, if not included in the contract price for the Goods shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Contractor for similar services.

33.6 At the request of Consultant or Owner, Contractor shall at his expense, dismiss from work and replace any such employee as Owner/Consultant, may deem incompetent or careless or whose continued employment is deemed inimical to the interest of the Owner/Consultant or against public interest.

33.7 Other conditions of work at Site shall be mutually discussed and settled.

34.0 WORK AND WORKMANSHIP GUARANTEE

34.1 Contractor shall make arrangements to provide at no extra charge all temporary approaches to and within the site, after obtaining prior approval of Owner/Consultant of the layout of such approaches.

34.2 To determine the acceptable standard of workmanship, Owner/Consultant may order Contractor to execute certain portions of work and services such as wall, flooring, joinery, finishes, roads and the like under the close supervision of Owner/Consultant. On approval, these items shall be labeled as guiding samples and work shall be executed to conform to these samples. These samples shall be prepared at the cost of Contractor.

34.3 Workmanship shall be of best possible quality and all the work shall be carried out by skilled workmen except for those which normally require unskilled persons. If the laws of local government, municipal or other authorities require employment of licensed or registered workmen of various trades, Contractor shall arrange to have the work done by such registered or licensed persons.

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34.4 Workmanship shall be in accordance with the specifications, standards and codes which are part of this tender as well as the established engineering practices for this type of work. For any portion of work executed by Contractor and considered defective by Owner/Consultant, the Contractor shall have to take necessary remedial measures, to the complete satisfaction of Owner/Consultant, to make the defective good in order at his own cost without any liability to Owner/Consultant.

The Contractor shall be responsible for the proper workmanship and shall not be relieved of his obligation in this regard just because no objection was raised by Owner/ Consultant during the progress of work. The workmanship guarantee period will be 12 months from the date of final completion as a whole, certified by Owner.

If any defects are found due to bad workmanship during this period, the Contractor shall undertake to rectify the same at his cost, most expeditiously. The workmanship guarantee for rectified portion of work shall commence from the date of rectification for a subsequent period of 12 months. The decision of Owner/Consultant regarding bad workmanship shall be final binding and conclusive.

The Contractor shall be required to submit the performance guarantee accordingly.

35.0 PRIORITY OF DOCUMENTS

The following is the order of priority in descending order. High priority document shall take precedence over low priority document in case of any conflict:-

1. Contract Document and its Appendices
2. Letter of Intent (LOI)
3. Special Conditions of Contract and amended/clarification, if any.
4. General Conditions of Contract and amended/clarification, if any.
5. Part-II, Technical, of the NIT documents and amended/clarification, if any.
6. Technical specifications and Drawings and amended/clarification, if any.
7. The Bid and Schedule of Prices including Supplementary Price, if any.
8. Integrity Pact signed between the owner and the bidder/contractor.
9. Instruction to Bidders

36.0 WEATHER CONDITIONS

Owner/Consultant may order Contractor to suspend any work which in the opinion of Owner/Consultant may be subject to damage by prevailing weather conditions. No claim whatsoever on this account shall be entertained.

“It is presumed that the Contractor has familiarized himself with the weather conditions prevailing in the area therefore in such weather parameters if it appears to the Engineer –in –charge (EIC) that certain weather condition may damage the work or specified quality of the work can be achieved without stoppage of the work, the EIC in such conditions may require the Contractor to stop the work till such time as he thinks fit and appropriate. It is understood by the contractor that no compensation will be admissible on this count. However in exceptional circumstances at the recommendation of the EIC, Consultant/owner may grant reasonable extension of Time.

37.0 TIME SCHEDULE AND PROGRESS REPORTING

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37.1 **Time schedule network/bar chart.**

37.1.1 Together with the Work Order/Contract confirmation, Contractor shall submit to Owner/Consultant, his time schedule regarding the documentation, supply of materials as well as information about of his Subcontracts to be placed with their parties, including the dates on which Contractor intends to issue such Subcontracts.

37.1.2 The time schedule will be in the form of a network or a bar chart clearly indicating all main or key events regarding documentation, supply of materials, delivery and site fabrication, erection, inspection, testing and completion.

37.1.3 The original issue and subsequent revisions of Contractor's time schedule and or Sub-contractor's time schedules shall be sent to Consultant in two copies (of which one shall be in Soft copy) and two copies to Owner.

37.1.4 The time schedule network/bar chart shall be updated at least every fortnight.

37.2 **Progress Trend Chart/Monthly Report**

37.2.1 Contractor shall report weekly to Owner/Consultant the progress of the execution of Work Order/Contract and achievement of targets set out in time bar chart.

37.2.2 The progress will be expressed in percentages shown in the progress trend chart.

37.2.3 The first issue of the progress trend chart will be forwarded together with the time bar chart along with the Work Order confirmation.

37.2.4 The fortnightly reporting will bear the updating of the progress trend chart.

37.2.5 All reporting will be done on e-mails and hard copies wherever required will follow.

38.0 INSTRUCTIONS, DIRECTIONS AND CORRESPONDENCE

38.1 The work described in Work Order is to be executed according to the standards, data sheets, tables, Specifications and Drawings attached hereto and/or enclosed with the Work Order itself and according to all conditions both general and specific enclosed with the Work Order, unless any or all of them shall have been modified or cancelled in writing as a whole or in part.

i) All instructions and orders to Contractor shall, excepting what is herein provided, be given by Owner/Consultant.

ii) All the work shall be carried out under the direction of and to the satisfaction of Owner/Consultant.

iii) All communications including technical/commercial clarifications and/or comments shall bear reference to the Work Order /Contract.

iv) Invoice for payment against Work Order /Contract shall be addressed to Owner/ Consultant.

v) The WORK Order/Contract number shall be shown on all invoices, communications, packing lists, containers and bills of lading etc.

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38.2 All correspondence from Contractor/Contractor shall be forwarded in duplicate (2 copies) to CONSULTANT and 02 copies to OWNER at following addresses:

CONSULTANT	OWNER
Projects & Development India Ltd., PDIL Site Office, Barauni, Bihar Kind Attention : Engineer In-charge / Resident Construction Manager Tel no. : _____ Fax no. : _____ E-mail : _____	Hindustan Urvarak & Rasayan Ltd., Core-2, 2nd Floor, Scope Minar, Laxmi Nagar District Centre, Delhi-92 Kind Attention : Mr. Manish Goyal Sr. Project Manager Tel no. : 011-22502267 Email : goyalm@hurl.net.in

38.3 Correspondence on technical and commercial matters shall be dealt with in separate letters for each Work Order /Contract and each copy of the letter shall be complete with all Annexures. Wherever possible, correspondence should be through e-mail to the above personnel so as to save time.

38.4 Correspondence for expediting and inspection shall be done directly with inspector with a copy to consultant & owner at above mentioned address.

39.0 STATUTORY VARIATION IN TAXES AND DUTIES

39.1 If any new taxes or duties (including any increase in rate of any existing taxes or duties) are levied in India after the date of submission of bids on any payments due to the CONTRACTOR under the CONTRACT other than tax on income, wealth or profits of the CONTRACTOR, the OWNER shall reimburse the CONTRACTOR the amount of such taxes or duties lawfully paid and borne by the CONTRACTOR against proof of payment. However, this is applicable within the GUARANTEED COMPLETION DATE only and shall not be reimbursed by OWNER during the delayed contractual project completion attributable to CONTRACTOR"S account.

39.2 If any existing taxes or duties are withdrawn or the rate is decreased after the date of submission of the bids on any payments due to the CONTRACTOR under the CONTRACT other than tax on income, wealth or profits of the CONTRACTOR, the OWNER shall be entitled to discount in the amount payable to the CONTRACTOR of amount equivalent to the amount of such taxes or duties. This is applicable within the GUARANTEED COMPLETION DATE and also during the delayed contractual Project completion.

39.3 In case of delayed completion beyond the GUARANTEED COMPLETION DATE even though extension of completion time is allowed by OWNER, for reasons solely attributable to Contractor, all extra costs on account of changes of statutory regulations/ acts, or increase in price on any other account including price variation clause, if any, shall not apply to the Contract price and shall be borne by the CONTRACTOR.

However, any decrease in taxes and duties during the delayed period shall be passed on to the OWNER.

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40.0 QUALITY ASSURANCE / QUALITY CONTROL

40.1 Bidder shall include in his offer the Quality Assurance Programme containing the overall quality management and procedures which is required to be adhered to during the execution of contract. After the award of the contract detailed quality assurance programme shall be prepared by the Contractor for the execution of contract for various works which will be mutually discussed and agreed to.

40.2 The Contractor shall establish document and maintain an effective quality assurance system outlined in recognized codes.

40.3 Quality Assurance System plans/procedures of the Contractor shall be furnished in the form of a QA manual. This document should cover details of the personnel responsible for the Quality Assurance, plans or procedures to be followed for quality control in respect of Design, Engineering, Procurement, Supply, Installation, Testing and completion in all respect till final acceptance by Owner. The quality assurance system should indicate organizational approach for quality control and quality assurance of the construction activities, at all stages of work at site.

40.4 The Owner/Consultant or their representative shall reserve the right to inspect/witness, review any or all stages of work at shop/site as deemed necessary for quality assurance.

40.5 The Contractor has to ensure the deployment of quality Assurance and Quality Control Engineer(s) depending upon the quantum of work.
This QA/QC group shall be fully responsible to carry out the work as per standards and all code requirements. In case Engineer-in-charge feels that Contractor's QA/QC Engineer(s) are incompetent or insufficient, Contractor has to deploy other experienced Engineer(s) as per site requirement and to the full satisfaction of Engineer-In-Charge.

40.6 In case Contractor fails to follow the instructions of Engineer-in-charge with respect to above clauses, next payment due to him shall not be released unless until he complies with the instructions to the full satisfaction of Engineer-in-charge.

40.7 The Contractor shall adhere to the approved quality assurance system

41.0 HEALTH SAFETY AND ENVIRONMENT (HSE) MANAGEMENT

The Contractor, during entire duration of the Contract, shall adhere to HSE requirement as per Specification enclosed in the Bidding Document.

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PART-I: COMMERCIAL

EXHIBIT-1

EXPERIENCE CRITERIA

0	03.12.2018	FOR TENDER	PS	PK	RRK
REV.	**DATE**	**PURPOSE**	**PREPARED**	**REVIEWED**	**APPROVED**

EXHIBIT-1

SUBJECT: TENDER DOCUMENT FOR BOUNDARY WALL, WATCH TOWER & SECURITY ROOM FOR AMMONIA-UREA FERTILIZER PLANT AT HURL BARAUNI

EXPERIENCE CRITERIA

Bidder shall furnish their Experience details with reference to the work, which pre-qualify them in line with Experience Criteria mentioned under Clause 8.0 of "Instructions to Bidders".

(MARK √ FOR APPLICABILITY IN BOX)

1.0 EXPERIENCE AS CONTRACTOR

SL. NO.	DESCRIPTION	DETAILS		
1.	Name of Project, Location (Executed by Bidder)			
2.	Description of work			
3.	Name of Owner, Postal Address, Phone / Fax No. / E-mail			
4.	Name of Consultant / Postal Address, Phone / Fax No. / E-mail.			
5.	Project Status • Date of Award • Scheduled Mechanical completion date. • Actual Mechanical completion date • Actual Project completion date (handover) • Delay in months (if any) • Reasons for delay (if any)			
6.	Scope of work executed by Bidder's organization	• Industrial and Plant Buildings of RCC	☐	
7.	Completion Status	Specify	Date	
			Act.	Sch.

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		- Completion Date • Whether completion certificate enclosed YES ☐ NO ☐		
7.1	LD imposed/ Bonus claimed	YES/NO ; if yes, brief the reason:		
8.0	Document Furnished			
8.1	Copy of work order / Contract Agreement enclosed	YES ☐ NO ☐		
8.2	Documentary proof from the End User/OWNER regarding satisfactory performance indicating the period of completion.	YES ☐ NO ☐		

Note :

1. Bidder shall furnish the experience details as above of Projects which they consider suitable for their pre-qualification. OWNER / CONSULTANT reserve the right not to evaluate any other Project details.
2. Bidder to note that this exhibit form shall be filled as per the Proformas as stated, along with wherever applicable, copies of work order and completion certificates.
3. **Bidder to note that non-submission of relevant supporting documents may lead to rejection of their bid.** It is to be ensured that all relevant supporting documents shall be submitted alongwith the bid in the first instance itself. Pre-qualification may be completed based on the details so furnished without seeking any subsequent additional information.

For and on behalf of …… ……
Stamp & Signature : ……
Name : ……
Designation : ……
Date : ……

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PART-I: COMMERCIAL

EXHIBIT-2

FINANCIAL CRITERIA

0	03.12.2018	FOR TENDER	PS	PK	RRK
REV.	**DATE**	**PURPOSE**	**PREPARED**	**REVIEWED**	**APPROVED**

EXHIBIT-2

SUBJECT: TENDER DOCUMENT FOR BOUNDARY WALL, WATCH TOWER & SECURITY ROOM FOR AMMONIA-UREA FERTILIZER PLANT AT HURL BARAUNI

FINANCIAL CRITERIA

Bidder shall furnish details with reference to the work, which pre-qualify them in line with Financial Criteria mentioned under Clause 8.0 of "Instructions to Bidders".

1.0 DETAILS OF PROJECT REFERENCES AS PER CLAUSE 8.0 OF "INSTRUCTIONS TO BIDDERS"

SL. NO.	DESCRIPTION	PROJECT – 1, 2 etc. (Separate sheets for each Project)
1.	Project name and description	
2.	(a) Awarded contract value (INR) One completed Work with contract value not less than **INR 11.82 Crore** OR Two completed Works each works with contract value not less than **INR 7.38 Crore** OR Three completed Works each works with contract value not less than **INR 5.91 Crore**	
	(b) Final executed contract value (INR)	
3.	Name of Owner	
	(a) Name and address of Owner's contact person	
	(b) Telephone and Fax No. (c) Mobile No. (d) Email No.	
4.	(a) Date / month / year of award / commencement of Project	
	(b) Date / month / year of Scheduled Completion of the Project.	
	(c) Date / month / year of Actual Completion of the Project.	
5.	Document Furnished	YES/NO
5.1	Copy of work order / Contract Agreement enclosed	

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SL. NO.	DESCRIPTION	PROJECT – 1, 2 etc. (Separate sheets for each Project)
5.2	Completion / Acceptance certificate identifying the successful commissioning of project.	

2.0 ANNUAL TURNOVER

SL. NO.	FINANCIAL YEAR	TURNOVER (IN INR)
1	FY: 2017-2018	
2	FY: 2016-2017	
3	FY: 2015-2016	

3.0 NET WORTH

Net worth as on the last day of the financial year ending 31st March 2018:	: ……..

Whether copies of balance sheet and annual turnover statements for the above three financial years submitted	YES / NO

4.0 SOLVENCY CERTIFICATE

NAME & ADDRESS OF BANK	ISSUE DATE	AMOUNT (INR)

Note:

1. Bidder shall furnish the experience details as above of Projects which they consider suitable for their pre-qualification. OWNER / CONSULTANT reserve the right not to evaluate any other Project details.

2. Bidder to note that this exhibit form shall be filled as per the Proformas as stated, along with wherever applicable, copies of work order and completion certificates.

3. The bidder shall attach fresh solvency certificate issued by his banker. The solvency certificate shall not be more than six months old from the date of issue of NIT OR minimum

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credit ratings of "A" from ICRA/CRISIL etc OR equivalent reputed institutions, OR financing/credit limits from bank of value not less than **INR 5.91 Crore** valid as on date of issue of ITB.

4. **Bidder to note that non-submission of relevant supporting documents may lead to rejection of their bid.** It is to be ensured that all relevant supporting documents shall be submitted alongwith the bid in the first instance itself. Pre-qualification may be completed based on the details so furnished without seeking any subsequent additional information.

For and on behalf of : ……
Stamp & Signature : ……
Name : ……
Designation : ……
Date : ……

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ANNEXURE-1.1 TO 1.26

PART-I: COMMERCIAL

ANNEXURE-1.1

TENDER ACCEPTANCE LETTER

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TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To,

Sub: Acceptance of Terms & Conditions of Tender.
NIT No: _____

Name of Tender/Work:-

_____

_____

Dear Sir,

1. I / We have downloaded/obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: _____ as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I/ we have read the entire terms and conditions of the tender documents (including all documents like annexure(s), schedules(s), etc.,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions/ clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organization too has also been taken into consideration, while submitting this acceptance letter.

4. I / we hereby unconditionally accept the tender conditions of above mentioned tender document(s) corrigendum(s) in its totality / entirety.

5. In case any provisions of this tender are found violated, then your department/ organization shall without prejudice to any other right or remedy be at liberty to reject this tender/ bid including the forfeiture of the full said Earnest Money Deposit absolutely.

Yours Faithfully,

Signature of Bidder with Seal :
Name :
Date :
Email Address :
Contact Number :

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PART-I : COMMERCIAL

ANNEXURE-1.2

COMMERCIAL QUESTIONNAIRE

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SUBJECT: TENDER DOCUMENT FOR ……..

……..

Note:

1) The Bidder shall submit reply to each query.
2) The Bidder's reply/ confirmation as furnished in the Commercial Questionnaire (CQ) shall supersede the stipulation mentioned else where in the bid.

Sl. No.	OWNER'S/PDIL'S QUERY	BIDDER's REPLY / CONFIRMATION
1.	Please confirm that Master Index and copies of all technical and commercial amendments/addendums if any issued, duly signed and stamped on each page as a token of having received and read all parts of the bidding document and having accepted and considered the same in preparing their bid.	
2.	Please confirm that you have studied complete Bidding Document including Pre-Qualification Criteria, Technical and Commercial Part and your Bid is in accordance with the requirements of the Bidding Document.	
3.	Please confirm Bid Submission as per tender i.e. in Single Phase Two Bid System.	
4.	Please confirm that the Price Part does not include any terms and condition. In case any terms and condition is mentioned in the price part, the same shall be treated as null and void.	
5.	**Price confirmation copy**: Please confirm a Photocopy of the Schedule of Price, to be submitted strictly as per **Section-5 of Part-II, Technical**, Rates being blanked out and in place indicating "**Quoted**" against each head**,** shall be submitted duly signed and stamped as confirmation to quoted rate failing which bid may be rejected.	
6.	Please confirm your compliance to total scope of work mentioned in the Bidding Document. CONTRACTOR's scope shall include supply of all materials and services required for completion of Work irrespective of whether such materials and services are mentioned in the Bidding Document or not.	
7.	Please confirm your acceptance for Time Schedule as mentioned in Instructions to Bidders.	
8.	Please confirm your acceptance for Payment Terms as per Bidding Documents.	
9.	Please confirm that your bid is valid for 120 days from the date of opening of Technical and Unpriced Commercial Bid.	

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Sl. No.	OWNER'S/PDIL'S QUERY	BIDDER's REPLY / CONFIRMATION
10.	Please confirm EMD Validity as Bid Validity (120 Days) plus 03 Months.	
11.	Please confirm Damages for delay in completion as per Article-25 of General Condition of Contract.	
12.	Please confirm Guarantee/Warranties as per Article-11 of General Conditions of Contract (GCC).	
13.	Please confirm that your Bid is substantially responsive to the requirements of the Bidding Document and you have not stipulated any material deviation and submitted all details as specified in the Bidding Document.	
14.	Please confirm that adequate numbers of construction equipments, tools, tackles, etc. have been proposed which will be sufficient to complete the work as per the time schedule.	
15.	Please confirm that you have proposed adequate project / site organization with qualified supervisory personnel having sufficient experience.	
16.	Please confirm that all costs resulting from safe execution of Work, such as safety induction, use of protective clothing, safety glasses and helmet, safety precaution taken during monsoon, or any other safety measures to be undertaken by the CONTRACTOR for execution of Work are included in the Lump sum Price.	
17.	Please confirm that all safety rules & regulations as mentioned in Bidding Document or notified at later date by OWNER during execution shall be adhered by CONTRACTOR.	
18.	The CONTRACTOR shall include safety rules & regulation and apply the same during the execution of the contract. Contractor shall also follow the safety guidelines of OWNER during the execution period of the contract.	
19.	Please confirm the following :- "The planning schedule, manpower deployment schedule, construction equipment deployment schedule etc. submitted by the bidder with his bid are indicative and shall not be basis for extra compensation in case actual needs are higher. Detailed planning schedule developed by CONTRACTOR after Contract award may be subject to fluctuations depending upon actual progress of the project and available Work front.	

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Sl. No.	OWNER'S/PDIL'S QUERY	BIDDER's REPLY / CONFIRMATION
	Co-ordination and making available by CONTRACTOR of all staff, manpower, construction equipment, tools, cranes, etc. and materials as required for a timely completion of all Work as per OWNER's construction and priority schedule and in accordance with the available Work front are to be included in the pricing". Notwithstanding the above provision, the bidder shall submit these details in accordance with the volume of work, which may be reviewed and commented by us during pre award stage /post award stage.	
20.	Please confirm that the bidder has read the complete tender document and has understood the entire scope of work as given elsewhere in the tender document.	
21.	The safety measures as mentioned in Tender Document/GCC/SCC shall not be considered as limitative. The CONTRACTOR will be required to develop their stringent safety measures and submit the same to Engineer-in-Charge with the provision of a dedicated safety group closely monitoring the construction activities in all working shifts.	
22.	Please confirm the following that, a photocopy of the documents listed below has been enclosed in the bid:- 1. PAN Number 2. TIN Number 3. PF/ESI Number 4. GST Number 5. Labour Licence Registration Number 6. Latest Income Tax Clearance Certificate / ITR 7. Audited Balance Sheets	

For and on behalf of : ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

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PART-I : COMMERCIAL

ANNEXURE-1.3

NO DEVIATION CERTIFICATE

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(Self Declaration on Bidder's Letter Head as per below performa)

DECLARATION

1. With reference to our Bid Proposal No. …….…..…… dated …….. for (Name of Tender/Works) …… ……....., we hereby confirm that we comply with all terms, conditions and specifications of the Bidding Documents read in conjunction with Amendments(s) / Clarification(s) / Addenda / Errata (if any) issued by the Owner prior to opening of Techno – Commercial Bids and the same has been taken into consideration while making our Techno – Commercial Bid & Price Bid and **we declare that we have not taken any deviation / exceptions in this regards.**

2. We further confirm that any deviation variation or additional conditions etc or any mention, contrary to the Bidding Documents and its Amendments(s) / Clarification(s) / Addenda / Errata (if any) as mentioned at 1.0 above found anywhere in our Techno – Commercial Bid and / or price Bid, implicit or explicit, shall stand unconditionally withdrawn, without any cost implication whatsoever to the Owner, failing which the Bid Security shall be forfeited.

For and on behalf of : …….....……

Stamp & Signature : …….

Name : …….

Designation : …….

Date : …….

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PART-I : COMMERCIAL

ANNEXURE-1.4

DETAILS OF SIMILAR WORKS EXECUTED

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SUBJECT: TENDER DOCUMENT FOR.....

.....

NAME OF THE PROJECT: BIDDER TO FILL

SL. NO.	FULL POSTAL ADDRESS OF CLIENT AND NAME OF OFFICER IN-CHARGE WITH PHONE/CELL NO AND E-MAIL	DESCRIPTION OF THE WORK	VALUE OF CONTRACT	DATE OF COMMENCEMENT OF WORK	SCHEDULED COMPLETION PERIOD	ACTUAL COMPLETION DATE	REMARKS

Note : 1) Description of work should be in detail.
2) Please also indicate the major problems if any, faced during construction of works.

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

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ANNEXURE-1.5

CURRENT COMMITMENTS

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SUBJECT: TENDER DOCUMENT FOR.....

……

SL. NO.	DESCRIPTION OF WORK	FULL POSTAL ADDRESS OF CLIENT & NAME OF OFFICER IN CHARGE	CONTRACT VALUE	DATE OF COMMENCEMENT OF WORK	SHEDULED COMPLETION PERIOD	% AGE COMP. AS ON DATE	EXPECTED DATE OF COMPLETION	REMARKS

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

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PART-I : COMMERCIAL

ANNEXURE-1.6

DEPLOYMENT SCHEDULE FOR SUPERVISORY PERSONNEL

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SUBJECT: TENDER DOCUMENT FOR.....

.....

S NO.	DESCRIPTION	DEPLOYMENT SCHEDULE						TOTAL
		M1	M2	M3	M4	M5	M6	
1.	PROJECT MANAGER							
2.	CONSTRUCTION MANAGER							
3.	PLANNING ENGINEER							
4.	ELECTRICAL ENGINEER							
5.	CIVIL & STRUCTURAL ENGINEER							
6.	SUPERVISORS							
7.	ADMINISTRATION MANAGER							
8.	WAREHOUSE PERSONNEL							
9.								
10.								

NOTE : Bidder may add more personnel as per job assessment / experience

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

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PART-I : COMMERCIAL

ANNEXURE-1.7

DEPLOYMENT SCHEDULE FOR CONSTRUCTION EQUIPMENT

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SUBJECT: TENDER DOCUMENT FOR.....

.....

SL. NO.	DESCRIPTION	CAPACITY (Bidder to specify)	DEPLOYMENT SCHEDULE						TOTAL
			M1	M2	M3	M4	M5	M6	
1.	CRANES								
2.	DIESEL GENERATORS								
3.	WELDING MACHINE								
4.	TRACTORS								
5.	TRAILERS / TRUCKS								
6.	DUMPERS								
7.	EXCAVATORS								
8.	VIBRATOR								
9.	COMPACTORS								
10.	OTHER TOOLS & TACKLES								
11.									
12.									
13.									

NOTE : Bidder may add more Equipments as per job assessment / experience.

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

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PART-I : COMMERCIAL

ANNEXURE-1.8

DETAILS OF EQUIPMENT PROPOSED FOR TENDERED WORK

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SUBJECT: **TENDER DOCUMENT FOR.....**

.....

DETAILS OF PROPOSED EQUIPMENTS, TOOLS & TACKLES

The bidder shall submit the details of construction equipments, Tools & tackles etc. in the following format, proposed to be deployed for this works.

Sl. No.	EQUIPMENTS LIST REQUIRED TO BE DEPLOYED				STATUS OF EQUIPMENT		SCHEDULE DEPLOYMENT DATE AT SITE	SCHEDULED COMPLETION DATE OF WORK	REMARKS
	Description of Equipment	Make	Year	Capacity	Own by Contractor	If on Hiring (Give Detail Address)			

Note : 1. In case of equipment are to be hired, bidder shall indicate the source of hiring and enclosed and enclose the consent the letter from such sources.
2. Bidder shall clearly indicate the expected data of availability of owned / hired equipment.

NOTE : Bidder may add Equipments as per job assessment / experience.

SIGNATURE OF BIDDER : ……
NAME OF BIDDER : ……..
COMPANY SEAL : ……

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ANNEXURE-1.9

CONTENTS OF BID AND CHECK LIST

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SUBJECT: TENDER DOCUMENT FOR ……..

……..

Bidder is requested to fill this check list and ensure that all details /documents have been furnished under relevant section as called for in the Bidding Document duly filled in, signed & stamped.

Please tick the box and ensure compliance:

SECTION-I : PRE-QUALIFICATION BID: (Refer Clause 8.0 of Instructions to Bidders)

S.NO.	DESCRIPTION	SUBMITTED
i)	Letter of submission	☐
ii)	Pre Qualification Criteria in favour of Experience Criteria as per **Exhibit-1** along with Copies of Work Orders, Certificates from End User/OWNER and completion certificates in support of prequalification requirement.	☐
iii)	Pre Qualification Criteria in favour of Financial criteria as per **Exhibit-2** along with copies of Work Orders, Completion/ Acceptance certificates and Annual audited Report for the last three financial years. Annual Reports shall be a verifiable statement of annual accounts certified by a Chartered Accountant or Public Accountant in the form of printed annual reports or similar document.	☐
iv)	**Solvency Certificate** as per Annexure-1.18. Date of Issue of this certificate should not more than six months old from the date of issue of NIT.	☐
v)	Format for **Financial Capability** of Bidder as per Annexure-1.21	☐

SECTION-II : TECHNICAL AND COMMERCIAL BID:

S.NO.	DESCRIPTION	SUBMITTED
i.	Photocopy of Earnest money Deposit (EMD)	☐
ii.	Power of Attorney of Bid Signatory from the Competent Authority as per Annexure-1.26	☐
iii.	Tender Acceptance Letter as per Annexure-1.1	☐
iv.	Commercial Questionnaire as per Annexure-1.2	☐
v.	No Deviation Certificate as per Annexure-1.3	☐
vi.	Details of Similar Works Executed as per Annexure-1.4	☐
vii.	Current Commitments of the Bidder as per Annexure-1.5	☐

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S.NO.	DESCRIPTION	SUBMITTED
viii.	Deployment Schedule of Supervisory Personnel as per Annexure-1.6	☐
ix.	Deployment Schedule of Construction Equipment as per Annexure-1.7	☐
x.	Details of Equipment Proposed to be used for this work as per Annexure-1.8	☐
xi.	Contents of Bid and Check List as per Annexure-1.9	☐
xii.	A declaration shall be submitted as per Annexure-1.14 to the effect that Bidder have or had not been banned or blacklisted/del-listed by any PSU / Government Organizations.	☐
xiii.	Declaration by Bidder regarding Bidding Document as per Annexure-1.16	☐
xiv.	Photocopy of Integrity Pact as per Annexure-1.17	☐
xv.	EFT details as per Annexure-1.19	☐
xvi.	A declaration shall be submitted to the effect that Bidder submitting their Bid is not under liquidation, court receivership or similar proceedings as per Annexure-1.22	☐
xvii.	Declaration for Past Safety Record as per Annexure-1.23	☐
xviii.	Bidder to furnish PAN Number, TIN Number, PF/ESI Number, GST Number, Labor License Registration Number, Latest Income Tax Clearance Certificate / ITR etc. along with the bid.	☐
xix.	**Price confirmation copy** - A Photocopy of the Schedule of Prices, to be submitted strictly as per **Section-5 of Part-II, Technical**, prices being blanked out and in place indicating "**Quoted**" against each head**,** shall be submitted duly signed and stamped.	☐
xx.	Master Index along with a copy of complete set of Bidding Documents of all technical and commercial amendments/addendums if any issued, duly signed and stamped on each page as a token of having received and read all parts of the bidding document and having accepted and considered the same in preparing their bid.	☐
xxi.	Any other information required in the Bidding Documents or considered relevant by the Bidder.	☐

For and on behalf of : …… ……
Stamp & Signature : ……
Name : ……
Designation : ……
Date : ……

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PART-I: COMMERCIAL

ANNEXURE - 1.10

TERMS OF PAYMENT

0	29.11.2018	FOR TENDER	PS	PK	RRK
REV.	**DATE**	**PURPOSE**	**PREPARED**	**REVIEWED**	**APPROVED**

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TERMS OF PAYMENT

1.0 FINANCIAL GUARANTEE FOR PERFORMANCE

The contractor shall provide financial guarantee within 15 days of award of work for due & faithful performance of the contract as per Article 6 of General Conditions of Contract.

2.0 PAYMENT TERMS

Following terms of payment shall be applicable :

2.1. MOBILIZATION ADVANCE

Mobilization Advance not exceeding 10% of contract value shall be payable on submission of Bank Guarantee for the equivalent amount from a Nationalized / Scheduled Bank in the prescribed proforma, subject to acceptance of LOI and furnishing the Performance Bank Guarantee. **An interest @ 10% per annum shall, however, be charged on the above Mobilization Advance till it is recovered.** Recovery of this Advance shall be made @ 15% from each bill so that full Mobilization Advance including interest is recovered by the time 75% work is done. The interest shall be calculated on the advance up to the date of release of payment(s). Mobilization Advance shall be paid only on acceptance of LOI / Work Order and establishment of Site Office by Contractor. The payment of Mobilization Advance shall be released with certification by Consultant/Owner.

2.2. RUNNING ON ACCOUNT PAYMENT

2.2.1 90% against value of actual work done shall be paid against running bills within 30 days of certification by OWNER/CONSULTANT after recovery of the following:

- Mobilization Advance as indicated above.
- Statutory deduction such as Income-Tax as applicable.
- Any other recovery if become due.

2.2.2 Balance 10% (Retention Money) of the SOR shall be released along with final bill.

2.3. The Running Account Bills shall be submitted on Monthly basis. However, kindly note that in addition of Running Account Bill, the contractor has to submit the Monthly Progress Report (Refer Annexure 1.24) duly approved by the Engineer-in-charge/ Resident Construction Manager at site. This report will acts as a mandatory document for submission of the bill. Failing in submission of the report, the invoice will not be processed further for payment.

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2.4. RELEASE OF 1st R/A BILL

Payment will be released against 1st R/A bill only on submission of following documents by contractor to the indenting department.

i. Monthly Progress report approved by Engineer-in-charge/ Resident Construction Manager at site.
ii. Acceptance of LOI, Financial Guarantee for Performance and signing of Contract Agreement.
iii. Labour License (as per statutory requirements)
iv. EPF Code Registration number with RPFC/ARPFC
v. Insurance Contractor All Risk (CAR) Policy
vi. Workmen compensation policy

2.5. SUBMISSION OF FINAL BILL

The final bill complete in all respect shall be submitted after certified completion of work. The bill should be accompanied with the following documents:

i. Job completion certificate.
ii. No claim certificate on HURL's prescribed proforma.
iii. Site clearance certificate.
iv. Performance guarantee duly amended to cover certified maintenance period.
v. Indemnity certificate towards labours payment and all other statutory payments.

No claim shall be entertained after receipt of final bill. Settlement of final bill shall be made within 1 (one) month period subject to furnishing of all required documents / clarification and extension of time, if any, by HURL's competent authority.

3.0 PRICE

The prices shall be firm during the entire contract period including all extensions granted on whatsoever ground may be.

4.0 INSTRUCTION FOR INVOICING & PAYMENT DOCUMENTATION

4.1. INVOICING

Invoicing shall be in compliance with the stipulations of the Work Order and the following instructions. Contractor is liable for all costs arising from noncompliance with the instructions.

As far as possible, description of Works in invoice shall match the description in Work Order. **Invoice for payment shall be addressed to Owner.**

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The invoices shall be issued in the name of:

Hindustan Urvarak & Rasayan Limited,
Core-2, 2nd Floor, Scope Minar,
Laxmi Nagar District Centre, Delhi-92

Attn : Mr. Manish Goyal
Sr. Project Manager
Tel No. : 011-22502267
Email : goyalm@hurl.net.in

The invoice shall contain the following information:

i. Work Order No.
ii. Item no., quantity and complete description
iii. Item-wise net price (unit and total) of the works where applicable.
iv. Net amount payable by deducting advance payment already invoiced, if any, and the guarantee retention amount, if any, from the total value of the Works being invoiced.

The signed invoices, original and copy shall be made on Contractor's letter head and shall be duly signed.

Invoices for progress payment(s) shall state the information under (i), (ii) and (iii). Invoices for guarantee retention money shall state the information under (i) to (iv).

4.2. PROGRESS PAYMENT

1) Invoice for _____ in original and two (2) copies duly certified by Owner / Consultant.

2) Performance certificate in one (1) original plus two (2) copies from the beneficiary to the effect that progress achieved is equal to progress invoiced, duly certified by Owner/Consultant.

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PART-I : COMMERCIAL

ANNEXURE - 1.11

PROFORMA OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT (EMD) / BID SECURITY

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(To be stamped in accordance with Stamp Act,
if any, of the Country of the issuing Bank)

Bank Guarantee No. .....
Date.....

To:
[Owner's Name and Address]

Dear Sirs,

In accordance with Invitation for Bids under your Bid Document No. ..... M/s..... having its Registered/Head Office at..... (here-in-after called the 'Bidder') wish to participate in the said bid for …….....*[Name of Project]*…….....

As an irrevocable bank guarantee against Bid Security for an amount of .....(*).....valid for..... days from.....(**).....required to be submitted by the Bidder as a condition precedent for participation in the said bid which amount is liable to be forfeited on the happening of any contingencies mentioned in the Bidding Documents.

We, the .....*[Name & address of the Bank]*.....having our Head Office at.....(#).....guarantee and undertake to pay immediately on demand by.....*[Name of the Owner]* (hereinafter called the 'Owner')..... the amount of .....(*).....without any reservation, protest, demand and recourse. Any such demand made by the 'Owner' shall be conclusive and binding on us irrespective of any dispute or difference raised by the Bidder.

This Guarantee shall be irrevocable and shall remain valid upto .....(@)..... If any further extension of this guarantee is required, the same shall be extended to such required period (not exceeding one year) on receiving instructions from M/s ..... *[Bidder's Name]*..... on whose behalf this guarantee is issued. In witness where of the Bank, through its authorised officer, has set its hand and stamp on this.....day of.....20.....at.....

.....
(Signature)
. .....
(Name)
. .....
(Designation with Bank Stamp)
Attorney as per
Power of Attorney No.....
Date.....

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NOTE :

1. (*) The amount shall be as specified in Letter Inviting Bid.
   (**) This shall be the date of opening of Technical and Commercial bids.
   (#) Complete mailing address of the Head Office of the Bank to be given.
   (@) This date shall be three (3) months beyond bid valid.

2. The Stamp Paper of appropriate value shall be purchased in the name of Bidder / Bank issuing the guarantee.

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PART-I: COMMERCIAL

ANNEXURE - 1.12

PROFORMA OF SECURITY CUM PERFORMANCE BANK GUARANTEE / SECURITY DEPOSIT

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(To be submitted on non judicial stamp paper of appropriate value)

PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE

(This guarantee should be executed on non-judicial stamp paper of appropriate value)

Bank Guarantee No…….
Date……..

To,
[Owner's Name & Address]

Dear Sirs,

In Consideration of **Hindustan Urvarak & Rasayan Limited, having its Registered Office at Coal Bhawan, 7th Floor, Plot No. AF-III, Action Area-1A, Newtown, Kolkata-700156**, (hereinafter referred to as the 'Owner' which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s. _____ with its registered / Head Office at _____ (hereinafter referred to as the 'Contractor' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a Contract by issue of Owner's Letter of Intent No. _____ dated _____ and the same having been unequivocally accepted by the Contractor, resulting in a contract _____(*scope of contract*) _____ and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to Rs. _____ (%) _____ per cent) of the said value of the Contract to the Owner.

We _____ (*name and address*)_____ having its Head Office at _____ (hereinafter referred to as the `Bank' which expression shall, unless repugnant to the context or meaning thereof, include it successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Owner, on demand any and all monies payable by the Contractor to the extent of _____ as aforesaid at anytime upto _____ (days/month/year) without any demur, reservation, context, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Owner on the Bank shall be conclusive and binding notwithstanding any difference between the Owner and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the Owner discharge this guarantee.

The Owner shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to extend the time for performance of the Contract by the Contractor. The Owner shall have the fullest liberty, without affecting this guarantee, to

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postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the contract between the Owner and the Contractor or any other course or remedy or security available to the Owner. The bank shall not be released to its obligations under these presents by any exercise by the Owner of its liberty with reference to the matters aforesaid or any of them or by reason of any other act of omission or commission on the part of the Owner or any other indulgences shown by the Owner or by any other matter or thing whatsoever which under law would, but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Owner may have in relation on to the Contractor's liabilities.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs. _____ and it shall remain in force upto and including _____ and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s_____{Contractor's Name}_____ on whose behalf this guarantee has been given.

IN WITNESS, the Principal and surety have executed this performance bond and have affixed their seals on the date set forth.

Dated this……day of…….20…….at…….

WITNESS:

……..
(Signature)

……..
(Name)

……..
(Official Address)

(Signature)……..

(Name)……

……
(Designation with
Bank Stamp)

Attorney as Power
of Attorney No……
Dated……..

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PART-I : COMMERCIAL

ANNEXURE - 1.13

BANK GUARANTEE FOR ADVANCE / PROGRESS PAYMENT

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(To be submitted on non judicial stamp paper of appropriate value)

PROFORMA OF BANK GUARANTEE FOR ADVANCE PAYMENT

(To be stamped in accordance with Stamp Act)

In Consideration of **Hindustan Urvarak & Rasayan Limited, having its Registered Office at Coal Bhawan, 7th Floor, Plot No. AF-III, Action Area-1A, Newtown, Kolkata-700156**, (hereinafter referred to as the `Owner' which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s. _____ (hereinafter referred to as the `Contractor' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a Contract by issue of Owner's Letter of Intent No. _____ dated _____ and the same having been unequivocally accepted by the Contractor, resulting in a Contract _____ *(scope of contract*)_____ and the Owner having agreed to make an advance payment to the Contractor for performance of the above Contract amounting Rs. _____ (Rupees _____ only) as an advance against Bank Guarantee to be furnished by the Contractor.

We _____ *(name of the bank)* _____ having its Head Office at _____ (hereinafter referred to as the `Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Owner, immediately on demand any or, all monies payable by the Contractor to the extent of _____ as aforesaid at any time upto _____ @ _____ without any demur, reservation, context, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Owner on the Bank shall be conclusive and binding notwithstanding any difference between the Owner and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Owner discharges this guarantee.

The guarantee herein contained is not revocable by notice during the currency and will remain in full force until (a) payment has been made to the owner by the Bank of the aggregated amount payable herein under or (b) the said advance has been fully adjusted and extinguished, as hereafter set forth, whichever is earlier.

The Owner shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to vary the advance or to extend the time for performance of the Contract by the Contractor. The Owner shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied with Contract between the Owner and the Contractor or any other course or remedy or security available to the Owner. The bank shall not be released of its obligations under these presents by any exercise by the Owner of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Owner or any other indulgence shown by the Owner or by any

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other matter or thing whatsoever which under law would but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Owner may have in relation to the Contractor's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is limited to _____ and it shall remain in force upto and including _____ @ _____ and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s. _____ on whose behalf this guarantee has been given.

Dated this _____ day of _____ 200___ at _____

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ANNEXURE - 1.14

PROFORMA FOR BLACKLISTED

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(Self Declaration on Bidder's Letter Head as per below proforma)

DECLARATION

To ,

…….
…….
…….

NIT NO. : …….

SUBJECT : TENDER DOCUMENT FOR …….
……. ..

Sir ,

We hereby declare that M/s ……. is neither put on Holiday or Black-listed by any Government / PSU / Private firm or Financial Institution.

Signature

Name :
Designation :
Seal of the Bidder:

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PART-I : COMMERCIAL

ATTACHMENT - 1.15

FORMAT OF CONTRACT AGREEMENT

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FORMAT OF CONTRACT AGREEMENT

(To be executed on non-judicial stamp paper of appropriate value)

THIS CONTRACT AGREEMENT is made the_____day of_____, 20____.

BETWEEN

(1) *[Name of Owner]*, a corporation incorporated under the laws of India and having its principal place of business at *[address of Owner*] (hereinafter called "the Owner"), and (2) [name of Contractor], a corporation incorporated under the laws of India and having its principal place of business at [address of Contractor] (hereinafter called "the Contractor")

WHEREAS the Owner desires to engage the Contractor to *……..[scope of work]……..* and the Contractor have agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

NOW IT IS HEREBY AGREED as follows:

ARTICLE 1. CONTRACT DOCUMENTS

1.1 The term 'CONTRACT DOCUMENTS' shall mean and include the following documents which shall constitute the Contract and shall be deemed to form an integral part of the Contract:

a) Contract Agreement and its Appendices
b) Letter of Intent (LOI)
c) Special Conditions of Contract and amended/clarification, if any
d) General Conditions of Contract and amended/clarification, if any.
e) Part-II, Technical, of the NIT documents and amended/clarification, if any.
f) Technical Specifications and Drawings and amended/clarification, if any.
g) The Bid and Schedule of Prices including Supplementary Price, if any.
h) Integrity Pact (IP) signed between the Owner and the Bidder/Contractor.
i) Instruction to Bidders.

The above documents are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole.

1.2 **PRIORITY OF DOCUMENTS**

In the event of any ambiguity or conflict between the CONTRACT DOCUMENTS listed in clause 1.1 above, the order of precedence shall be the order in which the CONTRACT DOCUMENTS are listed in Clause 1.1 above.

1.3 **Definitions**

Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the General Conditions of Contract.

ARTICLE 2. CONTRACT PRICE AND PAYMENT TERMS

2.1 **Contract Price**

The Owner hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations hereunder. The Contract Price shall be the

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and [amount in words], [amount in figures], or such other sums as may be determined in accordance with the terms and conditions of the Contract.

2.2 **Payment Terms**

Payment shall be made by the Owner to the Contractor as per the provisions of Bidding Documents.

ARTICLE 3. EFFECTIVE DATE FOR DETERMINING TIME FOR COMPLETION

The Completion period of the Project shall be determined from the date of Letter of Award.

ARTICLE 4. NON-ASSIGNABILITY

The Contract and benefits and obligations thereof shall be strictly personal to the CONTRACTOR and shall not on any account be assignable or transferable by the CONTRACTOR.

ARTICLE 5. GOVERNMENT OF INDIA NOT LIABLE

It is expressly understood and agreed by and between the Contractor and the Owner that the Owner is entering into this Agreement solely on its own behalf and not on behalf of any other person or entity. In particular it is expressly understood and agreed that the Government of India is not a party to this Agreement and has no liabilities, obligations or rights hereunder. It is expressly understood and agreed that the Owner is an Independent legal entity with power and authority to enter into contracts solely on its own behalf under the applicable laws of India and the general principles of Contract Law. The Contractor expressly agrees, acknowledges and understands that the Owner is not an Agent, Representative or Delegate of the Govt. of India. It is Further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the Contract. Accordingly, the Contractor expressly waives, releases and foregoes any and all actions or claims, including cross claims, impleader claims or counter claims against the Government of India arising out of this Contract and covenants not to sue the Government of India as to any manner, claim, cause of action or thing whatsoever arising of or under this Contract.

ARTICLE 6. APPENDICES

The Appendices listed in the attached list of Appendices shall be deemed to form an integral part of this Contract Agreement. Reference in the Contract to any Appendix shall mean the Appendices attached hereto, and the Contract shall be read and construed accordingly.

ARTICLE 7. NO LIABILITY ON DIRECTOR AND EMPLOYEE

No Director, employee, consultant or agent of the OWNER or other person representing the OWNER or acting on behalf of the OWNER in or pursuant to the Contract or in the discharge of any obligation to the OWNER under the Contract or otherwise in relation to the Contract shall have any personal liability to the CONTRACTOR or any Sub-Contractor, agent, representative, director or employee of the CONTRACTOR or to any other person acting for or on behalf of the CONTRACTOR and the CONTRACTOR on its own behalf and on behalf of its Sub Contractors, directors, employees, agents and representatives hereby waives and disclaims any and all right of action which it or they may have whether under tort or Contract or otherwise against the OWNER or any director, employee, agent, consultant or representative of the OWNER for act of omission or commission done or omitted to be done.

ARTICLE 8. WAIVER

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No failure or delay by the OWNER in enforcing any right or remedy of the OWNER in terms of the CONTRACT or any obligation or liability of the CONTRACTOR in terms thereof, shall be deemed to be a waiver of such right, remedy, obligation or liability, as the case may be, by the OWNER and notwithstanding such failure or delay, the OWNER shall be entitled at any time to enforce such right, remedy, obligation or liability, as the case may be.

ARTICLE 9. LANGUAGE OF CONTRACT AND COMMUNICATION

The language of the Contract shall be English and all communications, drawings, design, data, information, codes specifications and other document whatsoever supporting the bid or otherwise exchanged under the Contract shall be in English. In the event that any technical documentation is in any language other than English, the document should be translated and presented to the OWNER/Project Manager in English and English document/translated document shall be regarded as the only authentic document.

IN WITNESS WHEREOF the Owner and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

Signed by for and on behalf of the Owner

_____

[*Signature*]

_____

[*Title*]

in the presence of _____

Signed by for and on behalf of the Contractor

_____

[Signature]

_____

[Title]

in the presence of _____

CONTRACT AGREEMENT

dated the_____ day of_____, 20_____

BETWEEN

_____

[“the Owner”]

and

_____

[“the Contractor”]

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PART-I : COMMERCIAL

ANNEXURE - 1.16

DECLARATION BY BIDDER REGARDING BIDDING DOCUMENT

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(Declaration on Bidder's Letter Head as per below performa)

SUBJECT: TENDER DOCUMENT FOR .....

.....

We _____ (Name of the Bidder) hereby represent that we have gone through and understood the Bidding Documents, **NIT NO: ..... DATED** _____ (including but not limited to) the Commercial & Technical Requirements/ Specifications in **Part-I : Commercial and Part-II : Technical** of the Bidding documents and amendments, if any, and that our Bid has been prepared accordingly in compliance with the requirements stipulated in the said documents.

We are submitting a copy of complete set of Bidding Documents, **Part-I : Commercial and Part-II : Technical and Amendments**, if any, as part of our Bid duly signed and stamped on each page in token of our acceptance. Further we undertake that in the event of award of work to us, all the parts shall be considered for constitution of Contract Agreement.

For and on behalf of : …….....…….

Stamp & Signature : …….

Name : …….

Designation : …….

Date : …….

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PART-I : COMMERCIAL

ANNEXURE - 1.17

FORMAT FOR INTEGRITY PACT

INTEGRITY PACT

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on ____ day of the month of _____ 2018, between **M/s Hindustan Urvarak & Rasayan Ltd.,** registered under Companies Act, 2013, having its registered office at **having its Registered Office at Hindustan Urvarak & Rasayan Limited, having its Registered Office at Coal Bhawan, 7th Floor, Plot No. AF-III, Action Area-1A, Newtown, Kolkata-700156**, (hereinafter referred to as [HURL], which expression shall mean and include, unless the context otherwise requires, its successors and assigns) of the First Part and M/s _____ a Company, firm incorporated under _____ Laws to which it is subject to (hereinafter called the "Bidder/Seller", which expression shall mean and include, unless the context otherwise requires, its successors, heirs / legal representatives / administrator in office and assigns) of the Second Part.

Whereas

HURL has issued NIT_____ dated_____ inviting bids from Parties for undertaking-the Project /Work of_____ at its unit located at_____ (hereinafter referred to as the Project /Work). The BIDDER is a private Company/Public Company/Government Undertaking / Partnership / registered export agency, constituted in accordance with the relevant law in the matter and HURL is joint venture company incorporated by Indian Oil Corporation Ltd. (IOCL), National Thermal Power Corporation Ltd. (NTPC), Coal India Ltd. (CIL), The Fertilizer Corporation of India Ltd. (FCIL) and Hindustan Fertiliser Corporation Ltd. (HFCL).

The Bidder is willing to offer/ has offered to carry out the Project/ Work and understands that this Integrity Pact has to be executed between the parties before HURL can consider the offer.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling HURL to undertake the Project/Work at a competitive price in conformity with the defined specifications by avoiding the high costs and the distort nary impact of corruption on public procurement, and

Enabling BIDDER to abstain from bribing or indulging in any corrupt practices in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and HURL will commit to prevent corruption, in any form, by its officials by following transparent procedures.

In respect of the Project/Work an Independent Monitor shall be appointed by HURL to verify facts and to take necessary action, legal or otherwise as may be deemed appropriate including criminal proceedings, against the persons and /or Organizations indulging in the corrupt practice.

NOW, THEREFORE IN CONSIDERATION OF THE MUTUAL COVENANTS CONTAINED HEREIN, THE PARTIES AGREE AS UNDER:

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1.0 COMMITMENTS OF HURL:

1.1 HURL undertakes that no official of HURL, connected directly or indirectly with the Project/Work, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any other person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

1.2 HURL will, during the pre-contract stage, treat all BIDDERs alike, and will provide to all BIDDERs the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular Bidder in comparison to other BIDDERs.

1.3 HURL will report to the Independent Monitor of any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach. HURL will also report to appropriate Government Office wherever necessary".

2.0 PRECEDING MISCONDUCT:

2.1 In case any preceding misconduct on the part of any official(s) is reported by the BIDDER to the Independent Monitor with full and verifiable facts and the same is prima facie found to be correct by the Independent Monitor, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by HURL or the Independent Monitor and such a person shall be debarred from further dealings related to contract process. In such a case while an enquiry is being conducted by HURL the proceedings under the contract would not be stalled.

3.0 COMMITMENTS OF BIDDER:

3.1 The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:

3.2 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the HURL, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

3.3 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of HURL or otherwise in procuring the Contract or forbearing to do or
having done any act in relation to the obtaining or execution of the contract or any other contract with HURL for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with HURL.

3.4 BIDDER shall disclose the name(s) and address(es) of foreign principals, associates, agents and distributors, advisors, representatives and sub-contractors.

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3.5 BIDDER shall disclose the payments to be made by them to agents/ brokers or any other intermediary, in connection with this bid/ contract.

3.6 The BIDDER further confirms and declares to HURL that he has not engaged any individual or firm or company, whether Indian or foreign, to intercede, facilitate or in any way to recommend to HURL or any or its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or Company in respect of any such intercession, facilitation or recommendation.

3.7 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose complete details of any payments made, is committed to or intends to make to any officials of HURL or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.8 The BIDDER will not collude with other parties, interested in the contract, to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.9 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.10 The BIDDER shall not use improperly, for purposes of completion or personal gain, or pass on to others, any information provided by HURL as part of the business relationship, such as plans, technical proposals and business details including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care to ensure that no information is divulged to others.

3.11 The BIDDER commits to refrain from giving any complaint in connection with the Project, directly or through any other manner, without supporting it with full and verifiable facts.

3.12 The BIDDER shall not instigate or cause to instigate any third party to commit any of the actions aforestated.

3.13 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the employees of HURL, or, if any relative of an employee of HURL has financial interest/stake in the BIDDER, the same shall be disclosed by the BIDDER at the time of filing the tender.

The term `relative' for this purpose would be as defined in Companies Act, 2013 or any modifications thereof.

3.14 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of HURL.

4.0 PREVIOUS TRANSGRESSION

4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact with HURL, in respect of any corrupt practices

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envisaged hereunder, and/or with any Public Sector Enterprises/ Government department that could justify BIDDERs exclusion from the tender process.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process of the contract, and if already awarded, the Contract can be terminated for such reason.

5.0 EARNEST MONEY / SECURITY DEPOSIT:

5.1 While submitting commercial bid, the BIDDER shall deposit an amount _____ as Earnest Money/Security Deposit, with HURL through any of the following instruments:

(i) Bank draft or pay order in favour of

(ii) A confirmed guarantee by an Indian Nationalized Bank, promising payment of the guaranteed sum to the Buyer on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the Buyer shall be treated as conclusive proof of payment

(iii) Any other mode or through any other instrument

5.2 The amount and validity of the earnest money / Security Deposit shall be as mentioned in the NIT.

5.3 In case of the successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the purchase contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of the decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.4 No interest shall be payable by the HURL to the BIDDER on Earnest Money/ Security Deposit for the period of its currency.

6.0 SANCTIONS FOR VIOLATIONS

6.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle HURL to take all or any one of the following actions, wherever required:-

i. To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

ii. The Earnest Money Deposit (in pre-contract stage) and /or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by HURL, without assigning any reason thereof.

iii. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

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iv. To recover all sums already paid by HURL, together with interest thereon at 2% higher than the prevailing Lending Rate of State Bank of India or at 2% higher than LIBOR as may be applicable based on whether the bidder is an Indian party or a foreign party. If any outstanding payment is due to the BIDDER from HURL in connection with any other contract for any other Project/Work/ Supply, such outstanding payment could also be utilized to recover the aforesaid sum and interest.

v. To encash the advance bank guarantee and performance bond/ warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by HURL, along with interest.

vi. To terminate all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to HURL resulting from such termination and RCF shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

vii. To debar/blacklist the BIDDER from participating in future bidding processes of HURL for a minimum period of five years, which may be further extended at the discretion of HURL.

viii. To recover all sums paid, in violation of this Pact by BIDDER to any middleman or agent or broker, with a view to securing the contract.

ix. In case where irrevocable Letters of Credit have been opened in respect of any contract signed by HURL with the BIDDER, the same shall not be operated.

x. Forfeiture of Performance Bond in case of a decision by HURL to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 HURL will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (Whether with or without the knowledge of the BIDDER) of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of HURL to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the Bidder can approach the Independent Monitor appointed for the purposes of this Pact.

7.0 INDEPENDENT MONITOR:

7.1 HURL has appointed following persons as Independent Monitor for this Pact:

(i) Name :. …….
Address:
Email:
Mobile:

(ii) Name :. …….
Address:
Email:
Mobile:

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7.2 The task of the Monitor shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

7.3 The Monitor shall not be subject to instructions by the representatives of the parties and perform his functions neutrally and independently.

7.4 Both the parties accept that the Monitor has the right to access all the documents relating to the project/ procurement, including minutes of meetings.

7.5 As soon as the Monitor notices, or has reason to believe a violation of this Pact, he will so inform the Authority designated by HURL.

7.6 Notwithstanding any Confidentiality Agreement/ clause agreed between HURL and Bidder, the BIDDER accepts that the Monitor has the right to access, without restriction, to all Project documentation of HURL including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to this project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/ Subcontractor (s) with confidentiality.

7.7 HURL will provide to the Monitor sufficient information about all meetings among the parties related to the supply provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

7.8 The Monitor will submit a written report to the designated Authority of HURL within 8 to 10 weeks from the date of reference or intimation to him by HURL/ BIDDER and should the occasion arise, submit proposals for correcting problematic situations.

8.0 FACILITATION OF INVESTIGATION

In case of any allegation of violation of any provisions of these terms or payment of commission, HURL shall be entitled to examine all the project documents of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

9.0 LAW AND PLACE OF JURISDICTION

This Pact is subject to Indian Law. The place of performance and jurisdiction is the registered office of HURL.

10.0 OTHER LEGAL ACTIONS

The Actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

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11.0 VALIDITY

11.1 The validity of this Integrity Pact shall be from date the NIT is issued and extend upto two years from the date of last payment under the contract. In case BIDDER is not awarded Contract/Purchase Order, this Integrity Pact shall expire after twelve months from the date of issue of the NIT.

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

12.0 The parties hereby sign this Integrity Pact, through their authorized representative, for having accepted the conditions contained hereinabove.

HURL	**BIDDER**
( )	*( )*
Date:	*Date:*
Place:	*Place:*
Witness	Witness
1. _____	1. _____
2. _____	2. _____

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PART-I : COMMERCIAL

ANNEXURE - 1.18

PROFORMA FOR SOLVENCY CERTIFICATE

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PROFORMA FOR SOLVENCY CERTIFICATE

(on Bank's Letter Head)

REF NO: ……. DATE: …….....

To Whomsoever Concerned

This is to certify that to the best of our knowledge and information, M/s_____ (Bidders name with complete address), a customer of our Bank, is respectable, and is capable of executing orders to the extent of Rs. _____ (Rupees_____). M/s _____ have been our customer since _____ to date and has been granted the following limits, at present, against various facilities granted by the Bank:
……. ……..
……. ……...

This certificate is issued without any guarantee, risk or responsibility on behalf of the Bank or any of its officials.

This certificate is issued at the specific request of the customer.

Yours faithfully,

(Bank Official's signature & stamp)

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PART-I : COMMERCIAL

ANNEXURE - 1.19

FORMAT FOR EFT DETAILS

FORMAT FOR EFT DETAILS

I / WE hereby agree to receive the payment against our bills raised to M/s Hindustan Urvarak & Rasayan Ltd. directly in our bank account as per details given below through Electronic Fund Transfer Mechanism. Necessary details are given as below:

1	Name, Branch and address of Payee's bank	:	_____
2	Title of the account	:	_____
3	Account number	:	_____
4	Nature of the Account	:	_____
5	Branch MICR code number	:	_____
	[Enclose photocopy of cancelled cheque]	:	_____
6	Permanent Account Number	:	_____
	[PAN] of the Payee	:	_____
7	IFSC Code	:	_____

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

PART-I : COMMERCIAL

ATTACHMENT - 1.20

GENERAL GUIDELEINS FOR GOODS & SERVICE TAX (GST)

GENERAL GUIDELINES FOR GOODS & SERVICE TAX (GST)

1.0 GST (Goods & Service Tax)

1.1 Bidders are required to submit copy of the GST Registration Certificate while submitting the bids wherever **GST** is applicable.

1.2 Quoted prices should be inclusive of all taxes and duties, except **GST**. Please note that the responsibility of payment of **GST (CGST & SGST or IGST or UTGST)** lies with the Contractor/Supplier/Service Provider of Goods / Services only. Contractor/Supplier/Service Provider of Goods / Services (Service Provider) providing taxable service shall issue an Invoice/Bill, as the case may be as per prevailing rules/ regulation of GST. Further, returns and details required to be filled under GST laws & rules should be timely filed by Contractor/Supplier/Service Provider of Goods / Services (Service Provider) with requisite details.

1.3 Payments to Contractor/Supplier/Service Provider for claiming **GST** amount will be made provided the above formalities are fulfilled. Further, OWNER may seek copies of challan and certificate from Chartered Accountant for deposit of **GST** collected from Owner.

1.4 In case CBEC (Central Board of Excise and Customs)/ any equivalent government agency brings to the notice of OWNER that the Contractor/Supplier/Service Provider of Goods / Services has not remitted the amount towards **GST** collected from OWNER to the government exchequer, then, that Contractor/Supplier/Service Provider of Goods / Services shall be put under Holiday list of OWNER for period of six months.

1.5 In case of statutory variation in **GST,** other than due to change in turnover, payable on the contract value during contract period, the Contractor/Supplier/Service Provider of Goods / Services shall submit a copy of the 'Government Notification' to evidence the rate as applicable on the Bid due date and on the date of revision.

1.6 In case contract completion is delayed for the reasons not attributable to OWNER, then any increase in the rate of **GST beyond** the contractual delivery period shall be to Contractor/Supplier/Service Provider's account whereas any decrease in the rate **GST** shall be passed on to the Owner.

1.7 In case contract completion is delayed for the reasons attributable to OWNER then any increase in the rate of **GST beyond** the contractual delivery period shall be to OWNER's account whereas any decrease in the rate **GST** shall also be passed on to the Owner.

1.8 Claim for payment of Statutory variation of **GST**, should be raised within two [02] months from the date of issue of 'Government Notification' for payment of differential (in %) **GST**, otherwise claim in respect of above shall not be entertained for payment of arrears. The base date for the purpose of applying statutory variation shall be the Bid Due Date.

1.9 Where OWNER has the obligation to discharge **GST** liability under reverse charge mechanism and OWNER has paid or is /liable to pay **GST** to the Government on which interest or penalties becomes payable as per GST laws for any reason which is not attributable to OWNER or ITC with respect to such payments is not available to OWNER for any reason

which is not attributable to OWNER, then OWNER shall be entitled to deduct/ setoff / recover such amounts against any amounts paid or payable by OWNER to Contractor / Supplier.

1.10 Contractor shall ensure timely submission of invoice(s) as per rules/ regulations of **GST** with all required supporting document(s) within a period specified in Contracts/ LOA to enable OWNER to avail input tax credit. Further, returns and details required to be filled under **GST** laws & rules should be timely filed by supplier with requisite details.

If input tax credit with respect to **GST** is not available to OWNER for any reason attributable to Contractor/Supplier/Service Provider which is not attributable to OWNER, then OWNER shall not be obligated or liable to pay or reimburse **GST** charged in the invoice(s) and shall be entitled to / deduct/ setoff /recover the such **GST** thereupon together with all penalties and interest if any, against any amounts paid or payable by OWNER to Supplier of Goods / Services.

2.0 ANTI-PROFITEERING CLAUSE

As per Clause 171 of GST Act it is mandatory to pass on the benefit due to reduction in rate of tax or from input tax credit to the consumer (OWNER in this case) by way of commensurate reduction in prices. The Contractor/Supplier/Service Provider of Goods / Services may note the above and quote their prices accordingly.

PART-I : COMMERCIAL

ANNEXURE - 1.21

FORMAT FOR FINANCIAL CAPABILITY OF BIDDER

(On Chartered Accountant's Letter Head)

FORMAT FOR CHARTERED ACCOUNTANT CERTIFICATE FOR FINANCIAL CAPABILITY OF THE BIDDER

We have verified the Annual Accounts and other relevant records of M/s…… (Name of the bidder) and certify the following

A. ANNUAL TURNOVER OF LAST 3 YEARS:

Year	Amount (INR)
Year 1: 2017-18	
Year 2: 2016-17	
Year 3: 2015-16	

B. FINANCIAL DATA FOR LAST AUDITED FINANCIAL YEAR :

Description	FY Closing as on 31.03.2018
	Amount (INR)
Current Assets	
Current Liabilities	
Working Capital (Current Assets-Current liabilities)	
Net Worth (Paid up share capital and Free Reserves & Surplus)	

Name of Audit Firm:
Chartered Accountant
Date:

[Signature of Chartered Accountant]
Name:
Designation:
Seal:
Membership no.:

Instructions:

1. The financial year would be the same as one normally followed by the bidder for its Annual Report.
2. The bidder shall provide the audited annual financial statements as required for this Tender document. Failure to do so would result in the Proposal being considered as non responsive.
3. For the purpose of this Tender document, (i) Annual Turnover shall be "Sale value/ Operating Income" (ii) Working Capital shall be "Current Assets less Current liabilities" and (iii) Net Worth shall be "Paid up share capital and Free Reserves & Surplus"
4. **This certificate is to be submitted on the letter head of Chartered Accountant.**

PART-I : COMMERCIAL

ANNEXURE - 1.22

FORMAT FOR BIDDER NOT UNDER LIQUIDATION, COURT RECEIVERSHIP OR SIMILAR PROCEEDINGS

(Self Declaration on Bidder's Letter Head as per below performa)

DECLARATION

To ,

…….
…….
…….

NIT NO. : …….

SUBJECT : TENDER DOCUMENT FOR ……..
…….

Sir ,

We hereby declare that M/s …….. is not under liquidation, court receivership or similar proceedings as on date.

Signature

Name :
Designation :

Seal of the Bidder.

PART-I : COMMERCIAL

ANNEXURE - 1.23

FORMAT FOR PAST SAFETY RECORD

(Self Declaration on Bidder's Letter Head as per below performa)

DECLARATION

To,

…….
…….
…….

NIT NO. : …….

SUBJECT : TENDER DOCUMENT FOR ……
……...

Sir ,

We hereby declare that, we have taken up all safety measures during the past 5 years while executing the works awarded to me.

No deviation and casualty has been found during execution of the contract.

The above information is true and correct to the best of my knowledge and belief.

Signature

Name :

Designation :

Company Name :

Seal of the Bidder :

PART-I : COMMERCIAL

ANNEXURE - 1.24

FORMAT FOR PAST DAILY / WEEKLY / MONTHLY PROGRESS REPORT

CLIENT	**HINDUSTAN URAVARAK RASAYAN LIMITED (HURL)**
CONSULTANT	**PROJECTS & DEVELOPMENT INDIA LIMITED (PDIL)**
CONTRACTOR	
PROJECT DETAILS	
PROJECT LOCATION	
LOI Ref. NO.	
PROJECT ZERO DATE	
SCHEDULE COMPLETION DATE	

PROJECT STATUS AS OF ----------

ANNEXURE NO.	DESCRIPTION
ANNEXURE-1	OVERALL PROGRESS SUMMARY
ANNEXURE-2	ENGINEERING STATUS
ANNEXURE-3	PROCUREMENT STATUS
ANNEXURE-4	CONSTRUCTION PROGRESS STATUS

SAMPLE FORMAT

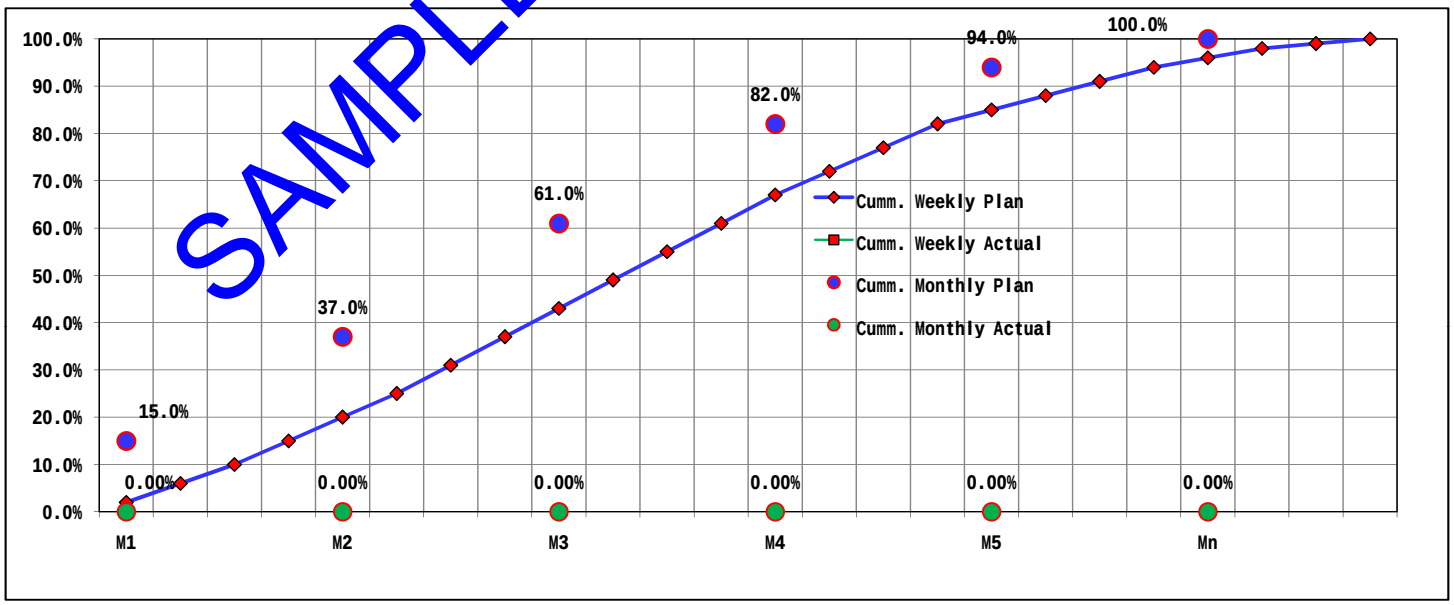
ANNEXURE-1

CLIENT	HINDUSTAN URAVARAK RASAYAN LIMITED (HURL)	STATUS AS OF:	
CONSULTANT	PROJECTS & DEVELOPMENT INDIA LIMITED (PDIL)		
CONTRACTOR			
PROJECT DETAILS:			
LOI Ref.			
PROJECT ZERO DATE			
SCHEDULE COMPLETION DATE			

DETAILED OVERALL PROGRESS REPORT

Sr No	Descrption		WTG	M_1				M_2				M_3				M_4				M_5				M_n			
				W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	Wn1	Wn2	Wn3	Wn
1	Engineering	Plan	10%																								
		Actual																									
2	Procurement	Plan	50%																								
		Actual																									
3	Construction	Plan	30%																								
		Actual																									
4	Commissioning (As per System / Stream wise)	Plan	10%																								
		Actual																									
5	TOTAL PROJECT PROGRESS %	Weekly Plan	100%	2.0%	4.0%	4.0%	5.0%	5.0%	5.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%	3.0%	2.0%	2.0%	1.0%	1.0%
		Weekly Actual																									
		Cumm. Weekly Plan	100%	2.0%	6.0%	10.0%	15.0%	20.0%	25.0%	32.0%	37.0%	43.0%	49.0%	55.0%	61.0%	67.0%	72.0%	77.0%	82.0%	85.0%	88.0%	91.0%	94.0%	96.0%	98.0%	99.0%	100.0%
		Cumm. Weekly Actual																									
		Cumm. Monthly Plan	100%	15.0%				37.0%				61.0%				82.0%				94.0%				100.0%			
		Cumm. Monthly Actual		0.00%				0.00%				0.00%				0.00%				0.00%				0.00%			

SAMPLE FORMAT



CLIENT HINDUSTAN URAVARAK RASAYAN LIMITED (HURL)
CONSULTANT PROJECTS & DEVELOPMENT INDIA LIMITED (PDIL)
CONTRACTOR
PROJECT DETAILS:
LOI Ref.
PROJECT ZERO DATE
SCHEDULE COMPLETION DATE

STATUS AS OF:

ANNEXURE NO. 2

ENGINEERING PROGRESS REPORT FOR .....

						1ST SUBMISSION				2ND SUBMISSION				3RD SUBMISSION				
ACTIVITY HEAD	S. no.	Descrption	Documents No	WTG (1)	Progress %	Schedule Date	Actual Date	Approval / Comments date	Approval Code	Schedule Date	Actual Date	Approval / Comments date	Approval Code	Schedule Date	Actual Date	Approval / Comments date	Approval Code	Remarks
ENGINEERING	1	Document 1		5.00%														
	2	Document 2		5.00%														
	3	Document 3		5.00%														
	4	Document 4		5.00%														
	5	Document 5		5.00%														
	6	Document 6		5.00%														
	7	Document 7		5.00%														
	8	Document 8		5.00%														
	9	Document 9		5.00%														
	10	Document 10		5.00%														
	11	Document 11		5.00%														
	12	Document 12		5.00%														
	13	Document 13		5.00%														
	14	Document 14		5.00%														
	15	Document 15		5.00%														
	16	Document 16		5.00%														
	17	Document 17		5.00%														
	18	Document 18		5.00%														
	19	Document 19		5.00%														
	20	Document 20		5.00%														
ENGINEERING PROGRESS %				100.00%	0.00%													

(1) Weightages to be assigned as per volume of work

SAMPLE FORMAT

CLIENT HINDUSTAN URAVARAK RASAYAN LIMITED (HURL)
CONSULTANT PROJECTS & DEVELOPMENT INDIA LIMITED (PDIL)
CONTRACTOR
PROJECT DETAILS:
LOI Ref.
PROJECT ZERO DATE
SCHEDULE COMPLETION DATE

STATUS AS OF:

ANNEXURE NO. 3

PROCUREMENT PROGRESS REPORT FOR .....

ACTIVITY HEAD	S. no.	DESCRPTION	ITEM NO / ENQUIRY NO	DELIVERY SCHEDULE	LOI NO. & Date	VENDOR NAME	MFG. LOCATION	WTG (2)	ACTUAL PROGRESS %	ORDERING 10%		INSPECTION 50%		DISPATCHED 80%		RECEIPT AT SITE 100%		REMARKS
										SCH	ACTUAL	SCH	ACTUAL	SCH	ACTUAL	SCH	ACTUAL	
PROCUREMENT	1	Item1																
PROCUREMENT	2	Item2																
PROCUREMENT	3	Item3																
PROCUREMENT	4	Item4																
PROCUREMENT	5	Item5																
PROCUREMENT	6	Item6																
PROCUREMENT	7	Item7																
PROCUREMENT	8	Item8																
PROCUREMENT	9	Item9																
PROCUREMENT	10	Item10																
PROCUREMENT	11	Item11																
PROCUREMENT	12	Item12																
PROCUREMENT	13	Item13																
PROCUREMENT	14	Item14																
PROCUREMENT	15	Item15																
PROCUREMENT	16	Item16																
PROCUREMENT	17	Item17																
PROCUREMENT	18	Item18																
PROCUREMENT	19	Item19																
PROCUREMENT	20	Item20																
PROCUREMENT PROGRESS %								**100%**										

(2) Weightages to be assigned as per Cost of Items

SAMPLE FORMAT

CLIENT HINDUSTAN URAVARAK RASAYAN LIMITED (HURL)
CONSULTANT PROJECTS & DEVELOPMENT INDIA LIMITED (PDIL)
CONTRACTOR
PROJECT DETAILS:
LOI Ref.
PROJECT ZERO DATE
SCHEDULE COMPLETION DATE

ANNEXURE NO. 4

PROGRESS DATE:
REPORT DATE:

SITE WEATHER :
HOLIDAY INFORMATION:

MANPOWER DEPLOYED
SKILLED :
UNSKILLED :
STAFF :
TOTAL MANOPOWER :

CONSTRUCTION DAILY PROGRESS REPORT FOR ..... AS OF DD-MM-YYYY.....

S. NO.	ACTIVITY	SOR. SR. NO.	DESCRPTION AS PER SOR	UNIT	SOR CUMM. QTY [A]	RATE	VALUE	WTG (3) [W%]	NAME OF SUB-CONTRACTOR (IF ANY)	Front Available	Progress Quantity				Balance qty.	Monthly Plan	Monthly Cumulative Achieved	Backlog	% Progress = [B] / [A] x [W%]	Remarks
											Upto Prev. day	Today plan	Today Executed	Cumulative [B]						
A	CIVIL WORK																			
B	MECHANICAL ERECTION WORK																			
C	ELECTRICAL WORK																			
D	INSTRUMENTATION WORK																			
E	ANY OTHER WORK																			
	TOTAL CONSTRUCTION PROGRESS							100.0%											0.0%	

(3) Weightages to be assigned as per Cost & Effort

SAMPLE FORMAT

PART-I : COMMERCIAL

ANNEXURE - 1.25

LIST OF APPROVED BANKS

FOR

SUBMISSION OF BANK GUARANTEE

SCHEDULED COMMERCIAL BANKS

A. SBI AND ASSOCIATES

1. State Bank of India
2. State Bank of Bikaner & Jaipur
3. State Bank of Hyderabad
4. State Bank of Mysore
5. State Bank of Patiala
6. State Bank of Travancore

B. NATIONALISED BANKS

1. Allahabad Bank
2. Andhra Bank
3. Bank of India
4. Bank of Maharashtra
5. Canara Bank
6. Central Bank of India
7. Corporation Bank
8. Dena Bank
9. Indian Bank
10. Indian Overseas Bank
11. Oriental Bank of Commerce
12. Punjab National Bank
13. Punjab & Sind Bank
14. Syndicate Bank
15. Union Bank of India
16. United Bank of India
17. UCO Bank
18. Vijaya Bank
19. Bank of Baroda
20. Bhartiya Mahila Bank

C. SCHEDULED PRIVATE BANKS (INDIAN BANKS)

1. Catholic Syrian Bank
2. City Union Bank
3. Dhanlaxmi Bank Ltd.
4. Federal Bank Ltd
5. Jammu & Kashmir Bank Ltd
6. Karnataka Bank Ltd
7. Karur Vysya Bank Ltd
8. Lakshmi Vilas Bank Ltd
9. Nainital Bank Ltd
10. Kotak Mahindra Bank
11. Ratnakar Bank Ltd
12. South Indian Bank Ltd
13. Tamilnad Mercantile Bank Ltd
14. ING Vysya Bank Ltd
15. Axis Bank Ltd.
16. IndusInd Bank Ltd
17. ICICI Bank
18. HDFC Bank Ltd.
19. DCB Bank Ltd
20. Yes Bank Ltd

D. SCHEDULED PRIVATE BANKS (FOREIGN BANKS)

1. Abu Dhabi Commercial Bank Ltd
2. Bank of America NA
3. Bank of Bahrain & Kuwait B.S.C.
4. Mashreq Bank p.s.c.
5. Bank of Nova Scotia
6. Crédit Agricole Corporate and Investment Bank
7. BNP Paribas
8. Barclays Bank
9. Citi Bank N.A.
10. Deutsche Bank A.G.
11. The HongKong Shangai Banking Corporation Ltd
12. HSBC Bank Oman S.A.O.G.
13. Societe Generale
14. Sonali Bank Ltd.
15. Standard Chartered Bank
16. J.P. Morgan Chase Bank, National Association
17. State Bank of Mauritus Ltd.
18. DBS Bank Ltd.
19. Bank of Ceylon
20. Bank Internasional Indonesia
21. A B Bank
22. Shinhan Bank.
23. CTBC Bank Co. Ltd.
24. Mizuho Bank Ltd
25. Krung Thai Bank Public Company Ltd.
26. Antwerp Diamond Bank N.V.
27. The Bank of Tokyo-Mitsubishi UFJ Limited.
28. Austalia & Newzealand Banking Group Limited
29. Sumitomo Mitsui Banking Corporation
30. American Express Banking Corporation
31. Common Wealth Bank of Australia
32. Credit Suisse A.G.
33. First Rand Bank Ltd.
34. Industrial & Commercial Bank of China Ltd.
35. JSC VTB Bank
36. National Australia Bank
37. Rabobank International
38. Sberbank
39. UBS AG
40. United Overseas Bank Ltd.
41. Westpac Banking Corporation
42. Woori Bank
43. The Royal Bank of Scotland N.V.
44. Doha Bank Qsc

E. OTHER PUBLIC SECTOR BANKS

1. IDBI Bank Ltd

PART-I : COMMERCIAL

ANNEXURE - 1.26

FORMAT FOR POWER OF ATTORNEY

POWER OF ATTORNEY
(to be submitted on the Non-Judicial stamp paper)

Tender er No.:
Description of work:
Name of Bidder:_____

"The undersigned _____ (Name of LEGAL PERSON, i.e. CEO/MD/ CHAIRMAN /C&MD/Company Secretary/Partners/Proprietor) is lawfully authorized to issue this POA* on behalf of the company M/s _____ (Name of bidder) whose registered address is _____ _____ and does hereby appoint Mr./Ms _____ (name of authorized person signing the bid document) _____ (Designation) of M/s _____ (Name of bidder) whose signature appears below to be the true and lawful attorney/(s) and authorize him/her to sign the bid, conduct negotiation, sign contracts and execute all the necessary matter related thereto, in the name and on behalf of the company in connection with the tender no. _____.

The signature of the authorized person/(s) herein constitutes unconditional obligations of M/s _____ (Name of bidder).

This Power of Attorney (POA) shall remain valid and in full force and effect before we withdraw it in writing (by fax, or mail or post). All the documents signed (within the period of validity of the Power of Attorney) by the authorized person herein shall not be invalid because of such withdrawal.

(*)

1. In case of a Limited Company, if the POA is issued by other than CEO/MD/ CHAIRMAN /C&MD/Company Secretary, then the POA must be accompanied by a "Board Resolution" of the bidder's company authorizing the "Legal Person" to issue POA.
2. For a Partnership Firm, the POA must be signed by all Partners and a copy of Partnership Deed of the Company must be enclosed with bid.
3. For a Proprietorship firm, if the bid is signed by any person other than the Proprietor, then legal person shall be the Proprietor of the firm.

SIGNATURE OF THE LEGAL PERSON

_____
(Name of person with Company seal)

SIGNATURE OF THE AUTHORIZED PERSON
(FOR SIGNING THE BID)

_____
(Signature)
Name of person: _____
E-mail id:

PART-II
TECHNICAL

TENDER DOCUMENT
FOR

BOUNDARY WALL, WATCH TOWER & SECURITY ROOM

FOR

AMMONIA-UREA FERTILIZER PLANT

AT

HURL BARAUNI

0	**01.12.18**	**01.12.18**	**ISSUED FOR TENDER**	**AP/RU**	**VP/RNS**	**UPT**
REV	REV DATE	EFF DATE	PURPOSE	PREPD	REVWD	APPD

INDEX

SECTION	DESCRIPTION	DOCUMENT NO.
1	SCOPE OF WORK	EM270-B/211-SW0201
2	TECHNICAL SPECIFICATION - CIVIL & STRUCTURAL WORKS	EM270-B/211-TS0201
3	PREAMBLE TO SCHEDULE OF RATES FOR CIVIL & STRUCTURAL WORKS	ES2521
4	SCHEDULE OF RATES FOR CIVIL & STRUCTURAL WORKS	EM270-B/211-SOR 0201
5	VENDOR LIST	EM270-B/211-VL 0201
6	HEALTH, SAFETY AND ENVIRONMENT (HSE) MANAGEMENT	

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SCOPE OF CIVIL & STRUCTURAL WORKS

FOR

BOUNDARY WALL , WATCH TOWER & SECURITY ROOM

FOR

AMMONIA-UREA FERTILIZER PLANT

AT

HURL BARAUNI

0	01.12.18	01.12.18	ISSUED FOR TENDER	AP/RU	VP/RNS	UPT
REV	**DATE**	**EFF.DATE**	**PURPOSE**	**PREPD**	**REVWD**	**APPD**

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S. No	DESCRIPTION	SHEET NUMBER
1.0	Introduction	3
2.0	Site Information	3
3.0	Scope of Works	3

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1.0 INTRODUCTION

Government of India has formed a joint venture company of M/s NTPC Ltd., M/s Coal India Limited (CIL),M/s Indian Oil Corporation & FCIL by name M/s Hindustan Urvarak & Rasayan Ltd. (HURL) hereinafter also referred to as "OWNER", for setting up brown field Ammonia Urea Fertilizer Complexes along with their associated offsite & utility facilities at existing fertilizer complex of HFCL, Barauni, in the state of Bihar.

2.0 SITE INFORMATION

The site for the proposed plant is located at Fertilizer Plant of HURL Barauni is well connected by road & rail.

3.0 SCOPE OF WORKS

- **BOUNDARY WALL**

The scope of work is to construct boundary wall. The scope shall consist of but not limited to the followings:-

I. Foundation

Type : RCC with tie beam at plinth level.

II. Wall :

a) Precast RCC panels for height up to 3 m.

b) Combination of Cast-in-situ & precast RCC walls for height beyond 3 m (wherever required).

III. Concertina coil at top

- **WATCH TOWER**

The scope of work is to construct Watch towers. The scope shall consist of but not limited to the followings:-

I. Watch tower

Type : RCC framed structure.

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- **SECURITY ROOM**

The scope of work is to construct security room (2 Nos.) .The scope shall consist of but not limited to the followings:-

I. Size : 10m x 5 m x 3.6 m ht(Approx)

II. Type : RCC framed.

III. Wall : Brick wall

IV. Washroom in security room.

- **GATE**

The scope of work is to construct M.S Gate (2 Nos.) . The scope shall consist of but not limited to the followings:-

I. Foundation : RCC

II. Size : 14m x 3.0 m ht(Approx)

III. Material : Steel tubes & hard drawn steel wire mesh

IV. Roller support at bottom.

- **Dismantling of existing boundary wall & Existing watch towers.**

A) CIVIL WORKS

The scope of civil works shall include the following main items or works and related works

I) Earth work concerning site grading, top soil removal, filling and/or mass excavation (if any), excavation for foundation .

II) Reinforced cement concrete works consisting of reinforced concrete , foundations and structures..

III) Precast wall.

IV) Concrete trenches for piping/cables etc.

V) Slab, Staircase.

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VI) Concrete paving.

VII) Drains.

VIII) Brick Works.

IX) Fire Walls.

X) Plastering, Whitewashing, Painting.

XI) Epoxy Coating of Concrete slab at different level.

XII) Other miscellaneous work.

B) STRUCTURAL WORKS

The scope of structural works shall include Providing, Erecting and preparation of fabrication drawings of structural steel works for:-

I) Providing & Erecting Structural Members.

II) Providing & Fixing grating planks for platforms.

III) Providing & Fixing chequered plates.

IV) Providing & Fixing Hand railings etc.

V) Providing & Fixing Anchor bolt.

VI) Providing & Fixing Rail Section.

VII) Other miscellaneous work.

The scope of work shall also include any other item of work required to complete the work in all respects as per the specifications, drawings and instructions of Engineer-in-charge whether specifically mentioned or not in the tender documents.

All dimensions mentioned above are indicative and it may vary at the time of final design/execution.

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TECHNICAL SPECIFICATION FOR CIVIL, STRUCTURAL AND OTHER ALLIED WORKS FOR BOUNDARY WALL , WATCH TOWER & SECURITY ROOM FOR AMMONIA-UREA FERTILIZER PLANT AT HURL, BARAUNI

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CONTENTS

SL. NO.	DESCRIPTION
1.	GENERAL
2.	REFERENCE CODES AND STANDARDS
3.	EARTH WORK
4.	PLAIN AND REINFORCED CONCRETE WORK
5.	STEEL REINFORCEMENT
6.	FORM WORK
7.	CEMENT CONCRETE BLOCK
8.	STRUCTURAL STEEL WORK
9.	PAINTING ON STRUCTURAL STEEL
10.	STEEL/ALUMINIUM DOORS,WINDOWS AND VENTILATORS
11.	ROOFING & CLADDING
12.	FLOORING AND PAVING
13.	PLASTERING
14.	EXTERIOR PAINTING
15.	GLAZING
16.	PROTECTIVE COATING AND LINING SYSTEM
17.	POLYURETHANE WATERPROOFING

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1.0 GENERAL

1.1 Specifications of materials and workmanship shall be as described in the Central Public Works Department Specifications Vol. I & II (latest) include latest amendments, unless otherwise specified. These CPWD Specifications shall be deemed to form part of this contract. The **CONTRACTOR** shall procure and maintain copies of the latest CPWD Specifications at site for reference.

1.2 These technical Specifications shall be supplementary to the specifications contained in the CPWD specifications, wherever at variance, these Particular Specifications shall take precedence over the provisions in the CPWD Specifications.

2.0 REFERENCE CODES & STANDARDS

2.1 Wherever reference of IS Specifications/ or IS Codes of Practice are made in the Specifications/ Schedule of Rates or Preambles, reference shall be to the latest edition of IS (Bureau of Indian Standards).

IS - 383	Coarse & Fine aggregates from natural sources for concrete.
IS - 427	Distemper, dry, colour as required.
IS - 432	Mild Steel & Medium tensile steel bars.
IS - 456	Code of Practice for Plain and Reinforced Concrete.
IS - 515	Natural and Manufactured aggregates for use in mass concrete
IS - 730	Hook bolts for corrugated sheet roofing
IS - 800	Code of Practice for General Construction in Steel
IS - 1079	Hot rolled carbon steel sheets & strips
IS - 1081	Code of practice for fixing and glazing of metal (steel & aluminium) doors, windows and ventilators.
IS - 1161	Steel tubes for structural purposes.

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IS - 1285	Wrought aluminium & aluminium alloy extruded round tube and hollow sections
IS - 1361	Steel windows for Industrial Buildings.
IS - 1363	Hexagon head bolts, screws & nuts of product grade C : Part - I Hexagon head bolts (size range M5 to M64)
IS - 1367	Technical supply conditions for threaded steel fasteners
IS - 1566	Hard - Drawn steel wire fabric for concrete reinforcement.
IS - 1786	High strength deformed steel bars & wires for concrete reinforcement.
IS - 2062	Steel for general structural purposes.
IS - 2116	Sand for masonry mortars.
IS - 2212	Code of practice for brickwork.
IS - 2386	Methods of test for aggregates.
IS - 2835	Flat transparent sheet glass
IS - 4021	Timber door, window and ventilator frames
IS - 4923	Hollow Steel sections for structural use.
IS - 4925	Concrete batching and mixing plant.
IS - 5410	Cement Paint
IS - 6477	Dimensions for wrought aluminium & aluminium alloys, extruded hollow sections.
IS - 7318	Fusion welding of steel.
IS - 10262	Recommended guidelines for concrete mix design.
IS - 14871	Products in Fibre Reinforced Cement – Long Corrugated or Asymmetrical Section Sheets and Fittings for Roofing and Cladding - Specification

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3.0 EARTHWORK

3.1 Excavation

3.1.1 Excavation shall be carried out in soil of any nature and consistency, in the presence of water or in the dry, met on the site to the lines, levels and contours shown on the detailed drawings and **CONTRACTOR** shall remove all excavated materials to soil heaps on site or transport for use in filling on the site or stack them for reuse as directed by the Engineer-in-Charge.

3.1.2 Surface dressing shall be carried out on the entire area occupied by the buildings including plinth protection as directed without any extra cost. The depths of excavation shown on the drawings are the depths after surface dressing.

3.1.3 The site around all buildings and structures to a width of 3 metres beyond the edge of plinth protection, ramps, steps, etc. shall be dressed and sloped away from the buildings.

3.1.4 Black cotton soil, and other expansive or unsuitable soils excavated shall not be used for filling in foundations, and plinths of buildings or in other structures including manholes, septic tanks etc. and shall be disposed off within the contract area marked on the drawings, as directed, levelled and neatly dressed.

3.1.5 In case of trenches exceeding 2 metres depth or where soil is soft or slushy, the sides of trenches shall be protected by timbering and shoring. The **CONTRACTOR** shall be responsible to take all necessary steps to prevent the sides of trenches from caving in or collapsing. The extent and type of timbering and shoring shall be as directed by the **Engineer-in-Charge.**

3.1.6 Where the excavation is to be carried out below the foundation level of adjacent structure, the precautions to be taken such as under pinning, shoring and strutting etc. shall be determined by **Engineer-in-Charge**. No excavation shall be done unless such precautionary measures are carried out as per directions of **Engineer-in-Charge.**

3.1.7 Specification for Earth work shall also apply to excavation in rock in general. The excavation in rock shall be done such that extra excavation beyond the required width and depth as shown in drawings is not made. If the excavation done in depth greater

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than required /ordered. The **CONTRACTOR** shall fill the extra excavation with concrete of mix 1:5:10 as the foundation concrete at his own cost.

3.1.8 **CONTRACTOR** shall make all necessary arrangements for dewatering / defiling as required to carry out proper excavation work by bailing or pumping out water, which may accumulate in the excavation pit from any cause/ source whatsoever. In addition to this, if required, contractor shall also install continuous dewatering pump-sets to lower the ground water table below the working level to make the area fit and safe for working.

3.1.9 **CONTRACTOR** shall provide suitable draining arrangements at his own cost to prevent surface water entering the foundation pits from any source.

3.1.10 The **CONTRACTOR** is forbidden to commence the construction of structures or to carry out concreting before **Engineer-in-Charge** has inspected, accepted and permitted the excavation bottom.

3.1.11 Excavation in disintegrated rock means rock or Boulders including brickbats which may be quarried or split with crow bars. This will also include laterite and hard conglomerate.

3.1.12 Excavations in hard rock - meant excavation made in hard rock to be done manually, or by blasting using only explosives and / or pneumatic hammers. In case of blasting, control blasting should be adopted depending on site conditions. For using explosives **CONTRACTOR** shall follow all provisions of Indian Explosives Act / Rules 1983, corrected / revised up to date.

3.1.13 In case of hard rock excavation to be carried out using explosives the, **CONTRACTOR** shall obtain the written approval in advance.

3.1.14 The measurements for excavations shall be restricted and limited to minimum excavation line as per drawing for payment purposes.

3.1.15 Adequate protective measures shall be taken to see that the excavation does not affect or damage adjoining structures. The **CONTRACTOR** shall take all measures required for ensuring stability of the excavation and safety of property and people in the vicinity. The **CONTRACTOR** shall erect and maintain during progress of work, temporary fences around dangerous excavations at no extra cost.

3.1.16 Excavation in ordinary soil means excavation in ordinary hard soil including stiff

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heavy clay, hard shale, or compact moorum, or any materials, which can be removed by the ordinary application of spades, shovels, picks and pick axes. This shall also include removal of isolated boulders each having a volume not more than 0.50m³.

3.1.17 Excavation in soft rock includes limestone, sandstone, laterite, hard conglomerates, etc. or other rock which can be quarried or split with crowbars or wedges. This shall also include excavation of tarred pavements, masonry work and rock boulders each having a volume of not more than 0.25m³.

3.1.18 Excavation in hard rock includes any rock bound in ledges or masses in its original form or cement concrete for which in the opinion of the Engineer-in-Charge, requires the use of compressed air, equipment, sledge hammer and blasting or non-explosive materials viz. Acconex manufactured by A.C.C. Ltd. Specifications and instructions for use shall be as per manufacturer.

3.1.19 In case of any difficulty concerning the interpretation of type of soil as mentioned above, the Engineer-in-Charge shall decide whether the excavation in a particular material is in ordinary soil, soft rock or hard rock and his decision in this matter shall be final and binding on the CONTRACTOR and without appeal.

3.2 **Filling**

3.2.1 Back filling of excavations in trenches, foundations and elsewhere shall consist of one of the following materials approved by **Engineer-in-Charge.**

Soil

Sand

Moorum

Hard-core

Stone/gravel

All back filling material shall be approved by the **Engineer-in-Charge.**

3.2.2 Soil filling - Soil material shall be free from rubbish, roots, hard lumps and any other foreign organic material. Filling shall be done in regular horizontal layers each not exceeding 20 cm. depth.

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3.2.3 Back filling around completed foundations, structures, trenches and in plinth shall be done to the lines and levels shown on the drawings.

3.2.4 Back filling around pipes in the trench shall be done after hydro testing is done.

3.2.5 Back filling around liquid retaining structures shall be done only after leakage testing is completed and approval of **Engineer-in-Charge** is obtained.

3.2.6 Sand used for filling under foundation concrete, around foundation and in plinth etc. shall be fine/ coarse, strong, clean, free from dust, organic and deleterious matter. The sand filling under foundation shall be rammed with Mech. compactor. Sand material shall be approved by **Engineer-in-Charge**.

3.2.7 Moorum for filling, where ordered, shall be obtained from approved pits and quarries which contain siliceous material and natural mixture of clay. Moorum shall not contain any admixture of ordinary earth. Size of moorum shall vary from dust to 10 mm.

3.2.8 Hard-core shall be of broken stone of 90 mm to 10 mm size suitable for providing a dense and compact sub grade. Stones shall be sound, free from flakes, dust and other impurities. Hard core filling shall be spread and levelled in layers, 15 cm thick, watered and well compacted with ramming or with mechanical / hand compacts including hand packing wherever required.

3.2.9 If any selected fill material is required to be borrowed, **CONTRACTOR** shall make arrangements and procure such material from outside borrow pits after obtaining all necessary permissions from statutory authorities. The material of source shall be subject to prior approval of **Engineer-in-Charge**. **CONTRACTOR** shall make necessary access roads to borrow areas and maintain the same, if such access roads do not exist, at no extra cost.

3.2.10 Plinth filling shall be carried out with approved material as described earlier, in layers not exceeding 150mm, watered and compacted with mechanical compaction machines. **Engineer-in-Charge** may however permit manual compaction by hand tampers in case he is satisfied that mechanical compaction is not possible. When filling reaches the finished level, the surface shall be flooded with water, unless otherwise directed, for at least 24 hours, allowed to dry and then the surface again compacted as specified above to avoid settlements at later stage. The finished level of the filling shall be trimmed to the level specified. Compacted surface shall have at

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least 95% of laboratory maximum dry density. A minimum of one test per 250 sq. meters of compacted area shall be done.

3.2.11 Whenever the fill material (earth or soil) is purchased, **CONTRACTOR** shall get the approval of Engineer-in-Charge. The CONTRACTOR shall arrange to determine the following properties of the soil (at outside NABL accredited laboratory without any cost to owner) and shall get the approval of **Engineer-in-Charge**.

1. Clay content : 15% to 20%
2. Laboratory dry density (MDD) : Not less than 1600 kg/m³
3. Plasticity Index : Not more than 20
4. Optimum Moisture Content (OMC) : 8% to 12%

3.2.12 The fill shall be compacted using a vibrating compactor of not less than 1.5 tonne. The fill shall be thoroughly compacted in layers as directed but not more than 200 mm thick. Adequate water shall be used for compaction and the density after compaction shall be not less than maximum dry density obtained in test of IS: 2720 Part-8. Compacted surface shall have at least 95% of laboratory maximum dry density. A minimum of one test per 250 sq. meters of compacted area shall be done for each layer.

3.2.13 The Gravel fill shall be non plastic granular material, well graded, strong, with maximum particle size of 50 mm, with not more than 15% passing a 4.75 mm IS sieve, free of all debris, vegetable matter and chemical impurities.

3.2.14 All clods, lumps etc. shall be broken before compaction.

3.2.15 In case of grading/banking successive layers of filling shall not be placed, until the layer below has been thoroughly compacted to satisfy the requirements laid down in this specification.

Prior to rolling, the moisture content of material shall be brought to within +/-2% of the optimum moisture content as described in IS 2720 Part-7. The moisture content shall preferably be on the wet side for potentially expansive soil.

After adjusting the moisture content as described, the layers shall be thoroughly compacted by means approved by Engineer-in-Charge, till the specified maximum

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laboratory dry density is obtained.

General, fill shall be placed in layers not exceeding 200 mm thickness and shall be thoroughly compacted to achieve a compaction of at least 95% of laboratory maximum dry density throughout the depth of filling. Final fill of 600 mm thickness shall consist of preferably natural material in, as dug condition except that stones larger than 100 mm shall be removed. It shall be placed in layers not exceeding 200 mm thickness and compacted to achieve of at least 95% of laboratory maximum dry density. Each layer shall be tested in field for density and accepted by Engineer-in-Charge, subject to achieving the required density before laying the next layer. A minimum of one test per 250 sq meters for each layer shall be conducted.

If the layer fails to meet the required density, it shall be reworked or the material shall be replaced and method of construction altered as directed by Engineer-in-Charge to obtain the required density.

The filling shall be finished in conformity with the alignment, levels, cross-section and dimensions as shown in the drawing.

Extra material shall be removed and disposed off as directed by the **Engineer-in-Charge.**

4.0 PLAIN AND REINFORCED CONCRETE WORK

This specifications deals with cement concrete, plain or reinforced, for general use, and covers the requirements for concrete materials, their storage, grading, mix design, strength & quality requirements, pouring at all levels, reinforcements, protection, curing, form work, finishing, painting, admixtures, inserts and other miscellaneous works.

4.1 Materials

4.1.1 Cement: Any of the following cements may be used as required.

IS - 8112	43 Grade ordinary Portland cement

4.1.2 Water: Water used for mixing and curing concrete and mortar shall conform to the requirements as laid down in IS: 456. Sea water shall not be used for concrete work.

4.1.3 Aggregates: Coarse and fine aggregates for cement concrete plain and reinforced shall conform to the requirements of IS 383 and / or IS 515. Before using, the aggregates

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shall be tested (at outside NABL accredited laboratory without any cost to owner) as per IS: 2386.

Coarse aggregate: Coarse aggregate for all cement concrete work shall be broken or crushed hard stone, black trap stone obtained from approved Quarries or gravel.

Sand: Fine aggregate for concrete work shall be coarse sand from approved sources. Grading of coarse sand shall be within grading zones I, II or III laid down in IS: 383, table 4. If required the aggregates (both fine and coarse) shall have to be thoroughly washed and graded as per direction of **Engineer-in-Charge**.

4.2 **Mixing**

All cement concrete plain or reinforced shall be machine mixed. Mixing by hand may be employed where quantity of concrete involved is small, with the specific prior permission of the **Engineer-in-Charge**. 10% extra cement shall be added in case of hand mixing as stipulated in IS-456.

For large and medium project sites the concrete shall be sourced from ready- mixed concrete plants or from on site or off site batching and mixing plants (IS 4926)

4.3 **Water Cement Ratio, Laying & Curing**

Water Cement Ratio, Laying & Curing shall be done as per IS:456.

4.4 **Grades of Concrete**

4.4.1 Grades lower than M 25 shall not be used in reinforced concrete.

4.4.2 A sieve analysis test of aggregates shall be carried out (at outside NABL accredited laboratory without any cost to owner) as and when the source of supply is changed without extra charge notwithstanding the mandatory test required to be carried out as per CPWD specification.

4.4.5 All tests in support of mix design shall be maintained as a part of records of the contract. Test cubes for mix design shall be prepared by the CONTRACTOR under his own arrangements and at his costs, but under the supervision of the **Engineer-in-Charge**.

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4.5 **Design Mix Concrete**

4.5.1 Design mix shall be allowed for major works where it is contemplated to be used by installing weigh batch mixing plant as per IS 4925. At the time of tendering, the CONTRACTOR, after taking into account the type of aggregates, plant and method of laying he intends to use, shall allow in his tender for the design mix i.e., aggregate/cement and water/cement ratios which he considers will achieve the strength requirements specified, and workability for concrete to be properly finished.

4.5.2 Before commencement of concreting, **CONTRACTOR** shall carry out preliminary tests (at outside NABL accredited laboratory without any cost to owner) for design mix on trial mixes proposed by him in design of mix to satisfy the **Engineer-in-Charge** that the characteristic strength is obtained. In this regard, CONTRACTOR may consult govt. approved/reputed institute to get design mix done as per IS 10262 at his own cost. The concrete mix to be actually used shall be approved by the **Engineer-in-Charge**.

4.5.3 Notwithstanding the above, the following shall be the maximum combined weight of coarse and fine aggregate per 50 kg of cement.

Grade of Concrete		Maximum weight of fine & coarse aggregates together per 50 kg of cement (for nominal mix only)
1.	M - 10	480 kg
2.	M - 15	350 kg
3.	M - 20	250 kg

4.5.4 The workability of concrete produced shall be adequate, so that the concrete can be properly placed and compacted. The slump shall be as per IS 456.

4.6 **Testing of Concrete**

4.6.1 Testing of concrete, sampling and acceptance criteria shall be in accordance with IS 456.

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4.7 **Proportioning**

Mixes of cement concrete shall be as ordered. Where the concrete is specified by grade, it shall be prepared by mixing cement, sand and coarse aggregate by weight as per mix design. In case the concrete is specified as volumetric mix, then dry volume batching shall be done, making proper allowances for dampness in aggregates and bulking in sand. Equivalent volume batching for concrete specified by grade may however be allowed by the **Engineer-in-Charge** at his discretion.

4.8 **Pre Cast Concrete**

The specifications for pre cast concrete will be similar as for the cast in situ concrete. All pre cast work shall be carried out in a yard made for the purpose. This yard shall be dry, properly levelled and having a hard and even surface. If the ground is to be used as a soft former of the units, shall be paved with concrete or masonry and provided with a layer of plaster (1:2 proportion) with smooth neat cement finish or a layer of MS sheeting. The casting shall be over suitable vibrating tables or by using form vibrators as per directions of **Engineer-in-Charge**.

The yard, lifting equipment, curing tank, finished material storage space etc. shall be designed such that the units are not lifted from the mould before 7 (seven) days of curing and can be removed for erection after 28 (Twenty Eight) days of curing. The moulds shall preferably be of steel or of timber lined with G.I .sheet metal. The yard shall preferably be fenced.

Lifting hooks, wherever necessary or as directed by **Engineer-in-Charge** shall be embedded in correct position of the units to facilitate erection, even though they may not be shown on the drgs. and shall be burnt off and finished after erection.

Pre cast concrete units, when ready shall be transported to site by suitable means approved by **Engineer-in-Charge**. Care shall be taken to ensure that no damage occurs during transportation. All adjustments, levelling and plumbing shall be done as per the instructions of the **Engineer-in-Charge**. The CONTRACTOR shall render all help with instruments, materials and staff to the **Engineer-in-Charge** for checking the proper erection of the pre cast units.

After erection and alignment the joints shall be filled with grout or concrete as directed by **Engineer-in-Charge**. If shuttering has to be used for supporting the pre cast unit

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they shall not be removed until the joints has attained sufficient strength and in no case before 14 (fourteen) days. The joint between pre cast roof planks shall be pointed with 1:2 (1 cement : 2 sand) mortar.

5.0 STEEL REINFORCEMENT

5.1 Steel reinforcement shall comprise:

Mild steel bars conforming to IS : 432 Part-I.

Cold twisted bars conforming to IS: 1786

CRS bars

TMT bars

Hard drawn steel wire fabric conforming to IS: 1566

5.2 All joints in reinforcement shall be lapped adequately to develop the full strength of the reinforcement as per provision of IS: 456 or as per instruction of **Engineer-in-Charge**.

6.0 FORM WORK

6.1 The shuttering or form work shall conform to the shape, lines and dimensions as shown on the drawings and be so constructed as to remain sufficiently rigid during placing and compacting of the concrete and shall be sufficiently tight to prevent loss of liquid from the concrete. The surface that becomes exposed on the removal of forms shall be examined by **Engineer-in-Charge** or his authorized representative before any defects are made good. Work that has sagged or bulged out, or contains honey combing, shall be rejected. All shuttering shall be plywood or steel shuttering.

6.2 The **CONTRACTOR** shall be responsible for sufficiency and adequacy of all form work. Centering and form work shall be designed & detailed in accordance with IS 14687 and approved by the **Engineer-in-Charge**, before placing of reinforcement and concreting.

6.3 **Stripping Time**

Forms shall not be struck until the concrete has reached strength at least twice the stress to which the concrete may be subjected at the time of removal of form work. The strength referred to shall be that of concrete using the same cement and aggregates, with the same proportions and cured under conditions of temperature and moisture

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similar to those existing on the work. Where possible, the form work shall be left longer as it would assist the curing.

Note 1: In normal circumstances and where ordinary Portland Cement is used, forms may generally be removed after the expiry of the following periods:

1.	Walls, columns and vertical faces of all structural members	24 to 48 hours as may be decided by the **Engineer-in-Charge**
2.	Slabs (props left under)	3 days
3.	Beam soffits (Props left under)	7 days
4.	Removal of props under slabs 1. Spanning up to 4.5 m 2. Spanning over 4.5 m	 7 days 14 days
5.	Removal of props under beams & arches: 1. Spanning up to 6 m 2. Spanning over 6m	 14 days 21 days

For other types of cements, the stripling time recommended for ordinary Portland Cement may be suitably modified.

Note 2: The number of props left under, their sizes and disposition shall be such as to be able to safely carry the full dead load of the slab, beam or arch as the case may be together with any live load likely to occur during curing or further construction.

7.0 CEMENT CONCRETE BLOCK

Cement concrete block shall be machined made in the proportion of such that mix shall not be leaner than one cement to twelve combined aggregates (by volume) but having minimum strength of 7.5 MPa. Combined aggregate shall be graded as near as possible to IS: 383. The fineness modules of combined aggregate shall be between 3.6 and 4. The concrete block shall be properly cured as per IS-456. The surface of conc. block shall have even face without any honeycomb and free from cracks.

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7.1 **Mortar**

Cement and water shall confirm to the requirements laid down for cement concrete work.

7.1.1 Sand for concrete block masonry mortars shall be coarse sand generally conforming to IS: 2116. Maximum quantities of clay, fine dust, shall not be more than 5% by weight. Organic impurities shall not exceed the limits laid down in IS: 2116.

7.1.2 Mix of mortar for building concrete block shall be as specified in the item of work.

7.1.3 Mixing of the mortar shall be done in a mechanical mixer. When quantity involved is small hand mixing may be permitted by **Engineer-in-Charge**. Any mortar remaining unused for more than 30 minutes after mixing shall be rejected.

7.2 **Concrete Block Masonry**

The thickness of joints shall be 10 mm +- 3mm. Thickness of joints shall be kept uniform. In case of foundation and manholes etc. joints up to 15 mm may be accepted.

7.3 **Half Concrete Block**

All courses shall be laid with stretchers. Reinforcement comprising 2 nos. 6 mm dia MS bars shall be provided over the top of the first course and thereafter at every fourth course.

7.4 **Fixtures**

All iron fixtures, pipes spouts, hold fasts of doors and windows which are required to be built into the wall shall be embedded in cement concrete blocks 1:2:4 mix (1 cement :2 coarse sand :4 graded stone aggregate. 20 mm nominal size) of size indicated in the item.

7.5 **Curing**

Concrete block masonry shall be protected from rain by suitable covering when mortar is green. Masonry work shall be kept constantly moist on all faces for a minimum period of seven days.

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8.0 STRUCTURAL STEEL WORK

This specification covers the technical requirements for the preparation of shop drawings, supply, fabrication, protective coating, painting and erection of all structural steel rolled sections, built up sections, plates and miscellaneous steel required for the completion of the work.

Steel

All structural steel used in construction within the purview of this contract shall, comply with one of the following Bureau of Indian Standard Specifications, whichever, is appropriate or as specified.

IS – 2062 Hot rolled sections and plates

IS – 1079 Cold formed light gauge sections

IS – 1161 Tubular sections

IS – 4923 Hollow sections (rectangular or square)

Fabrication

Fabrication of steel structure shall be carried out in conformity with the best modern practices and with due regard to speed with economy in fabrication and erection and shall conform to IS-800. All members shall be so fabricated as to assemble the members accurately on site and erect them in correct positions. Before dispatch to site the components shall be assembled at shop and any defect found rectified. All members shall be free from kink, twist, buckle, bend, open joints etc. and shall be rectified before erecting in position. Failure in this respect will subject the defective members to rejection.

Fabrication Drawings:

Development of Fabrication drawings shall be in contractor's scope. Connections, splices and other details shall be suitably designed based on good Engineering practice.

Electrodes:

Electrodes used for welding shall comply with IS-814 or IS - 815.

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8.1 **MS Black/High Strength Bolts and Nuts**

M.S.Black or high strength bolts, nuts and washers etc. shall be as per IS-800, IS-1363 and IS-1367. Manufacturer's test certificate shall be made available to the **Engineer-in-Charge**. For bolted joints, shanks and threaded bolts are to be used to ensure that threaded length do not encroach within the thickness of connected members of dimension beyond the following limit:-

1. 1.5 mm for connected members of thickness below 12 mm and
2. 2.5 mm for connected member of thickness 12 mm and above and that adequate shearing and bearing values required as per design are achieved.

Every portion work shall have its erection mark or numbers stencilled on the member for guidance in erection and bear all necessary marks of erections as directed by the Owner / Consultant.

8.2 No part of the work is to be oiled, painted (except contact surfaces) packed, bundled, crated or dispatched until it has been finally inspected and approved by the Owner / Consultant or his authorized representative. The whole steel work before being dispatched from the Contractor's shop shall be dry and after being thoroughly cleaned from dust, mills scale, rust etc., and shall be given two coats of primer and one coat of final paint as per painting specification attached in this enquiry. Unless otherwise specified, all surfaces inaccessible after welding shall be given two coats of primer and two coats of paints as per painting specification attached in this enquiry.

8.3 The Owner / Consultant or his authorized representative shall have free access at all reasonable time to all places where the work is being carried out, and shall be provided by the Contractor at his own expenses all necessary facilities for inspection during fabrication and erection. The Owner / Consultant or his authorized representative shall be at liberty to reject the work in whole or in part if the workmanship or materials do not conform to the terms of the specifications mentioned herein. The Contractor shall remove, replace or alter any part of the work as ordered by the Owner / Consultant or his authorized representative.

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9.0 PAINTING ON STRUCTURAL STEEL

The following specification shall be used for painting of structural steel work.

9.1 Scope

This specification covers the technical requirements for shop and site application of paint and protective coatings and includes; the surface preparation, priming, application, testing and quality assurance for protective coatings of structural steelwork, plate work, handrails and associated metal surfaces, which will be exposed to atmospheric for industrial plants.

9.2 Definitions

C.S	-	Carbon steel and low chrome (1-1/4 Cr through 9 Cr) alloys
S.S	-	Stainless steel, such as 304,316, 321, 347,
Non-ferrous	-	copper, aluminium and their alloys.
High Alloy	-	Monel, Inconel, Incoloy, Alloy 20, Hastelloy, etc.
DF	-	Dry Film thickness, the thickness of the dried or curved paint or coating film.

9.3 Safety Regulations

Protective coatings and their application shall comply with all national, state, and local codes and regulations on surface preparation, coating application, storage, handling, safety, and environmental recommendations.

Sand or other materials producing silica dust shall NOT be used for any open-air blasting operations.

9.4 Material Safety Data Sheets

The latest issue of the coating manufacturer's product datasheet, application instructions, and material safety data Sheets shall be available prior to starting the work and shall be complied with during all preparation and painting / coating operations.

9.5 Materials

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All paints and paint materials shall be obtained from the company's approved manufacturer's list. All materials shall be supplied in the manufacturer's containers, durably and legibly marked as follows.

Specification number

Colour reference number

Method of application

Batch number

Date of Manufacture

Shelf life expiry date

Manufacturer's name or recognised trade mark.

9.6 CODE AND STANDARDS:

Without prejudice to the provision of Clause 1.1 above and the detailed specifications of the contract, the following codes & standards shall be followed. Wherever reference to any code is made, it shall correspond to the latest edition of the code.

9.7 Indian Standards:

IS-5: 1994 Colors for ready mixed paints and enamels.

IS-2379: 1990 Color codes for identification of pipe lines.

IS-2629: 1985 Recommended practice for hot-dip galvanizing on iron and steel.

IS-2633: 1986 Methods for testing uniformity of coating of zinc-coated articles.

IS-8629: 1977 Code of practice for protection of iron and steel structures from atmospheric corrosion.

IS: 110 Specification for Ready Mixed Paint, Brushing, Grey Filler, for Enamels, for Over Primers

IS: 101 Methods of test for ready mixed paints & enamels.

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9.8 Other Standards:

9.8.1 Swedish Standard: SIS-05 5900-1967 / ISO-8501-1-1988

(Surface preparations standards for Painting Steel Surface).

This standard contains photographs of the various standards on four different degrees of rusted steel and as such is preferable for inspection purpose by the Engineer-in-charge.

9.8.2 DIN: 53151 Standards for Adhesion test.

9.9 The paint manufacturer's, instructions shall be followed as far as practicable at all times. Particular attention shall be paid to the following:

a. Instructions for storage to avoid exposure as well as extremes of temperature.

b. Surface preparation prior to painting.

c. Mixing and thinning.

d. Application of paints and the recommended limit on time intervals between coats.

9.10 Surface Preparation

9.10.1 Safety

All work in adjacent areas, which may negatively affect the quality of blast cleaning, and/or impose safety hazards, must be completed or stopped before the blasting operation starts.

9.10.2 Pre-Cleaning

Prior to surface preparation all weld spatter shall be removed from the surface, all sharp edges ground down and all surfaces cleaned free of contaminants including chalked paint, dust, grease, oil, chemicals and salt. All shop primed surfaces shall be water washed by means of suitable solvent, by steam cleaning, with an alkaline cleaning agent if necessary or by high-pressure water, to remove contaminants prior to top-coating.

9.10.3 Surface decontamination

Surface decontamination shall be performed prior to paint application when uncoated surface is exposed to a corrosive environment or existing paint work is to be repaired.

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Existing coatings shall be removed by abrasive blast cleaning, and then high pressure potable water shall be used to clean steel surfaces. Prior to application of coatings, the surface shall be chemically checked for the presence of contaminants. A surface contamination analysis test kit shall be used to measure the levels of chlorides, iron salts and pH in accordance with the kit manufacturer's recommendations.

Swabs taken from the steel surface, using cotton wool test swabs soaked in distilled water shall not be less than one swab for every 25m^2 of surface area to be painted.

Maximum allowable contaminant levels and pH range is as follows:

Sodium chloride, less than 50 microgram / cm^2;

Soluble iron salts, less than 7 microgram / cm^2; and

pH between 6 – 8

If the results of the contamination test fall outside the acceptable limits, then the wash water process shall be repeated over the entire surface to be painted, until the contaminant test is within the specified levels.

9.10.4 Abrasive blasting

All C.S materials shall be abrasive blast cleaned in accordance with relevant IS Codes. To reduce the possibility of contaminating S.S., blasting is not usually specified. However, for coatings which require a blast-cleaned surface for proper adhesion, S.S. may be blast cleaned using clean aluminium oxide or garnet abrasives (Free from any chloride or Iron / Steel contamination).When hand or power tool cleaning is required on S.S., only S.S. wire-brushes (including 410 S.S.) which have not been previously used on C.S. surfaces may be used.

The surface profile of steel surfaces after blasting shall be of preparation grade Sa 2-1/2 of Swedish Standards SIS-05-5900 (Latest Revision) or better according to ISO 8501-1 and shall be measured using the replica tape method or the comparator method.

The roughness (profile) of blast-cleaned surfaces shall be Medium (G) according to ISO 8503-2: 1988 (appendix 1) unless otherwise specified. Medium defines a surface profile with a maximum peak-to-valley height of 60-100 microns, and G indicates that the

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surface profile is obtained by grit blasting. For the evaluation of surface roughness Comparator G shall be used.

Abrasive blast cleaning shall NOT be performed when the ambient or the substrate temperatures are less than 3 Degree Celsius above the dew point temperature. The relative humidity should preferably be below 50% during cold weather and shall never be higher than 60% in any case.

Abrasive blast cleaning shall be performed with a clean, sharp grade of abrasive. Grain size shall be suitable for producing the specified roughness. Abrasives shall be free from oil, grease, moisture and salts, and shall contain no more than 50ppm chloride. The use of silica sand, copper slag and other potentially silica containing materials shall not be allowed.

The blasting compressor shall be capable of maintaining a minimum air pressure of 7 kPa at the nozzle to obtain the acceptable surface cleanliness and profile.

The blast cleaning air compressor shall be equipped with adequately sized and properly maintained oil and water separators. The air supply shall be checked to ensure no oil and water contamination at the beginning of each work shift.

Blast cleaning abrasive shall be stored in a clean, dry environment at all times. Recycling of used abrasive is prohibited.

After blast cleaning, the surfaces shall be cleaned by washing with clean water (Pressure 7kg/cm^2 using suitable nozzles. During washing broom corn brushes shall be used to remove foreign matter.

Assessment of the blast cleaned surfaces shall be carried out in accordance with reference code.

Blast cleaned surfaces which show evidence of rust bloom or that have been left uncoated overnight shall be re-cleaned to the specified degree of cleanliness prior to coating.

All grit and dust shall be removed after blasting and before coating application. Removal shall be by a combination of blowing clean with compressed air, followed by a thorough vacuum cleaning with an industrial grade, heavy duty vacuum cleaner.

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All cleaned surfaces shall have protection from atmospheric corrosion as per IS8629:1977

9.11 **Painting system to be used is indicated below:**

Epoxy Painting:

9.11.1 All the surfaces must be abrasive blasted and 1 coat of primer, 2 coats of intermediate and 1 coat of finish paint applied in the fabrication shop before the same are shifted to site for erection. All the members must be suitably match marked for facilitating proper assembly.

After erection is over all surfaces shall be washed up as follows:

Washing with clean water (pressure 7 kg/cm^2) using suitable nozzles. During washing broom corn brushes shall be used to remove foreign matters.

Solvent washing if required to remove traces of oil grease etc.

After washing the surface as indicated above, the surfaces shall be suitably touched up to the extent required so that all the damages to the premiered surfaces caused during erection are done up.

a) The surfaces affected by welding and / or gas cutting during erection shall also be suitably touched up. Before touch up is taken up surfaces shall be prepared by mechanical means such as grinding, power brushing etc. to achieve surface finish to ST-3.

b) After touch up work is over as indicated above, all the surfaces shall be given one coat of finish paint to the required specification.

9.11.2 The following points must be observed for painting work:

1. Primer and paint shall be compatible to each other and should be from the same manufacturer.
2. The recommendation of the paint manufacturer regarding mixing, matching and application must be followed meticulously.
3. Technical representative of paint manufacturer should be available at site as and when required by **Engineer-in-Charge** for their expert advice as well as to ensure that the painting work is executed as per the instruction of paint manufactures.

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c) Paints and primers shall be supplied at site in original container with factory seal otherwise such paints and primers shall not be allowed to be used. Mode of application i.e. by spray, brush or roller shall be strictly as per recommendation of paint manufacturer.

d) Painting materials must be used before the expiry date indicated on the containers.

e) Number of coats and DFT per coat must be strictly followed as indicated above. If the desired DFT is not achieved for primer, intermediate and finish paints in two coats (each), **CONTRACTOR** shall be required to apply extra coat (s) to achieve the desired DFT without any extra cost to **Engineer-in-Charge**.

f) Color shade for each coat of primer and finish paint must be different to identify the coats without any ambiguity.

g) Shade for the final finish coat shall be decided by **Engineer-in-Charge** at site.

h) All painting materials must be accompanied by manufacturers test certificates. However, Engineer-in-Charge has any doubt regarding quality of materials, he shall have the right to direct CONTRACTOR to get the doubtful material tested or and provided (by CONTRACTOR) testing agencies for which no extra payment shall be made to the CONTRACTOR and the charges shall deemed to be covered in the unit rates quoted for fabrication and erection of structural work.

i) DFT for paint shall be measured at least 20 points and mean DFT shall not vary by more than 10% than specified in DFT.

j) Reliable and calibrated Instrument for measurement of DFT shall be arranged and provided by **CONTRACTOR** at his cost.

k) Thickness of each coat shall also be checked regularly to ensure uniformity in DFT.

9.11.3 Abrasive blasting and painting works, being a specialized job must be carried out through the approved agencies only.

9.11.4 PAINTING ON STEEL STRUCTURES

SL.NO	DESCRIPTION	GENERIC COATING SYSTEM

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1.	**SURFACE PREPARATION**	Blast clean to SA 2.5
2.	**PRIMER**	One coat of ethyl silicate zinc rich with solvent. Thickness 75 micron per coat
3.	**INTERMEDIATE**	Two coat of two pack high build aliphatic amine cured epoxy coating Thickness 100 micron per coat.
4.	**FINISH COAT**	One coat of two pack amine cured epoxy / Acrylic aliphatic polyurethane. Thickness 50 micron per coat
5.	**Total DFT**	325 Micron

10.0 STEEL / ALUMINIUM DOORS, WINDOWS AND VENTILATORS

10.1 The Steel doors, windows and ventilators shall be of the size and type as per IS-1361 and IS-1038. Fixing and glazing shall be done as per IS-1081 and as per manufacturer's instructions. The putty of approved make such as special gold size or equivalent conforming to IS-419 shall be used.

10.2 Aluminium doors, windows and ventilators shall be manufactured from wrought aluminium and aluminium alloy extruded round tube and / or hollow rectangular / square sections conforming to IS: 1285 & IS : 6477 or equivalent as approved by **Engineer-in-Charge**.

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11.0 ROOFING & CLADDING

For roofing & cladding Non-asbestos high impact Polypropylene reinforced cement 6mm thick corrugated sheets (as per IS:14871) roofing up to any pitch and fixing with polymer coated J or L hooks, bolts and nuts 8mm dia. G.I. plain and bitumen washers or with self drilling fastener and EPDM washer.

12.0 FLOORING AND PAVING

12.1 Sub Base of floor

12.1.1 The area to be paved shall be divided into suitable panels. Form work shall be provided. The boarding / battens shall be fixed in position with their toe at proper level, giving slope where required. Alternatively base concrete may be deposited in the whole area at a stretch.

12.1.2 Before placing the base concrete the sub-base shall be properly wetted and rammed. The concrete of the specified mix shall then be deposited between the forms where provided, thoroughly tamped and the surface finished level with the top edge of the forms. The surface of base concrete shall be spreader uniformly. The surface shall be finished rough to provide adequate bond for the topping. Two or three hours after concrete has been laid the surface shall be brushed with wire brush to remove any scum or Latinate and swept clean so that coarse aggregate is exposed.

12.2 Cement Concrete Floor Finishes

12.2.1 The surface of base concrete shall be thoroughly cleaned by scrubbing with coir or steel wire brush. Before laying the toping, the surface shall be soaked with water at least for 12 hours and surplus water mopped up immediately before the toping is laid.

12.2.2 The forms shall be fixed over the base concrete dividing into suitable panels. Where glass dividing strips are provided, thickness of glass dividing strips shall be 4 or as indicated. Before placing the concrete toping, neat cement slurry at the rate of 2 kg/sq.m shall be then thoroughly brushed into the base concrete just ahead of the finish. The topping shall then be laid, thoroughly compacted by using screed board/plate vibrator. The surface floated with a wooden float to a fair and even surface shall be left for some time till moisture disappears from it. Junctions with skirting / dado or wall surfaces shall

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be rounded off using cement mortar 1:2 curing shall be carried out for a minimum of 7 days.

13.0 PLASTERING

13.1 Sand for plastering shall be 50% fine sand and 50% coarse sand from approved sources.

13.2 Preparation of surface shall be done as per CPWD specifications.

13.3 Cement mortar shall be of the mix as indicated in the items and shall be mixed as specified in the CPWD specifications.

13.4 Joints in walls etc. shall be raked to a depth of 12 mm, brushed clean with wire brushes dusted and thoroughly washed before starting the plaster work.

13.5 The surface shall be thoroughly washed with water cleaned and kept wet to saturation point before plastering is commenced.

13.6 Cement mortar as indicated, shall be firmly applied to the masonry walls in a uniform layer to the thickness specified and will be pressed into the joints. On concrete surfaces rendering shall be dashed to the roughened surface to ensure adequate bond. The surface shall be finished even and smooth. Hectoring wherever required shall be done as per directions of **Engineer-in-Charge.** Nothing extra shall be paid on this account.

13.7 All plaster work shall be cured for at least 7 days.

13.8 Integral water proofing compound shall be mixed with cement in the proportion recommended by the manufacturer. Care shall be taken to ensure that the water proofing material gets well and integrally mixed with cement. All other operations are the same as for general plaster work.

13.9 For sand face plaster undercoat of cement plaster 1:4 (1 cement : 4 sand) of thickness not less than 12 mm shall be applied similar to one coat plaster work. Before the under coat hardens the surface shall be scared to provide for the top coat. The top coat also of cement mortar 1:4 shall be applied to a thickness not less than 8 mm and brought to an even surface with a wooden float. The surface shall then be tapped gently with a wooden float lined with cork to retain a coarse surface texture, care being taken that the tapping is even and uniform.

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14.0 EXTERIOR PAINTING

14.1 Exterior painting shall be Acrylic smooth exterior.

14.2 Where shown on drawings for external surfaces of sand faced plaster, or any other surface, two coats of cement paint shall be applied of tint and shade as approved by the **Engineer-in-Charge**.

14.3 The surfaces shall be prepared as specified for white washing. Before applying cement paint the surface shall be thoroughly wetted to control surface suction. The surface shall be moist but not dripping wet, when the paint is applied. Not less than 24 hours shall be allowed between the two coats. In hot weather the first coat shall be slightly moistened before applying the second coat.

14.4 On external plastered surfaces (one coat primer + minimum 3 coat of paints), sand faced or plain plastered and concrete surfaces, apex weather proof paint shall be vigorously scrubbed on to work the paint into the voids and provide a continuous paint film free from pin holes and other openings

15.0 GLAZING

15.1 Sheet glass glazing of doors, windows etc. shall be of selected quality glass conforming to IS: 2835. Toughened splinter proof industrial safety glass shall confirm to IS: 2553. No cracked chipped or disfigured glass shall be accepted Glass shall be in one piece for each pan.

15.2 Glazing shall be fixed with timber or steel / aluminium beading as called for. Glass shall be back puttied and fixed with beading for a water tight and rattle free installation. Sizes of timber/ steel / aluminium beading shall be as directed.

16. PROTECTIVE COATING AND LINING SYSTEM

16.1 EPOXY COATING

Characteristics of coated surfaces (after application)

- Compressive strength : min. 90 N/mm2

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- Tensile strength : min. 10 N/mm2
- Abrasion resistance : as per Amsler 1.5 mm after 3000 revol.
- Bonding (joining) factor : 1
- Adhesion with concrete : min. 2.5 N/mm2
- Elongation : 15%

APPLICATION:

A) ON FLOOR

SL. NO	DESCRIPTION
1.	Surface preparation- in this case concrete columns, beams, sofitt slabs, floors & plastered brick masonry walls (for receiving IMPREGNATION, BOND COATS, COATINGS etc) with hand wire brushes or rotary wire brushes etc and removing all the dust , dirt etc complete.
2.	Impregnation with monomer (5 cps viscosity) to be applied by brush with a consumption of minimum 0.25 kg/m2
3.	Providing and applying structural grade Epoxy Bonding agent, (with bond strength of 3 N/mm2) over concrete prior to screed concrete. Bonding agent to be used as per application procedure of manufacturer.
4.	Self levelling cemetious screed avg. 25mm thick, using proportion 1:1:0.5 cement: sand : 8 mm down aggregates (by weight) with addition of suitable free flow and performance improving additives namely micro silica, shrinkage compensating admixtures, polymers, high range super plasticizers. W/C ratio not to exceed 0.4. Compressive strength of the screed to be 37.5 N/mm2 after 28 days over bonding agent.
5.	Providing and applying structural grade Epoxy Bonding agent, (with bond strength of 3 N/mm2) over screed concrete. Bonding agent to be used as per application procedure of manufacturer.
6.	Self levelling epoxy phenolic IPN (inter penetrating polymer network) screed (min 3mm thick, solvent free resin in proportion of 1 resin hardener mix : 2 sharp silica sand 600 micron down) on dry and clean surface of the self levelling cementitious screed done earlier, using special fork type leveller tool and allowing the scred to sure for 48 hours.

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B) ON WALLS, SLAB, SOFFITS, BEAMS, COLUMN

SL. NO	DESCRIPTION
1.	Surface preparation- in this case concrete columns, beams, sofitt slabs, floors & plastered brick masonry walls (for receiving IMPREGNATION, BOND COATS, COATINGS etc) with hand wire brushes or rotary wire brushes etc and removing all the dust , dirt etc complete.
2.	Impregnation with monomer (5 cps viscosity) to be applied by brush with a consumption of minimum 0.25 kg/m2
3.	Impregnation of prepared concrete surface (internal walls, slab, soffits, beams, column and cut outs) with polymethyl methacrylate monomer (viscosity 5cps), brush applied @ 0.25kg/m². Three coat epoxy phenolic IPN solvent containing protective coating with one non pigmented primer coat and two subsequent colour coats with approved shades giving total dry film thickness of 225 +/- 10 microns over impregnated and cleaned surface.

16.2 **ACID PROOF TILES:**

MATERIAL

1) TILES

These tiles shall be made of clays, feldspar, quartz, talc and vitrified at high temperature in ceramic kilns and kept unglazed so as to prevent from slipperiness. Tiles shall not absorb more than 2% of their own dry weight when soaked in water. Compression strength: 700 Kg/cm2 Min. & Flexural strength: 200 Kg/cm2 Min. It shall not lose more than 1.5% of it weight when soaked in acid.

Chemical compositions of tiles:

- Al_2O_3 : 22-24%
- SiO_2 : 60-65%
- Fe_2O_3 : 1.0-2.0%
- Alkalise : 10-12%

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2) K-BASED SILICATE MORTAR

Acid Proof cement KSC is a potassium silicate based corrosion cement. Acid tile linings carried out with KSC cement are not subject to crystal formation in the pores of cement. Besides Bitumastic surface is joint-less, hence there is no danger of Acids percolating through the surface.

Characteristics of K-based Silicate mortar:

- Colour : White
- Density (lbs/Cub. ft.) : 130
- Water Absorption : 2-5 %
- Tensile Strength (Psi) : 400
- Compressive strength (Psi) : 2800
- Bond Strength (Psi) : 180
- Coefficient of thermal expansion : 6.0×10^{-6}

3) BITUMASTIC MORTAR

It shall consist of an acid proof inorganic filler and blended bitumen. It shall be trowelled to concrete having total thickness of 10 mm.

Characteristics of Bituminous compounds:

- Density (Kg/m^3) : 2200
- Water content by mass percent (max) : 0.5
- Flash point °C ,min. : 35

Consistency

a) Before setting (test after 1 hr) min. : 100

b) After setting (test after 24 hr) min. : 80

Mastic shall be heated to 150-300°C and shall be applied in 5 mm layers after surface is cleaned and dried.

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4) BITUMINOUS PAINT

This is generally of heavy grade bituminous corrosion resisting paint. 2 coats of the paint shall be given, and drying time between the 2 coats shall not be less than 5 hours. Also, its drying time after second coat shall not be more than 8 hours. Its finish shall be smooth, glossy and elastic.

The primer shall confirm to the following requirements:

- Viscosity by standard tar viscometer, 4mm orifice at 25°C: 4 to 24
- Penetration at 25°C, 100g, 5sec in 1/100 cm : 20 to 50
- Water content percent (max) : 0.2

APPLICATION

SL. NO.	DESCRIPTION	ITEM OR AREA
1.	Bituminous Paint (Primer)	Concrete surface
2.	10mm Bitumastic Laying in two layers each shall not be more than 5mm thick	Over Bituminous Paint
3.	One layer, 5mm Acid, K-based Silicate Type mortar	#
4.	10 mm thick Acid proof tiling	Over K-based Silicate

- Tiles should be fixed on bitumastic surface with the help of 5mm K-based silicate mortar.

16.3 ACID RESISTANT BRICK LINING

A. MATERIAL

These bricks are made of raw materials such as clay or shale of suitable composition with low lime and iron content, feldspar, flint or sand and vitrified at high temperature in ceramic kilns. Bricks shall not absorb more than 2% of their own wt. when soaked in water.

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Compression strength: > 700 Kg/cm^2. Bricks shall not lose more than 1.5% at their own weight when tested for acid resistance.

Chemical compositions of bricks are

a) Al_2O_3 22-24%

b) SiO_2 60-65%

c) Fe_2O_3 1.0-2.0%

d) Alkalies 10-12%

1) K-BASED SILICATE MORTAR

Acid Proof cement KSC is a potassium silicate based corrosion cement. Acid brick linings carried out with KSC cement are not subject to crystal formation in the pores of cement. Besides Bitumastic surface is joint-less, hence there is no danger of Acids percolating through the surface.

Characteristics of K-based Silicate mortar:

Colour	: White
Density (lbs/Cub. ft.)	: 130
Water Absorption	: 2-5 %
Tensile Strength (Psi)	: 400
Compressive strength (Psi)	: 2800
Bond Strength (Psi)	: 180
Coefficient of thermal expansion	: 6.0×10^{-6}

2) BITUMASTIC MORTAR

It shall consist of an acid proof inorganic filler and blended bitumen. It shall be trowelled to concrete having total thickness of 10 mm.

Characteristics of Bituminous compounds:

Density (Kg/m^3) : 2200

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Water content by mass percent (max) : 0.5

Flash point °C ,min. : 35

Consistency

c) Before setting (test after 1 hr) min. : 100

d) After setting (test after 24 hr) min. : 80

Mastic shall be heated to 150-300°C and shall be applied in 5 mm layers after surface is cleaned & dried.

3) BITUMINOUS PAINT(PRIMER)

This is generally of heavy grade bituminous corrosion resisting paint. 2 coats of the paint shall be given, and drying time between the 2 coats shall not be less than 5 hours. Also, its drying time after second coat shall not be more than 8 hours. Its finish shall be smooth, glossy and elastic.

The primer shall confirm to the following requirements:

Viscosity by standard tar viscometer, 4mm orifice at 25°C : 4 to 24

Penetration at 25°C, 100g, 5sec in 1/100 cm : 20 to 50

Water content percent (max) : 0.2

APPLICATION

SL. NO.	DESCRIPTION	ITEM OR AREA
.	Bituminous Paint (Primer)	Concrete surface
.	10mm Bitumastic Laying in two layers each shall not be more than 5 mm thick	Over Bituminous Paint
3.	One layer, 5mm Acid, K-based Silicate Type mortar	#
4.	One layer, 40mm Acid resistant Brick lining	Over K-based Silicate

#:- K-based Silicate mortar should be buttered on all sides of acid-resistant brick except the side facing the surface to be exposed to corrosives

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17. POLYURETHANE WATERPROOFING

17.1 MATERIALS

The two component Solvent free Polyurethane coat shall have the following properties –

1. Solid content ASTM D 2369- ≥ 90%

2. Mixing ratio - 8:1

3. Elongation ASTM D 638 - 700-900%

4. Tensile strength ASTM D 638- 1-2 MPa

The coating shall be applied to a minimum thickness of 600 microns (300µX2) thickness with separate wearing course (as per ASTM C 898 & 836) over application of 2 component, solvent free Epoxy Primer of 200 microns with tensile of 20-30 MPa and elongation of 4-5% for smooth surface and act as primer coat at all elevations in vertical and horizontal surface

It shall be perfectly smooth, dust free and shall retain glossy finish at least up to 3 years It shall be resistant to acid, alkalis and have a very low water absorption rate of 0.5% maximum at ambient temperature after 7 days.

The packs shall not be older than 9 months after the date of manufacture and packing.

17.2 Workmanship

17.2.1 Preparation of surface

The roof surface shall be thoroughly cleaned with a wire brush and all foreign matter etc shall be removed. Well defined cracks on the surface shall be cut to "V" section, cleaned and filled up flush with a paste of 2 component polyurethane based crack filling compound and white cement in a ratio of 1:2.

17.2.2 Primer Coat

Primer coat shall be mixed in the ratio as per manufacturer's specification A single coat of this primer shall be applied by brush over the prepared bed as an adhesion coat.

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The primer shall be allowed to dry for minimum of 8 hours before the successive finishing coats of Polyurethane are applied.

17.2.3 Finishing coats

The finishing coats shall consist of three successive pigmented seating coats each of

2 pack polyurethane, mixed in the ratio as per manufacturer's specifications. Application shall be with brush, to a smooth and even finish. The overall dry film thickness shall be

Ambient temperature at the time of application shall not be less than 5°C and not more than 40°C.

Each coat shall be allowed to dry for minimum 8 hours or as per manufacturer's specification before applying next coat. Care shall be taken for quick application after mixing the 2 pack primer in view of short pot life of the mix and shall be fully consumed within the stipulated period as per manufacturer's specification. (Maximum 60 minutes

at 30°C.

Polyurethane coating shall be continued up the parapets/ walls for a minimum of 150mm over the finished roof surface. It shall be continued into rain water pipes by at least 100mm.

Treated surface should be allowed to cure for minimum 72 hours.

17.2.4 Cement Screed

The final coat of polyurethane, when tacky shall be sprinkled with 300 micron layer of clean sand. Plain cement concrete (1:2:4) of 25mm minimum thickness with 24 SWG chicken wire mesh shall be then laid to slope in panels not exceeding 6 M2 area per panel The joints between panels shall be raked out neatly to a minimum 6mm x 6mm V-groove and filled up with an approved quality elastomeric compound sealant. Drain outlet shall be provided for all spouts/rain water pipes by suitable rounding, filling and skoping of PCC as per drawing. At the junction of the roof and parapet or any other vertical surface, a fillet of 75mm radius shall be formed in cement mortar 1 cement 4 coarse sand.

17.3 Guarantee

The agency for waterproofing shall furnish a guarantee, which shall be agreed upon in the Contract to ensure the successful performance of the Contract. The guarantee shall be for a period of 10 years Any work required to be carried out as a result of any defects in

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workmanship during the period of the guarantee shall be carried out by CONTRACTOR at his cost.

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PREAMBLE TO SCHEDULE OF RATES FOR CIVIL, STRUCTURAL AND OTHER ALLIED WORKS

1	30.01.2009	30.01.2009	REVISED & ISSUED FOR IMPLEMENTATION	**AKP**	**AKS**	**MKS**
0	19.04.1999		ISSUED FOR IMPLEMENTATION			
REV	REV DATE	EFF DATE	PURPOSE	PREPD	REVWD	APPD

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1.00 GENERAL

1.01 The plans have been evolved tentatively based on information available with Owner / Consultant but the dimensions and details etc. are liable to changes. The Tenderers shall not be entitled to claim any higher rate or compensation on this account. The tender drawings are intended mainly to give an indication of the probable type of construction. The successful Tenderers will, however, be required to execute the work as per detailed approved drawings issued to them from time to time. Steel structures can be changed to R.C.C. or vice versa. Owner reserves the right to add / delete any of the building works mentioned in the N.I.T., during the currency of the contract.

1.02 The Tenderers shall note that the quantities of the different Items, as given in the "Schedule of Rates" are tentative based on tentative tender drawings and are subject to variation and they shall not be entitled to claim any higher rate or compensation on this account. Owner / Consultant reserves the right to change / modify the size and type of sections at any time. Owner / Consultant does not guarantee work under each item of the Schedule of Quantities. The total quantum of work may vary up to ± 25% on either side the Contract Price and nothing extra over the Unit Rate as referred in Schedule of Rates will be paid on this account. Quantum of individual item may vary to any extent. **However, in case of any increase in executed / work order value beyond awarded value, contractor shall prepare statement of such expected variation based on the drawings issued for construction or as per site condition and shall obtain prior issuance of formal amendment to Contract from the OWNER/CONSULTANT in this regard. In no case, the value of executed value should exceed the awarded value without prior written approval from OWNER/CONSULTANT.**

1.03 The Tenderers shall be fully responsible for the correct setting out and execution of the work in accordance with approved drawings which will be supplied to them progressively. All tools, tackles, construction equipments etc., required for the successful execution / construction of the complete work, shall be responsibility of the Tenderers.

1.04 The quantities given in the "Schedule of Rates" are approximate and are given only for the guidance for quoting rates. Payments on bills shall, however, be made on actual measurements of quantities of work done as per approved drawings. Unless otherwise specified, measurements of quantities shall be taken as per Indian Standards IS: 1200.

1.05 The rates to be inserted in the "Schedule of Rates" are to be inclusive of the value of the work described under several items including all costs and expenses which may be required for the construction of the work described together with all taxes, general risks, liabilities and obligations such as temporary buildings / hutments, fencing, watching, lighting, insurance, labour regulations, indemnity, maintenance and the like. The prices shall be inclusive of all labours, materials, tools, plants, equipment, hoists, tackles, scaffoldings, the sundries, etc., as may be necessary for the completion of the work in all respects.

1.06 No work shall be undertaken at site until detailed approved drawings have been issued by the Owner / Consultant in writing. Subsequent revision in the drawings which become necessary shall be incorporated and revised drawings issued to the

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Contractor who shall execute the work as per the latest revised drawings. Nothing extra will be paid on this account and no claim whatsoever will be entertained on this account. The Owner / Consultant reserves to themselves the right to modify / revise / alter etc. in any drawing supplied to the Contractor.

1.07 Any fabrication / construction done before final approval of the drawings shall be the Contractor's responsibility. For structural steel items, preparation of fabrication drawings shall be under scope of the contractor without any cost to owner. Fabrication work shall be taken up by the contractor only after of approval of fabrication drawings by owner / consultant/ Engineer-In-Charge.

1.08 In case of any discrepancy between the description of items given in the "Schedule of Rates" and Specifications, drawings and other documents, the decision of the Owner / Consultant in writing shall be final, binding and conclusive for the purpose of this contract.

1.09 The term "Design and drawings" mentioned in the description of Items in the "Schedule of Rates" means the detailed approved design drawings marked "Good for Construction".

1.10 The work "As described", "As shown", "As directed" or "As approved", "As mentioned" in the description of Items shall mean as directed in design or detailed drawings and as directed by the Engineer-in-Charge.

1.11 The Owner shall furnish the Contractor with only reference points of the job site and a level bench mark, and the Contractor shall at his own cost and initiative, set out the works to the satisfaction of the Engineer-in-Charge but shall solely be responsible for the accuracy of such setting up not withstanding satisfaction as aforesaid of the Engineer-in-Charge or any other assistance rendered by the Engineer-in-Charge for the purpose.

1.12 The Contractor shall provide, fix and be responsible for the maintenance of all stakes, templates, level marks, profiles and the like and shall take all precautions necessary to prevent their removal or disturbance, and shall be responsible for the consequence of such removal or disturbance and for their efficient and timely reinstatement. The Contractor shall also be responsible for the maintenance of all survey marks, boundary marks, distance marks and centre line marks, whether existing or supplied / fixed by the Contractor.

1.13 Before commencing the work, the Contractor shall at his own cost and initiative provide all necessary references, level posts, pegs, bamboos, flags, ranging rods, strings and other materials for proper layout of the work in accordance with the scheme for fixing bench marks acceptable to the Engineer-in-Charge. The centre of longitudinal or face line and cross line shall be marked by means of small masonry pillars. Each pillar shall have distinct mark at the center to enable a TOTAL STATION to be set over it. No work shall be started until all these points are approved by the Engineer-in-Charge in writing.

But such approval shall not relieve the Contractor of any of his responsibilities in respect of the adequacy or accuracy, thereof. The Contractor shall also provide all

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labour, material and other facilities necessary for the proper checking of layout and inspection of the points during construction.

1.14 Pillars bearing geodetic marks located at the site / unit of works under construction should be protected and fenced by the Contractor.

1.15 On completion of works, the Contractor must submit to the Engineer-in-Charge the geodetic documents according to which the work was carried out.

1.16 The Contractor shall be exclusively responsible for the provision and maintenance of horizontal and vertical alignments and levels and for the correctness of every part of the work in accordance there with and shall at his own cost rectify any errors or imperfections therein.

1.17 The Contractor shall at all times during the progress and continuance of the works be responsible for and effectively maintain and uphold in good, substantial, sound and perfect condition of all / and every part of works and shall make good from time to time and at all times as often as the Engineer-in-Charge shall require any damage or defect that may during the above period arise in or be any way connected with works.

1.18 The portion which is under HOLD shown in the approved drawing or the portion which would be brought under HOLD during execution on account of coordinating different activities of other working agencies shall be taken up by the Contractor to execution only after the said HOLD is withdrawn. The Contractor on this account shall not be entitled to claim for any compensation.

1.19 The Contractor shall maintain adequate drainage facilities at the work site at all times during the execution of the work.

1.20 No compensation shall be made by the Owner / Consultant for any damage done by rain or traffic during the execution of the work.

1.21 The Contractor shall afford all reasonable facilities such as scaffolding etc., and cooperation to the various other agencies and Contractors, for services not included in this contract, who may be working on the site simultaneously so that entire work can proceed smoothly and simultaneously to a successful completion. The Tenderer must take all the aforesaid factors into consideration while quoting his rates. Nothing extra shall be paid on any ground out of or relating to the aforesaid factors.

1.22 For details of works, materials and workmanship, attention is invited to the "Schedule of Rates", Scope Drawings, Special Conditions of Contract, Materials and Job Specifications, this section, etc. and the Tenderers must quote the rates keeping in full view the requirement of the said documents.

1.23 Except otherwise clearly stated, CPWD Specifications with Correction Slips (latest) shall be followed in all Civil, Structural and other allied Works and in absence of CPWD Specifications for any work, relevant Indian Standard codes of practices (latest) shall be followed. Where there are no Specifications available for any work either in CPWD Specifications or in IS Codes of practices, the work shall be carried out as per the direction of Engineer-in-Charge.

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1.24 The following notations have been used throughout the "Schedule of Rates" and Materials and job Specifications:

1.	Cu.M	Cubic Metre
2.	Sq.M	Square Metre
3.	m.	Metre
4.	mm	Millimeter
5.	Cm. / Cms.	Centimeter / Centimeters
6.	No. / Nos.	Number / Numbers
7.	Tonne / Te.	Metric Tonne
8.	Kg.	Kilogram
9.	RCC	Reinforced Cement Concrete
10.	PCC	Plain Cement Concrete

1.25 The quoted rates shall be applicable for all heights, depths etc. except otherwise clearly stated in the description of items and nothing extra shall be paid to the contractor on this account.

1.26 Description of items and mode of measurement for payment indicated herein shall override those given elsewhere if these are at variance.

1.27 Any materials / accessories / fittings etc. which may not be specifically mentioned in the description of items but which are normally used or necessary are to be provided by the contractor without any extra cost to Owner / Consultant and the work must be completed in all respects.

2.00 DEFINITION OF PLINTH

2.01 The portion of a structure between the surface of the finished ground and the surface of the floor immediately above the ground will be considered as plinth, which is generally 300 mm to 600 mm above finished ground level of the site area.

2.02 Plinth Level as shown in the drawing shall be treated as plinth level for the purpose of payment.

3.00 MATERIALS

3.01 The supply / procurement of all materials, required for the job, shall be the responsibility of the Contractor unless otherwise stated in the "Schedule of Rates" and elsewhere in the tender documents. The quality of the materials procured by the Contractor shall be subject to the approval of Engineer-in-Charge or his authorized representative before the materials are allowed to be used in the works. All the materials to be procured by the Contractor shall be in conformity with the CPWD Specifications with correction slips (latest) and in absence of which as laid down in the relevant Indian Standard Codes of practices (latest).

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3.02 Transport of all materials shall be the Contractor's responsibility and it shall be at their own risk and cost.

3.03 The Engineer-in-Charge shall determine the suitability of materials to be used on the job and the Contractor shall get all materials approved by the Engineer-in-Charge. Any material procured and brought to site by the Contractor, found not to conform to the specifications and does not meet the approval of the Engineer-in-Charge, for use, will be rejected, and the Contractor shall remove and dispose off the same at his own cost and he shall not have any claim for compensation in this regard.

4.00 TESTS

4.01 According to the nature and importance of works or as per IS code requirements, Owner / Consultant will demand the conduct of tests on concrete and other building materials etc., in which case the Contractor shall get the same done at his own cost in a laboratory to be approved by the Owner / Consultant.

4.02 Providing and operating necessary measurements and testing devices, materials and consumables are included in the scope of work and the rates quoted shall be deemed to include the cost of such tests which are required to ensure achievement of specified quality of work.

5.00 EXECUTION OF WORK

5.01 EARTH WORK

a. The prices for all excavations shall include for removing and clearing away all shrubs, bushes, roots etc.

b. The prices for all excavations shall also include for all leveling and ramming foundation beds, trimming of sides and bottom, grading to proper level as required.

c. Removal and carrying shall include for all loading, unloading and handling as may be necessary and also all necessary means of transport (Mechanical or animal or manual) as required.

d. The prices are also to include removal of water caused by rain, seepage, spring due to water table or any other cause, either by pumping or by bailing, that may accumulate in the trenches, foundations, pits, etc. It is likely that the subsoil water may encounter during excavation. The Contractor shall be responsible to remove all water accumulated in trenches, foundations, pits, etc. due to subsoil seepage, rainwater or from any other sources. For the above reasons, if the Contractor is required to install some special type of dewatering system, the same shall be arranged by the Contractor at his own cost and nothing extra shall be payable. The Contractor shall be fully responsible for removal of all water from the working area including necessary shoring and strutting, etc., wherever required, in order to maintain safe working condition and good engineering practice at his own cost and nothing extra shall be paid on this account.

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e. Where excavations are made in excess of the depth required the Contractor shall, at his own expenses, fill up to the desired level with lean concrete of nominal mix. 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size).

f. In case of hard / dense soil, the last 150 mm depth of such depth specified in the drawing or decided by the Owner shall be excavated just prior to the laying of plain cement concrete bed.

g. In case surplus excavated materials are to be disposed off at different leads as per items in the "Schedule of Rates" the distance for such disposal shall be measured over the shortest practicable route as decided by Engineer-in-Charge and not necessarily the route actually taken by the Contractor for disposal. For the purpose of measurement of lead, the area excavated shall be divided into blocks (mutually agreed) and for each block the distance from center of the block to center of disposed material pertaining to this block shall be taken.

h. For payment of Earthwork in foundations / pits / trenches, etc., the excavation in earthwork volume shall be calculated by multiplying the base area as per the dimensions of mat (lean) concrete indicated in the drawing for different foundations by the specified depth of excavation considering vertical cut up to the bottom of mat concrete level from ground level. Extra excavation carried out by the Contractor with sloping sides or with larger base area or with extra deepening of trenches / pits / foundations, etc. for working convenience shall not be measured and paid for.

   The payment for back filling and disposal of surplus excavated material shall also be made on the same basis as that for excavation. Therefore excavation, back filling and disposal of surplus earth resulting from the excavation over the mat concrete dimensions and for the depth beyond bottom level of mat concrete as indicated in the drawings shall not be paid for. However, for the cases where waterproofing / acid proofing is indicated as per drawings on outer sides, the mode of measurement shall be as per IS: 1200.

i. Nothing extra shall be paid for sorting / screening of the excavated materials to obtain good earth for filling.

j. Nothing extra shall be paid on account of any lift for disposal of excavated materials.

k. Proper precautions shall be taken during the excavations to prevent any damage to the existing structures, pipes, sewer lines etc. If such damage occurs, it shall be rectified by the Contractor at his own expense.

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5.02 PLAIN AND REINFORCED CEMENT CONCRETE WORKS

a. The prices for concrete beds and slabs are to include for laying on any type of subgrade, laying to falls or camber and for preparing surface to receive concrete.

b. All concrete surfaces shall be finished to a fair face to give smooth and even surfaces and nothing extra shall be paid on this account.

c. The prices are to include leaving pockets, cutouts and holes and to provide wooden boxes or any other suitable arrangement in R.C.C for providing pockets for bolts as per approved working drawings and nothing extra shall be paid on this account.

d. All pockets / holes are to be properly covered by suitable means, so that dirt, rain water etc., should not enter the pockets / holes etc. No deduction in R.C.C quantity shall be made for pockets and nothing extra shall be paid for providing pockets as mentioned in para 5.02c above.

e. For measurement of openings in plain concrete / R.C.C work, refer clause No. 4.13 of IS: 1200 (Part-3).

f. Threads of bolts etc., which have already been fixed in the pockets, are to be greased and properly covered with gunny bags or polythene sheet to protect it from damage from all sources and nothing extra shall be paid on this account.

g. The prices shall include for all rebating, throating, chamfering, weathering, moulding etc. to accord with the details shown in the approved working drawings.

h. Nothing extra shall be paid for any intricate work for foundation of equipments and machinery (Static / Dynamic) in R.C.C walls and other superstructure work or in concreting in small and thin sections in P.C.C or R.C.C work.

i. The prices for concrete are to include for hoisting and / or lowering to any heights and / or depth required and in any type of form work, packing around reinforcement wherever required and finishing the surfaces to fair and even surfaces.

j. The prices shall include for working up or hacking of concrete surface for providing keys for further concrete work and shall also include all plane, rebated or grooved construction and other joints.

k. All reinforced cement concrete used shall be of controlled concrete with designed mix and weigh batched conforming to IS : 456 unless otherwise specified. In all concrete and R.C.C work, broken graded coarse aggregate shall be used. The design mixes of concrete of different grades shall be established at the beginning of the work considering the required workability. However, if batching plant facility is not available, only nominal mix concrete is permissible.

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l. Concrete admixtures for workability, if necessary, may be used in R.C.C., if decided by the Engineer-in-Charge. No extra payment for material or mixing etc. shall be made on this account.

m. Machine and equipment foundations shall mean all foundations including pedestals of vessels, towers, pumps, compressors, motors or any other equipment or machinery (both static and dynamic), pipe supports etc., and / or the like.

n. The prices shall include applying cement slurry on reinforced cement concrete surfaces, keys of construction joints etc. @ 2.75 Kg/Sq.m of surface area of receiving cement concrete including roughening and proper cleaning etc., complete as directed by Engineer-in-Charge.

o. The prices shall include for performing water tightness for all water retaining R.C.C structure as stipulated in IS: 3370 (Part-I), wherever specified in the drawing.

p. Cement to be used for plain & reinforced cement concrete and other works shall be of Ordinary Portland Cement conforming to IS : 269 unless otherwise stated in the "Schedule of Rates" and elsewhere in this Section of NIT.

q. Any concrete having honeycomb is not acceptable and shall be rejected and redone at contractor's cost.

5.03 REINFORCEMENT AND EMBEDMENTS

a. Wastage in cutting will not be paid for. Steel actually fixed in position only will be paid by the linear measurement including hooks and laps. Lapping of bars will be allowed only where the required bar length exceeds the standard lengths available. All other laps provided, unless otherwise specified in the drawings, shall not be measured and paid for. Weight of binding wire shall not be measured for payment.

b. Reinforcement are to be tack welded in addition to binding by 18 S.W.G annealed wire wherever necessary to improve efficiency of the joint. Bars of 28 mm diameter and above shall be provided with stitch weld in addition to binding with 18 SWG annealed wire and nothing extra shall be paid for stitch welding. Welding of mild steel plain and deformed reinforcements shall conform to IS: 2751, 'Code of practice for welding of mild steel plain and deformed bars for reinforced concrete construction'.

c. The Contractor shall prepare the bar bending schedule for all reinforced cement concrete work as per the approved / "good for construction" drawings furnished by the Owner / Consultant and nothing extra shall be paid on this account.

5.04 SHUTTERING

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a. The prices for shuttering shall include for providing splayed edges, notching, chamfering, allowances for overlaps and passing at angles, battens, strutting bolting, wedging, easing, striking and removing.

b. The concrete work should have ply wood / steel shuttering as not to require any plastering, after striking out the shuttering. Any concrete having honeycomb is not acceptable and is liable to be rejected and redone at Contractor's cost.

c. The prices are also to include for all necessary supports, struts, braces, etc., dressing with shuttering compound and / or other approved method to prevent adhesion between concrete and form work and all raking for circular cutting and waste.

d. The prices shall also include for all labour and materials necessary for providing form work at all heights and depths and including striking, dismantling the form work assembly etc. after the necessary stripping period of concreting is over and also making all the joints in shuttering fully leak-proof providing low density polythene sheets / bitumen paper.

e. The prices shall also include for forming detailed design required for the form work and / or all other sundry labour.

f. All shuttering shall be either plywood or steel shuttering to produce plain, smooth and even surfaces, which will thus be integrally finished. If any impressions of the shuttering joints are noticed after the striking of the shuttering, the same should be treated by rubbing with Carborundum stones and nothing extra shall be paid on this account.

g. In case of dowel bars projecting out from R.C.C works such as columns, beams etc. nothing extra shall be paid for any special provision like making holes that may be required to be left in the form work.

5.05 MASONRY WORKS

The prices for brick work shall include the following:

a. Fair face of brick work with selected brick with class designation 75 or as specified in the description of relevant Items in the "Schedule of Rates" from the lot.

b. Raking out joints for plastering and pointing done as separate process of finishing joints, flush as the work proceeds.

c. All rough and / or fair cutting and waste unless specifically stated otherwise.

d. Plumbing to angles.

e. Providing holes left or formed for fixing pipes etc.

f. Forming reveals to the jambs, where fair cutting on exposed face is not involved.

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g. All masonry work shall be done using mortar with coarse sand.

5.06 WOOD WORK AND JOINERY

a. All joiner's work shall include necessary nails and screws, and all other necessary materials.

b. The description includes all necessary keys, wedges, dowels, hard or bamboo pins, pined tenon joints and cleaning of nail heads.

c. Nothing extra will be paid for rebated and / or splayed meeting stiles of doors and Windows.

5.07 STRUCTURAL STEEL WORK

a. The weight of structural steel work for the sake of payment shall be calculated by linear measurements and unit weight taken from the relevant IS codes based on approved fabrication drawings assuming all members to be cut square without making any deduction for bolts, bevel ends or edges, beveling of plates. Gusset plates shall be paid for minimum rectangle enveloping their actual periphery.

b. Welds, black-bolts, high tensile bolts, nuts, plain and tapered washers etc. shall not be measured and paid for. Rate for the structural steel work shall be deemed to include the same. Nothing extra shall be paid on this account.

c. Nothing extra shall be paid over the unit rates for structural members to be built up by butt or fillet welding as indicated in the approved fabrication drawings or as per the instruction of Engineer-in-Charge, from either:

   i. Plates.

   ii. Two or more rolled steel sections.

   iii. One or more rolled steel sections and plates.

d. Nothing extra shall be paid over the unit rates for sealing the joints of box sections made out of channels or joists by continuous butt welding.

e. All paints and primers specified in various Items in the "Schedule of Rates" shall be best quality of approved brand and manufacturer such as M/s. Asian Paints, M/s. Berger Paints (India) Ltd., M/s. Johnson & Nicholson and / or other equivalent paint approved by the Engineer-in-Charge. All painting material supplied by the contractor should have at least 4 (four) months balance shelf life on the date of application.

f. On box / compound sections, the painting shall be done before fabrication on all those surfaces which become inaccessible after fabrication.

g. Prior approval of the Engineer-in-Charge shall have to be obtained for changing the sections due to non-availability of certain sections and using built-up sections / compound sections and nothing extra shall be paid on this account.

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h. The word "Fabrication" wherever used for the description of work herein shall include:

Straightening, cutting, notching, beveling, drilling or cutting holes, necessary welding, fastening, etc. to prepare the structural member as per fabrication drawings.

I. The word "Erection" wherever used for description of work shall include:

Hoisting, putting in position at all required heights, aligning and fixing with necessary welding, bolting and / or other fasteners as per approved drawings and technical specifications with all safety standards.

j. Preparation of "AS-BUILT" construction drawings incorporating all approved changes at site shall be in Contractor's scope of work and it shall be considered included in relevant Items of the "Schedule of Rates".

k. For grid blasting / painting by the specialized agency other than indicated in the NIT, if proposed by the Contractor, the same shall be got approved from the Engineer-in-Charge at site.

l. The Contractor shall prepare design of joints and detailed fabrication and erection drawings in sequence of erection on the basis of detailed design drawings supplied by the Owner / Consultant from time to time. Nothing shall be paid extra on this account. The above fabrication drawings must show clearly all shop and site joints and connection with erection marks on each loose parts.

m. The Contractor shall submit his design calculations for the design of joints. All joints shall be designed for full strength of the members or otherwise as indicated in the design drawings.

n. The design calculations of joints and fabrication drawings will be checked and approved by the Owner / Consultant as per mutually agreed time schedule and the Contractor should strictly adhere to these approved drawings and specifications. Fabrication work shall be taken up only with the approved fabrication drawings.

5.08 STEEL AND ALUMINIUM DOORS, WINDOWS & VENTILATORS

a. The prices are to include for necessary hardware fittings and fixtures as specified and fixing to frames with necessary lugs etc., all necessary chases, holes, etc., grouting of holes and making good to match after doors, windows and ventilators, etc. are fixed. The price of steel doors / windows / ventilators is also to include application of required primer and paint of approved shade, make and manufacturer.

b. The prices shall also to include for providing good quality glass panes of required thickness as indicated in the "Schedule of Rates".

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5.09 FLOORS AND BASES

a. The price for hard core shall include for all labour in laying to falls or camber, hand packing, edges of haunches forming splayed edges, watering and rolling with power driven roller and ramming wherever required to solid compaction.

b. The prices shall include also for works at all heights and depths.

5.10 FINISHING WORKS

a. The prices shall include for work at any height / depth and for all necessary scaffolding etc. as required.

b. The prices shall include for providing and laying of materials for all the Items of plaster and also raking to form key for plaster and for all work in narrow width, formed angles, chamfered external angles and for making good the faces.

5.11 MISCELLANEOUS

a. The Contractor may have to splice shorter length of structural steel members to obtain required length at site. If extra pieces of materials are required for splicing (say for lap jointing) then the same will be measured and paid for in the relevant structural steel items and nothing extra on any other account shall be paid to the Contractor for such splicing.

b. The Contractor should note that steel wedges, packing plates, shim plates, etc. used by them for leveling and alignment of structural members are to be considered erection devices and these should be taken out after proper alignment is over to the satisfaction of Engineer-in-Charge. Such erection devices shall neither be measured nor paid for.

c. Contractor shall submit the Material Test Certificates along with Bill copies for all bought out items prior to entry of material in plant premises.

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SCHEDULE OF RATES

FOR

BOUNDARY WALL, WATCH TOWERS & SECURITY ROOM

FOR

AMMONIA-UREA FERTILIZER PLANT

AT

HURL, BARAUNI

0	01.12.18	01.12.18	ISSUED FOR TENDER	AP	VP	UPT
REV.	**DATE**	**EFF.DATE**	**PURPOSE**	**PREPD**	**REVWD**	**APPD**

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	BOUNDARY WALL, WATCH TOWER & SECURITY ROOM				
A.	**EARTH WORK**				
A-01	Earthwork in excavation in foundations of buildings, footings, columns, plinth beams, walls, machine/ equipment foundations, isolated pits, pavements, trenches for pipelines /cables, pipe sleepers, drains, etc., to the required levels and grades in both dry and wet conditions, including dressing of sides and ramming of bottoms, getting out excavated earth with lift upto 1.5 M and disposal of surplus excavated materials within plant boundary including stacking, levelling and dressing etc., complete as per direction of Engineer-in-Charge(E.I.C.) in all kinds of soils as defined in IS: 1200 including providing temporary supports to all service lines such as overhead and underground water, sewage and drain pipes, cables etc. and shoring and strutting wherever necessary, complete in all respects as per direction of Engineer-in-Charge.	Cu. M.	16500	126	2079000
A-02	Same as Item No. A-01, but lift from 1.5 M to 3.0 M.	Cu. M.	6100	178	1085800
A-03	Filling with available excavated good earth (excluding rocks / boulders), as approved and directed by Engineer-in-Charge, in trenches, plinth, under floors, sides of foundation etc., at all depths in layers not exceeding 20 cms. in thickness including consolidating and dressing each deposited layer by ramming and watering with lead upto plant boundary, complete in all respects (compaction under floor with mechanical vibrater / road roller including watering).	Cu. M.	8500	126	1071000

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
A-04	Supplying and filling with selected good earth brought from source approved by the Engineer -in-Charge in trenches, plinth, under floors, sides of foundation etc., at all depths in layers not exceeding 20 cms. in thickness including consolidating and dressing each deposited layer by ramming and watering (Rate shall include Royalty, Taxes, Octoroi, etc., levied by the local authorities, all transportation, loading and unloading, etc., and nothing extra will be paid on this account including compaction under floor with mechanical vibrater / road roller including watering).	Cu. M.	8650	550	4757500
A-05	Disposal of building rubbish / malba / similar unserviceable / surplus excavated earth, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond initial lead, for all leads including all lifts involved as per the direction of Engineer-in-Charge..	Cu. M.	14000	121	1694000
B.	**PLAIN CEMENT CONCRETE :**				
B-01	Providing and laying plain cement concrete, machine mixed and mechanically vibrated in foundations, plinth, under floors, etc., including all necessary cost of centring and shuttering :				
(a)	1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size).	Cu. M.	950	4478	4254100
(b)	1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 20 mm and below).	Cu. M.	10	4927	49270
B-02	Providing and laying 50 mm thick damp-proof course with cement concrete 1:2:4(1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	the cost of centring and shuttering complete as directed.(Water proofing compound to be used shall be paid separately).	Sq. M.	15	320	4800
C.	**REINFORCED CEMENT CONCRETE :**				
	IN FOUNDATION AND PLINTH				
C-01	Providing and laying reinforced cement concrete of grade M-30(using 20 mm. nominal gauge graded stone aggregate) machine mixed and mechanically vibrated and finished to a fair face but excluding the cost of centring, shuttering and reinforcement in foundation and plinth, for rafts, footings, bases of columns, pedestals, beams, walls, columns, slabs, machine and equipment foundations, pile caps, box sections, pipe supports, etc., complete in all respects as per direction of Engineer-in-Charge.	Cu. M.	1	6516	6516
C-02	Same as Item No. C- 01, but with concrete of grade M-25.	Cu. M.	5000	6446	32230000
	IN SUPERSTRUCTURE				
C-03	Providing and laying reinforced cement concrete of grade M-25 (using 20 mm. nominal gauge graded stone aggregate), machine mixed, mechanically vibrated and finished to a fair face but excluding the cost of centring, shuttering and reinforcement in superstructure at all heights for columns, pillars, posts, attached pillasters, portals, struts, inclined posts, pedestals for equipments and similar vertical members, etc., complete in all respects as per direction of Engineer-in-Charge.	Cu. M.	1000	7320	7320000
C-04	Same as Item No. C-03, but in walls of any thickness, shape or size including attached buttresses, pilasters and their caps and bases.	Cu. M.	350	7320	2562000

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
C-05	Same as Item No. C- 03, but in lintels, beams, portal beams, brackets, girders, cantilevers, suspended floors, roofs, staircase roofs and their supports, balconies, staircase waist and landing slabs and steps including preparation of top surface and finishing, nosing, etc.	Cu. M.	100	7320	732000
C-06	Same as Item No. C- 03, but in chajja, fins, roof gutters, drop wall not exceeding 15 Cm. in thickness, railing, parapet wall, window sills, etc.	Cu. M.	10	7320	73200
C-07	Providing, hoisting and fixing in position precast reinforced cement concrete of grade M-30 (using 20 mm. Nominal gauge graded stone aggregate), machine mixed, mechanically vibrated and finished to a fair face including centring, shuttering etc. but excluding the cost of reinforcement in :				
(a)	in Walls of any thickness, height and shape	Cu. M.	1400	6972	9760800
D	**REINFORCEMENT AND EMBEDMENTS :**				
D-01	Supplying, cutting, cleaning, straightening, bending, hoisting and placing in position and binding with 18 SWG annealed wire, reinforcement bar of high yield strength Steel with Fe500D properties conforming to IS:1786 with minimum yield strength of 500 N/sq,mm for all R.C.C. works including all necessary handling at all heights and depths complete in all respects and as per direction of Engineer-in-Charge..	Te.	900	56600	50940000
D-02	Supplying, fabricating and fixing in position M.S. anchor plates, hooks, insert plates, M.S. flats, M.S. angle inserts and the like including welding M.S. lugs, etc., and embedding in cement concrete /R.C.C. works as per approved drawings complete in all respects and as per	Kg.	1000	137	137000

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	direction of Engineer-in-Charge.				
D-03	Supplying, fabricating and fixing in position M.S. holding down bolts assembly consisting of bolts, heads, nuts, washers etc., and the like including embedding in cement concrete/R.C.C. works as per approved drawings complete in all respects including one coat of approved quality anti-corrosive paint over a coat of approved quality primer.	Kg.	100	68	6800
E	**SHUTTERING :**				
E-01	Providing, fabricating, erecting and fixing in position with bolts and nuts, nails and ties, etc., centring and shuttering materials true to line and level, including strutting, propping, staging etc. with necessary bracing in all axes to give a stable assembly including chamfering the corners of columns and beams etc., wherever required including making joints in the shuttering fully leak-proof, i/c. Striking, dismantling and removing the aforesaid assembly after concreting is over, including all labour and materials complete in all respects and as per direction of Engineer-in-Charge :				
(a)	**IN FOUNDATION AND PLINTH**				
(i)	Foundation and plinth in rafts, footings, columns, pedestals, beams, walls, slabs, machine and equipment foundations, pile caps and pipe support foundations, etc.	Sq. M.	19000	194	3686000
(b)	**IN SUPERSTRUCTURE**				
(i)	Columns, pillars, posts, struts, inclined posts, attached pillasters, portals and similar vertical members.	Sq. M.	11300	468	5288400
(ii)	Walls of any thickness, height and shape including attached buttresses, pillasters, and their caps and bases, etc.	Sq. M.	9000	379	3411000

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
(iii)	Lintels, beams, portal beams, brackets, girders, cantilever beams, suspended floors, roofs, staircase roofs and their supports, balconies, staircase waist and landing slabs and steps, etc.	Sq. M.	650	343	222950
(iv)	Chajja, vertical and horizontal fins, roof gutters, drop walls, railing, parapet wall, window sills, etc.	Sq. M.	100	522	52200
F	**BRICK WORK :**				
F-01	Providing and constructing brick work using bricks of class designation 7.5 in cement mortar 1 : 6 (1 cement: 6 coarse sand) in:				
(a)	Foundation and plinth.	Cu. M.	10	4752	47520
(b)	Superstructure at all heights.	Cu. M.	115	5583	642045
F-02	Providing and constructing half brick masonry using bricks of class designation 75 in cement mortar 1:4 (1 cement: 4 coarse sand) with two numbers 6 millimetre diameter m.s. reinforcement at every third course embedded in cement mortar in superstructure at all heights. (The rate shall include the cost of reinforcement).	Sq. M.	50	685	34250
G	**STRUCTURAL STEEL**				
G-01	Supplying, transporting, de-rusting, fabricating, erecting, hoisting and fixing in position with necessary welding and/or bolting with MS bolts conforming to property class 4.6 of IS: 1367 at all heights as per approved fabrication drawings of all types of structural steel work in columns, portals, girders, lattice girders, beams, crane girders, M.S rails, monorails, bracings, trusses, purlins, rafters, side runners, sag rods, hand railings, staircase stringers and steps, walkway, toe-plates, floor grids, sag rods with M.S. rounds, side walling, conveyor gantries, trestle for pipe and cable racks, gusset plates, etc., either made of rolled steel joists, channels, angles, tees, flats, plates or				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	built up from plates and/or rolled steel sections including necessary site and shop fasteners, complete in all respects as per approved fabrication drawings, standards and direction of Engineer-in-Charge :				
(a)	With providing and applying primer coat, intermediate coats and finish coat after the preparation of surfaces on structural steel work complete in all respects as per technical specifications and direction of Engineer-in-Charge.	Te	0.5	80500	40250
G-02	Supplying, transporting, de-rusting, fabricating, erecting, hoisting and fixing in position structural steel work in cat ladders and cages at all heights including brackets, cleats, plates, rungs, chain, pins, hinges, etc., framed, bolted and/or welded together and fixed in position including necessary plugs and plugging and painting complete in all respects and as per direction of Engineer-in-Charge :				
(a)	With providing and applying primer coat, intermediate coats and finish coat after the preparation of surfaces on structural steel work complete in all respects as per technical specifications and direction of Engineer-in-Charge.	Te	1	120000	120000
G-03	Supplying of bolts (from 12 mm. to 52 mm. dia.), nuts, plain and tapper washers for fixing equipments, as per drawings and direction of Engineer-in-Charge :				
(a)	Bolts conforming to property class 4.6 of IS: 1367.	Kg	20	125	2500
(b)	Bolts conforming to property class 8.8 of IS: 1367.	Kg	20	125	2500

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
G-04	Providing and fixing M.S pipe hand railing (medium grade) conforming to IS-1239 consisting of top and middle horizontal rails of 40 mm dia. and 32 mm dia. nominal bore respectively, 1050 mm high upright members of 40 mm dia. nominal bore at 1500 mm maximum distance centre to centre of each member including all joints, bends , elbows, and specials as required and upright members welded or bolted to structural steel work/toe plates or welded to M.S. insert plates with M.S. lugs embedded in R.C.C. works, complete in all respects and as per direction of Engineer-in-Charge .				
(a)	Two coats of chlorinated rubber based paint at dry film thickness of 40 microns per coat over two coats of high built zinc phosphate primer compatible to chlorinated rubber based paint at dry film thickness of 25 microns per coat.	Te	6.5	120000	780000
G-05	Supplying, fabricating and fixing in position MS gate, as per drawing, made out of MS flats, square bars, angles, Channels, pipes, hard drawn steel wire mesh, etc. including cutting of walls/floors etc. wherever required & making good, with neat welded joints including all bye-works as per direction, including all accessories, Roller support, pivot etc painting with approved quality synthetic enamel (2 coats) over a coat of zinc chromate red oxide primer all complete with necessary tools and labour and as directed.	Te	7	120000	840000
H.	**STEEL AND ALUMINIUM DOORS, WINDOWS AND VENTILATORS :**				
H-01	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kg	750	385	288750
H-02	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPD M rubber / neoprene gasket required including necessary fittings. Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kg	1500	445	667500
H-03	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge. (Including aluminium snap beading)				
(a)	With float glass panes of 4.0 mm thickness	Sq. M.	55	742	40810
(b)	With float glass panes of 5.50 mm thickness	Sq. M.	15	1004	15060
H-04	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight up to 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete asper the direction of Engineer-in-charge.				
(a)	With stainless steel cover plate minimum 1.25 mm thickness	Each	25	2054	51350
H-05	Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance ±1mm), with wall thickness 2.0 mm (± 0.2 mm), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm (± 0.1 mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineering-charge				
a	Extruded section profile size 42x50 mm	RM	25	205	5125
H-06	24 mm thick factory made PVC door shutters made of styles and rails of a uPVC hollow section of size 59x24 mm and wall thickness 2 mm (± 0.2 mm) with inbuilt edging on both sides. The styles and rails mitred and joint at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 20x20 mm and 1 mm (± 0.1 mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x24 mm and 2 mm (± 0.2 mm) wall thickness, fixed to the shutter styles by means of plastic/galvanised M.S. 'U' cleats. The shutter	Sq. M.	9	1800	16200

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	frame filled with a uPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm (± 0.1 mm) wall thickness. The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge. (For W.C. and bathroom door shutter).				
I.	**DELETED**				
J.	**ROOFING :**				
J-01	Providing and fixing in position at all heights UPVC rain water pipes confirming to BIS :13592 Type A R.C.C. column using plugs and standard holder bat clamps comprising of two semi-circular halves of flat iron and cast iron base screwed on wooden plugs or using clamps welded to structural steel members or M.S. insert plates where pipes are to be fixed on R.C.C. members including all necessary fittings, such as tees, shoes, off-sets, branches, swan necks, elbows, bends, heads, etc. (plate inserts, if any, to be embedded in R.C.C shall be paid separately) :				
(a)	110 mm diameter pipe	Meter	180	236	42480
J-02	Providing & fixing UV stabilised fiber glass reinforced plastic sheet roofing up to any pitch, including fixing with polymer coated 'J' or 'L' hooks, bolts & nuts 8mm dia. G.I plain/bitumen washers complete but excluding the cost of purlins, rafters, trusses etc. The sheets shall be manufactured out of 2400 TEX panel rovigs incorporating minimum 0.3% ultra-violet stabiliser in resin system under approximately 2400 psi and hot cured. They shall be of				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	uniform pigmentation and thickness without air pockets and shall conform to IS 10192 and IS 12866.The sheets shall be opaque or translucent, clear or pigmented, textured or smooth as specified.				
(a)	2 mm thick corrugated	Sq. M	16	990	15840
K	**WATER PROOFING :**				
K-01	Providing and laying water proofing treatment using High solid content, liquid applied Elastomeric Polyurethane Waterproofing Membrane. The two component Solvent free Polyurethane coat shall have the following properties - 1.Solid content ASTM D 2369- ≥ 90% 2. Mixing ratio - 8:1 3. Elongation ASTM D 638 - 700-900% 4.Tensile strength ASTM D 638- 1-2 MPa The coating shall be applied to a minimum thickness of 600 microns (300µX2) thickness with separate wearing course (as per ASTM C 898 & 836) over application of 2 component, solvent free Epoxy Primer of 200 microns with tensile of 20-30 MPa and elongation of 4-5% for smooth surface and act as primer coat at all elevations in vertical and horizontal surface etc including labour, material, equipment handling, preparation of surface, transportation, placing, leveling, curing, testing, etc complete as per specifications, drawing and instruction of the Engineer.	Sq. M.	300	490	147000
K-02	Providing and laying screed concrete (1:2:4 or as per design) ensuring that the elastomeric coating is not ruptured. A layer of Geo-textile cloth (150 to 200 GSM) to be laid over coated surface as a separating layer between elastomeric coating and screed. The screed concrete is to be laid preferably in a slope of 1 in 100	Sq. M.	300	625	187500

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	as well as maintaining a thickness of 25mm near the rain water outlet pipe on the entire horizontal ELASTOMERIC COATING applied roof surface . Plastering (in the ratio 1:4 or so) on the entire vertical ELASTOMERIC COATING applied surface.To prevent substantial cracking of screed concrete and plaster, chicken wire mesh/Recron fibre to be used as an added precaution. The total system can also be applied over already laid screed concrete for sloping of original mother RCC roof surface , provided the coating is protected after application as described above , i.e Geo-textile cloth and PCC screed.				
L	**FLOORS AND BASES :**				
L-01	Supplying and laying hard core under floors including watering, ramming, bliding and well consolidating with broken stone aggregates 90 mm to 45 mm in layers of maximum compacted thickness of 100 mm inclu ding filling the voids with smaller stone chips and with blinding materials fine river sand, (Payment shall be made for finished thickness of hard core) Consolidation by road roller.	Cu. M.	25	4005	100125
L-02	Providing and laying reinforced cement concrete of grade M-20 in pavement floors in plant areas(using 20 mm. nominal gauge graded stone aggregate) machine mixed and mechanically vibrated and finished to a fair face but excluding the cost of centring, shuttering and reinforcement in slabs at ground floor level. Floors are to be cast in the panel of 3 metre x 3 metre with broom finish and painting side surfaces with two coats of bitumen paint of approved quality, complete in all respects				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	as per direction of Engineer-in-Charge.	Cu. M.	5	5773	28865
L-03	Providing, laying and fixing the tiles of approved quality and make in cement mortar 1:3 including 20 mm thick mortar bed, filling joints with cement admixed with matching pigments and cleaning etc. Complete as directed- polished vitrified tiles of min size 600mm X 600mm mirror polish 8-10 mm thk. Tiles should be first quality full body vitrified tiles of Nitco /Johnson/Kajaria or equivalent make; Colour and design approved by Engineer-in-charge.	Sq. M.	100	1119	111900
L-04	Same as item no. L-03 above but in skirting, 100mm high laid flush with the plastered /painted surface, as approved by Engineer-in-charge.	RM	100	132	13200
M	**FINISHING :**				
M-01	Providing at all heights 12 mm thick cement plaster on brick work, exposed surfaces of RCC lintels, beams, etc., complete in all respects and as directed with cement plaster mix : 1:2:2 (1 cement: 2 fine sand: 2 coarse sand).	Sq. M.	600	181	108600
M-02	Providing at all heights 15 mm thick cement plaster on rough side of single or half brick walls, etc., complete in all respects and as directed with cement plaster mix : 1:2:2 (1 cement: 2 fine sand: 2 coarse sand).	Sq. M.	600	210	126000
M-03	Providing at all heights 6 mm thick cement plaster to ceiling, etc., complete in all respects and as directed with cement plaster mix : 1:3 (1 cement: 3 fine sand)	Sq. M.	100	144	14400
M-04	Providing and applying Acrylic Smooth exterior paint of required shade of approved brand n make on exterior walls (two or more coats New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied@ 2.20 kg/10 sqm)). The job includes	Sq. M.	46000	96	4416000

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	preparation of surface, applying two coat of putty to make good the unevenness of the surfaces including necessary scaffolding etc. complete for all heights. as per and as directed & instructed by engineer-in-charge				
M-05	Providing and applying painting with plastic emulsion paint of approved brand and manufacture and of required shade and colour on new work (two or more coats) to give an even shade and finishing including necessary preparation of surfaces, complete as per manufacturer's specifications and as directed.	Sq. M.	240	122	29280
M-06	Providing and applying distempering with oil bound washable distemper of approved brand and manufacture to give an even shade with good quality acrylic washable distemper (readymade) of approved manufacture's specification. Two or more coats on new work. The job includes preparation of surface, providing and applying manufacture's approved distemper primer and applying two coat of putty to make good the unevenness of the surfaces including necessary scaffolding etc. complete for all heights. As per and as directed & instructed by engineer-in-charge	Sq. M.	360	94	33840
N	**SANITARY WORK:**				
N-01	Providing and fixing oval shape counter top type coloured Vitreous China wash basin of size 630x450 mm of Hindware/cera/parryware/Jaquar, tato incl. The following accessories : Providing and fixing pillar cock of Jaquar or equivalent make all other fittings like CP waste coupling, CP brass bottle trap, CP brass stop cock, tap, as required all connecting arrangement etc. including painting of fittings	EACH	4	2299	9196

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	and brackets, cutting and making good the walls wherever required:				
N-02	Providing and fixing coloured vitreous European type water closet with 8-10 ltr flushing cistern of Hindware/cera/parryware or equivalent) with seat and lid ;C.P brass hings and rubber buffers with ;overflow arrangement with specials of standard make and mosquito proof coupling of approved design complete including painting of fitting and brackets cutting and making good the walls and floors wherever required.	EACH	4	3494	13976
N-03	Providing and fixing bevelled edge mirror of superior glass (of approved quality) of 5mm thick of size 1000 x 750 mm of Belgium Glass or equivalent, 6mm wooden ply wood, wooden beads with 3M adhesive alround of specified size and Chamfered, fixing with wooden plugs with CP brass screws and cup washers etc. All complete as per the directions of engineer In-charge.	EACH	4	818	3272
N-04	Supplying and fixing white vitreous china flat back large auto flush type gents urinal with concealed censor of Hindware/cera/parryware or equivalent with CP flush valve, CP pipe connections CP waste coupling CP brass bottle trap 32 mm UPVC waste line of require length CP spreader unit and extension pipe all complete as directed.	EACH	4	3494	13976
N-05	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) as per direction of Engineer-	Sq.M	2	2832	5664

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	in-charge and finished smooth Granite Stone of approved shade				
N-06	Providing & fixing Nahani Traps. The work shall include fixing the trap in P.C.C. 1:2:4, and shall be provided with Chromium plated brass hinged type heavy grating on the top. The deep seal traps shall have generally 50mm water seal, as required complete in all respect.	EACH	6	200	1200
N-07	Providing and fixing C.P. brass bib cock (of 15 mm nominal bore) of approved quality conforming to IS:8931 :				
(a)	Short body bib cock	EACH	6	372	2232
(b)	Health Faucets	EACH	4	555	2220
N-08	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.	EACH	6	546	3276
N-09	Providing and fixing C.P. brass angle valve of approved quality (15 mm nominal bore)	EACH	6	476	2856
N-10	Providing and erecting readymade anti bacterial polyethylene water storage tank of approved manufacturer and required size for capacity 2500 Lit including connecting necessary supply lines, delivery lines, wash water line and with manhole cover at top of not less than 450mm clear dia, with locking arrangement complete as per drawing and as directed and instructed by Engineer-In-Charge.	EACH	2	18125	36250
N-11	Making soak pit for 50 users as per standard design & Drawing	EACH	2	20681	41362
N-12	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes, fittings & including all fixtures with one				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
(a)	15 mm nominal outer dia Pipes	RM	40	143	5720
(b)	20 mm nominal outer dia Pipes	RM	40	180	7200
(c)	25 mm nominal outer dia Pipes	RM	60	216	12960
N-13	Providing and fixing soil/ waste PVC pipes as required connecting properly with pipe and filling all joints as required at any level (including tees, bends, plain junction, stays & clamps and other fixtures as required complete in all respect				
(a)	75 mm dia.	RM	50	149	7450
(b)	100 mm dia.	RM	50	237	11850
N-14	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
(a)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	EACH	2	4043	8086
N-15	Providing and fixing toilet paper holder C.P. brass of approved make GEM, PARKO or equivalent chrome finish	EACH	4	385	1540
N-16	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete				
(a)	Flexible pipe- 32 mm dia	EACH	6	73	438
N-17	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not	EACH	8	138	1104

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
	less than 105 gms.				
N-18	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
(a)	450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	EACH	2	390	780
O	**DELETED**				
P	**MISCELLANEOUS :**				
P-01	Supplying and filling in under floors, etc., with fine sand at all depths in layers not exceeding 20cms. in thickness including consolidating and dressing each deposited layer by ramming and watering, etc., complete in all respects as per direction of Engineer-in-Charge	Cu. M.	20	900	18000
P-02	Supplying, Drilling/Cleaning hole and fixing heavy duty Hilti chemical anchors HVA-E or equivalent Fischer anchor for fixing of insert plates in concrete. Anchors comprises of HVU chemical foil capsule containing styrene free Urethane Metacrylate resin, hardener, quartz, sand/corundum and threaded rod HAS-E of steel grade 5.8 for sizes M8-M24 and 8.8 grade for M27-M39. All threaded rods shall have chiselled tip. The steel grades shall conform to IS1367, part 3.All steel components shall be galvanised to minimum 5 microns . HAS-ER threaded rod(stainless steel: A4-70) or HAS-HCR threaded rods (stainless steel:A4-70) shall be used for fastenings exposed to greater risk of corrosion instead of galvanized threaded rods. Plates shall be supplied separately & the payments shall be made against respective items. Fixing methodology to be followed as per manufacturers guidelines. Item includes all necessary scaffoldings required for completion of the work.				
(a)	Anchor size M12	EACH	2	1345	2690

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
(b)	Anchor size M16	EACH	2	2000	4000
(c)	Anchor size M20	EACH	2	3370	6740
P-03	Providing and fixing 16 mm M.S. Fan clamps of standard shape and size in existing R.C.C. slab, including cutting chase, anchoring clamp to reinforcement bar, including cleaning, refilling, making good the chase with matching concrete, plastering and painting the exposed portion of the clamps complete.	EACH	5	260	1300
P-04	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with angle iron 'Y' shaped placed 2.4 m or 3.00 m apart and with 9 horizontal and 2 diagonals R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron including providing, fixing/ grouting of Angles, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle paid separately)	M	6000	255	1530000
P-05	Demolishing R.C.C. work manually/ by mechanical means in boundary wall, buildings, structures, drains, floors, pavement etc. including stacking of steel bars and disposal of unserviceable material within 50 meters lead as per direction of Engineer - in- charge.	Cu.M	20	1455	29100
P-06	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				

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SR.NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE	AMOUNT (IN Rs.)
(a)	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	Cu.M.	5	997	4985
(b)	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	Cu.M.	450	615	276750
P-07	Demolishing brick work in cement mortar manually/ by mechanical means above ground or below ground (excluding excavation) including stacking of serviceable material within owner's premises and disposal of unserviceable material outside plant boundary at a suitable location with permission from Municipal corporation or local authority as per direction of Engineer-in-charge.	Cu.M	5500	966	5313000
P-08	Dismantling steel work in joist, channel, angles, tees, flats, built up sections including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and Stacking of serviceable material within owner's premises and disposal of unserviceable material outside plant boundary as per direction of Engineer-in-charge.	Kg.	10000	2.4	24000
				TOTAL (Rs.)	14,77,96,399.00

Name of Tenderer :

Signature & Seal of Tenderer :

Place :

Date :

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SUMMARY OF SCHEDULE OF RATES

S.NO.	ITEM DESCRIPTION	UNIT	ESTIMATED AMOUNT
1.	**BOUNDARY WALL, WATCH TOWER & SECURITY ROOM**	**INR**	**14,77,96,399.00**
2.	**TOTAL ESTIMATED VALUE**	**INR**	**14,77,96,399.00**
3.	**BIDDER TO QUOTE IN PERCENTAGE ABOVE OR BELOW APPLICABLE FOR TOTAL ESTIMATED VALUE MENTIONED AT S.NO.-2 ABOVE**	**In %**	***Bidder to quote either Above or Below else bid will be rejected*** **(in fig.) Above :** ____ % **OR** **(in fig.) Below :** ____ % **(in words) :** _____%
4.	**TOTAL QUOTED PRICE** *[By considering Percentage Above Or Below (as mentioned at S.No.-3) on Estimated Value at S.No.-2]*	**INR**	
5.	**Applicable GST** *(Bidder to indicate % only)*	**In %**	
6.	**TOTAL GST Amount** *(By considering GST Rate mentioned at S.No.-5)*	**INR**	
7.	GRAND TOTAL (4 + 6)	INR	

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Note :

1.) **In Sl.No.-3, the bidder has to quote either Above or Below, else their bid will be liable to be rejected.**

2.) If the bidder has indicated "Not Applicable/Not Quoted" at S.No.-4 above, their bid will liable to be rejected and will not be considered for price evaluation. However, if the bidder has indicated "Nil / Blank", it will be considered as "Nil Percentage" and the Estimated Amount will be considered for evaluation and award, in case the bidder becomes successful.

3.) The Evaluation shall be done on Overall Lowest basis as per clause no.30.0 of the ITB, considering the rates quoted above plus GST.

4.) Bidder to quote the Percentage (Either Above or Below) within 2 Decimal places. Digits beyond 2 decimal places will be ignored.

5.) If two or more bidders emerge as the Lowest evaluated bidders after evaluation, in such an event, Revised Percentage (which should be lower than Original Quoted Percentage) will be sought from those bidders and Re-evaluation will be carried out for selection of Lowest (L-1) Bidder.

6.) If any bidder does not indicate both GST rate and GST charges in Schedule of Rates (SOR) by stating NIL / Blank / Not Applicable / NA, **GST @ 18% shall be loaded in their quoted price for the purpose of evaluation for such bidder**. GST shall be paid/ reimbursed to such bidder at actual on submission of the GST invoice limited to the aforementioned rate i.e. 18% considered for the purpose of evaluation, in case of award to such bidder.

Name of Tenderer :
Signature & Seal of Tenderer :
Place :
Date :

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CIVIL VENDOR LIST

FOR

AMMONIA-UREA FERTILIZER PLANT

AT

HURL BARAUNI

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SL. NO.	ITEM	NAME	LOCATION	BRAND NAME
1.0	**FLOOR FINISHING**			
1.1	CEMENT TILES (FLOOR/WALL)	a) EUROCON b) ALTRA TILE PVT. LTD. c) DAZZLE		
1.2	TERRAZZO TILES	a) NITCO b) HINDUSTAN TILES	DELHI DELHI	NITCO HINDUSTAN TILES
1.3	CERAMIC TILES	a) SPARTEK CERAMICS b) BELL CERAMICS c) SOMANY CERAMICS d) H&R JOHNSON CERAMICS e) KAJARIA CERAMICS f) ORIENT CERAMICS	CHENNAI BARODA NEW DELHI MUMBAI DELHIC DELHI	SPARTEK BELL CERAMICS JOHNSON KAJARIA ORIENT
1.4	HEAVY DUTY FLOOR TILES	a) BHARAT TILES b) RESTILE CERAMICS c) PELICAN CERAMIC INDUS. d) DIAMOND REGINA e) SONA TILES	MUMBAI DELHI DELHI AHMEDABAD BARODA	STILAN RANAMITE PELICAN DIAMOND REGINA SONA TUFF
1.5	INDUSTRIAL FLOOR HARDENER ADMIXTURE	a) SAMKOCK CHEMICALS (P) LTD. b) STRUCTURAL WATER PROOFING CO. (P) LTD.	AHMEDABAD KOLKATA DELHI	SAMHARD STD DURONITE CICOSURFACE HARDNER
1.6	PVC ROLLS	a) PREMIER VINYL b) ARMSRONG INARCO c) PREMIER POLYFILM	DELHI MUMBAI DELHI	ROBUST ARMADA POLYFLOOR
1.7	PVC TILES	a) BHOR INDUSTRIES b) ARMSTRONG c) SHYAM VINYLES	DELHI MUMBAI CHENNAI	MARBLEX CARARA/SPECTRA SHYAM VINYLES
1.8	PVC TILES/ROLL ANTISTATIC	a) PREMIER VINYL b) PREMIER POLYFILM c) ARMSTRONG	DELHI DELHI MUMBAI	ANSTAT POLYFLOOR ANTISTATIC ARMSTRONG ANTISTATIC
1.9	ACID RESISTANT TILES(BATTERY ROOM)	a) H&R JOHNSON OR APPROVED EQUIV.	NEW DELHI	
1.10	MOSSAIC TILE	a) ITALIA b) SPECIFIC GLASS MUSSAIC INDIA LTD.		
2.0	WOOD WORK			
2.1	FLUSH DOOR	a) SITAPUR PLYWOOD b) WOODCRAFT PRODUCTS c) KITPLY PRODUCTS	SITAPUR(UP) CALCUTTA CALCUTTA	SITAPUR WOODCRAFT KITPLY
2.2	PLY WOOD/BLOCK BOARD	a) WOODCRAFT PRODUCTS b) KITPLY PRODUCTS c) GREEN PLY	CULCUTTA CALCUTTA KOLKATA	WOODCRAFT KITPLY
2.3	PARTICLE BOARD (EXTRA GRADE)	a) BHUTAN BOARD b) BEST BOARD c) NOVAPAN INDIA LTD. d) THE BOMBAY BURMAN	BHUTAN DELHI HYDERABAD	BHUTAN BOARD HIBOND NOVAPAN NOVATEAK

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		TRACING CORPN. LTD.	DELHI	EASYLAM
2.4	MDF BOARD/MD PARTICLE BOARD (EXTRA GRADE) VENEEREED/LAMINATED	a) NUCHEM LTD. b) MANGALAM TIMBER PRODUCTS LTD. c) WESTERN BIO SYSTEMS LTD.	DELHI DELHI PUNE	NUWUD MDF DURATUFF ECOBOARD
2.5	DECORATIVE LAMINATES	a) THE BOMBAY BURMAN TRADING CORPN. LTD. b) GREENPLY INDUS. LTD. c) BAKELITE HYLAM LTD. d) RAMMICA INDUSTRIES	DELHI DELHI DELHI DELHI	FORMICA/LUCKY GREENLAM DECOLAME/DECOLITE RAMMICA
2.6	MARINE PLYWOOD	a) INDIAN PLYWOOD MFG. CO. LTD. b) SWASTIC PLYWOOD	DELHI DELHI	ANCHOR SWASTIK
2.7.0	DOORS & WINDOWS FITTINGS			
2.7.1	MORTICE LOCKS WITH HANDLES	a) GODREJ & BOYCE b) EVERITE AGENCIES (P) LTD. c) GOLDEN INDUSTRIES	MUMBAI DELHI DELHI	GODREJ EVERITE GOLDEN
2.7.2	CYLINDRICAL PIN TUMBLER LOCK WITH KNOBS	a) SECURE INDUSTRIES b) GOLDEN INDUSTRIES c) GODREJ & BOYCE	DELHI DELHI MUMBAI	SECUR GOLDEN GODREJ
2.7.3	HYDRAULIC DOOR CLOSER (OVER HEAD/ FLOOR)	a) DOORKING INDUSTRIES b) EVERRITE AGENCIES (P) LTD. c) HARDWYN	DELHI DELHI DELHI	DOORKING EVERITE HARDWIN
2.7.4	MISC. DOOR FITTINGS HINGES, TOWER BOLTS, LATCHES, SOPPER, STAYS, ALDROPS ETC.	a) EVERITE AGENCIES (P) LTD. b) EBCO DINSUTRIES c) ECIE (P) LTD. d) NU-LITE INDUSTRIES e) HARDWYN	DELHI DELHI MUMBAI DELHI DELHI	EVERITE e.g. EBCO ECIE NU-LITE HARDWYN
2.7.5	THREE WAY BOLTING LOCKING DEVICE HANDLE	a) SRIMA SALES & SERVICES b) DHIMAN INDUSTRIES	MUMBAI DELHI	SRIMA SALES CUM- DHIMAN STEEL WITH
2.7.6	PANIC BAR LATCH (FOR EMERGENCY DOOR)	a) SRIMA SALES & SERVICES OR APPROVED EQUIV.	MUMBAI	SRIMA SALES
2.7.7	UPVC WINDOWS	a) FENESTA b) ENCRAFT c) WINDOW MAGIC		
2.7.8	FASTENERS	a) HILTI INDIA PVT. LTD. b) FISCHER	NEW DELHI	
3.0	STEEL/ ALUMINIUM DOORS, WINDOWS & VENTILATOR			
3.1	PRESSED STEEL DOORS WINDOWS & SECTION DOORS WINDOWS/ROLLING	a) RAYMUS ENGINEERS b) DHIMAN STEEL c) RDG ENGINEERING d) SUPER STEEL WINDOW	GURGOAN/ DELHI MUMBAI DELHI	

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	SHUTTER	CO. e) SKS STEEL INDUS.	DELHI	
3.2	ALMUNIUM / DOORS/ WINDOWS SECTIONS	a) JINDAL ALUMINIUM LTD. b) HINDALCO INDUSTRIES c) INDAL		
3.3	FIRE-PROOF DOORS(APPROVED)	a) NAVAIR INTERNATIONAL b) RDG ENGINEERING	DELHI MUMBAI	VIPER(TAC) RADIANT
3.4	PVC DOORS / WINDOWS	a) SINTEX Or APPVD EQUIV.	DELHI	SINTEX
3.5	PVC WATER TANKS	a) SINTEX Or APPVD EQUIV.	DELHI	SINTEX
4.0	PLASTERING			
4.1	WATERPROOFING/ COMPOUND IN CEMENT PLASTER	a) STRUCTURAL WATER PROOFING CO. (P) LTD. b) PIDILITE INDUSTRIES	DELHI MUMBAI	CICO NO.1 PIDIPROOF LW
5.0	ROOF TREATMENT (WATER PROOFING)			
5.1	BRICK BAT COBA	a) INDIA WATER PROOFING CO. b) OVERSEAS WATERPROOFING CORPN.	MUMBAI DELHI	
5.2	ACRYLIC BASED CEMENTATIOUS PRIMER COATING FOR ROOF WATERPROOFING	a) STRUCTURAL WATER PROOFING CO. (P) LTD. b) SIKA QUALCRETE LTD.	DELHI DELHI	TAPCRETE SEALOCFLEX
5.3	APP MODIFIED POLYMERIC WASTER PROOFING MEMBRANE	a) PIDILITE INDUSTRIES LTD. b) STP TEXAS LTD. c) BITUMET CO. LTD.	MUMBAI GURGOAN BANGALOR E	
5.4	POLYURETHANE COATING	a) AMCHEM PRODUCTS PVT. LTD b) CIPY POLYURETHANE COATING c) EZECOAT by M/s INDUSTRIAL PRODUCTS d) M/s SLP INDUSTRIES LTD. e) M/s SHIVALIX AGRO-POLY PRODUCTS	NOIDA PUNE	EZECOAT SIPGUARD SHIVABOND 903
6.0	PAINTING WORKS			
6.1	PLASTIC EMULSION (INTERIOR/EXTERIOR)	a) ICI INDIA LTD. b) BERGER PAINTS LTD. c) ASIAN PAINTS LTD. d) SHALIMAR PAINTS e) KANSAI NEROLAC PAINTS LTD.		DULUX BERGER ASIAN PAINTS SHALIMAR NEROLAC
6.2	DRY OILBOUND DISTEMBER	a) ASIAN PAINTS LTD. b) KANSAI NEROLAC PAINTS LTD.		ASIAN PAINTS NEROLAC
6.3	INDUSTRIAL / EXPOXY/ SYNTHETIC ENAMEL PAINTS	a) ICI/AKZO NOBEL INDIA b) BERGER PAINTS LTD. c) ASIAN PAINTS LTD. d) SHALIMAR PAINTS		

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		e) INTERNATIONAL MARINE COATINGS PVT. LTD. f) KANSAI NEROLAC PAINTS LTD. g) BOMBAY PAINT		
6.4	WATERPROOF CEMENT PAINT	a) KILLICK NIXON LTD. b) RAJDOOT PAINTS	MUMBAI DELHI	SNOWCEM PLUS ACROCEM
6.5	WOOD MELAMINE POLISH	a) ASIAN PAINTS b) SHALIMAR PAINTS		ASIAN PAINTS MELLAC
6.6	WASTERPROOFING TRANSPARENT EXTERIOR WALL COATING (OVER PAINTED SURFACE)	a) PIDILITE INDUSTRIES b) INDUSTRIAL PROD. MFG c) STRUCTURAL WATER-PROOFING CO.(P) LTD.	DELHI PUNE DELHI	REPELLIN S-101 WALL GUARD EWITEX PERFECT CICO- SEALCOTE
6.7	FIRE PROOF COATING	a) NAVAIR INTERNATIONAL OR APPVD. EQUIV.	DELHI	VIPER
7.0	ROOFING SHEETS & ACCESSORIES			
7.1	ASBESTOS SHEETS	a) ETERNIT EVEREST LTD. b) CHARMINAR INDUSTRIES	DELHI HYDERABAD	EVEREST CHARMINAR
7.2	C.G.I. SHEETS	a) ISPAT INDUSTRIES LTD. b) STEEL AUTHORITY OF INDIA c) TATA STEEL	DELHI	NIPPON DENRO SAIL TISCO
7.3	PRECOATED G.I. PROFILE SHEETS FOR ROOFING & WALL CLADDING	a) ISPAT INDUSTRIES LTD. b) SHREE PRECOATED STEELS LTD. c) INTERARCH BUILDING PRODUCTS (P) LTD. d) HARDCASTLE & WAUD MFG. CO. LTD. e) LLOYD INSULATION (I) LTD.	DELHI DELHI NOIDA MUMBAI DELHI	NIPPON DENRO META COLOR TRACDEK FERO COLOR LLOYDECK
7.4	ALUMINIUM SHEET (PLAIN/PROFILE)	a) INDIAN ALUMINIUM CO. LTD. Or APPROVED EQUIVALENT	CALCUTTA	INDAL
7.5	FIBRE GLASS SHEETS & PANELS (MACHINE MOULDED)	a) SIMBA FRP (P) LTD. b) GE INDIA	DELHI	SIMCRYL
7.6	PROOFING J/L HOOKS, BOLTS & OTHER ACCESSORIES (POLYMER COATED)	a) KATALIST CONSULTANT (P) LTD. b) ADVANCED MACHINE	PUNE BANGALORE	DRIPGRIP
8.0	SANITARY PLUMBING FITTINGS & FIXTURES			
8.1	SANITARY FITTINGS (W.C. WASH BASIN, URINAL ETC.)	a) HINDUSTAN SANITARY WARE & INDUS. LTD. b) PARRYWARE SANITARY WARE c) MADHUSUDAN CERAMICS d) NYCER CERAMICS	CALCUTTA CHENNAI DELHI CHENNAI	HINDUSTAN PARRYWARE CERA NYCER
8.2	PLUMBING FITTINGS & FIXTURES	a) GEM b) PARKO		

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		c) KINGSTON		
8.3	GLASS/MIRROR (SHEET/ FLOAT/ TOUGHENED/ LAMINATION	a) GUJARAT GUARDIAN LTD. b) SAINT GOBAIN c) ASAHI FLOAT	DELHI CHENNAI NEW DELHI	MODIGUARD
8.4	GI PIPES	a) JINDAL b) SURYA c) PRAKASH d) SWASTIK		
9.0	**FLASE CEILING, FLASE FLOORING & UNDERDECK INSULATION**			
9.1	FLASE CEILING / WALL CLADDING (ALUMINIUM STRIP/ TRAY TYPE)	a) INTERARCH BUILDING PRODUCTS (P) LTD. b) HUNTER DOUGLAS c) MASCOT OVERSEAS	NOIDA MUMBAI DELHI	TRAC LUXALON TRULON
9.2	FALSE FLOORING	a) MULTI INTERIORS PVT. LTD. b) BESTLOCK SYSTEM & CONCEPTS c) LLOYD INDUSULATION (I) LTD. d) UNITED INSULATION e) A.R. & BROTHERS	DELHI MUMBAI DELHI MUMBAI CHENNAI	
9.3	UNDERDECK/WALL HEAT INSULATION	a) BAKELITE HYLAM LTD. b) U.P. TWIGA F.G. LTD. c) LLOYD INDULATION (I) LTD.	DELHI DELHI DELHI	PHENOTHERM TWIGA ROCKLOYD SLAB
9.4	OVERDECK HEAT INSULATION	a) LLOYD INSULATION (I) LTD. b) BEST PLASTRONICS LTD.	DELHI DELHI	LLOYD SPRAY FAOM BESTPLASTRONICS
9.5	GYPSUM BOARD TILES (FIBRE GLASS REINFORCED)	a) INTERARCH BUILDING PRODUCTS (P) LTD. b) INDIA GYPSUM LTD.	NOIDA DELHI	TRAC GRG GYPBOARD
10.0	**SPECIALITY PRODUCTS (CEMENT ADDITIVES/ ADMIXTURES/CORROSION INHIBITORS/ SURFACE TREATMENT/ GROUT & ANCHORS/SEALING/ COASTING**	**a) FOSROC** **b) SIKA**	**NOIDA** **DELHI**	
10.1	EPOXY FLOOR COATING (BATTERY ROOM)	a) FOSROC b) SIKA c) FAIRMATE	NOIDA DELHI	
11.0	**MISCELLANEOUS ITEMS**			
11.1	WOOD PRESERVATIVE	a) ASCU HICKSON LTD.	CALCUTTA	ASCU
11.2	WALL SURFACE	a) UNITILE	DELHI	UNITILE

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	TEXTURED COATING	b) SPECTRUM PAINTS c) BAKELITE HYLAM	DELHI DELHI	SPECTRUM HERITAGE
11.3	PVC PLUMBING FITTINGS	a) PRAYAG POLYMERS (P) LTD.	DELHI	SYMET
11.4	REINFORCED FIBRE GLASS WATERPROOFING FELT	a) FGP LTD. b) U.P. TWIGA F.G. LTD.	DELHI DELHI	FGP
11.5	ANTI TERMITE TREATMENT	a) PCI Or APPRVD EQUIV.		
11.6	MATERIAL TEST HOUSE	a) SHRIRAM TEST HOUSE b) SPECTRO ANALYTICAL LABS c) BHARAT TEST HOUSE	DELHI DELHI DELHI	
12.0	**CEMENT**	a) ACC b) J K CEMENT c) BINANI CEMENT d) JP CEMENT e) GUJARAT AMBUJA f) ALTRA TECH CEMENT g) BIRLA CORPN. LTD. h) GRASIM i) SHREE	MUMBAI KOLKATTA MUMBAI MUMBAI KOLKATTA MP RAJUSTHAN	
12.1	SULPHUR RESISTANT CEMENT	a) SAURASHTRA CEMENT LTD. b) SHREE DIGVIJAY CEMENT		
13.0	RCC DESIGN MIX	a) IIT DELHI b) SHRIRAM TEST HOUSE		
14.0	WRAPPING COATING (I/C TAPE & PRIMER)	a) IWL OR APPROVED EQUIVALENT	NEW DELHI	PYPKOTECH
15.0	FIRE PROOFING MATERIAL	a) CAFCO b) CARBOLINE		
16.0	STRUCTURAL STEEL / CS PLATE	a) SAIL b) TATA STEEL c) RINL d) JINDAL e) ESSAR f) ISPAT INDUSTRIES g) JINDAL STEEL & POWER LTD.		
16.1	MS PIPES (HAND RAIL APPLICATION)	a) HITEX b) ASHWANI STEELS c) SURYA d) PRAKASH e) VIKRANT ISPAT UDYOG		
17.0	TMT BAR / REBAR	a) SAIL b) TATA STEEL c) RINL d) SHYAM STEEL INDUSTRIES LIMITED		
18.0	GRATINGS/HANDRAILS	a) INDIANA GRATINGS b) WESTCOAST ENGINEERING c) GREATWELD GRATING		

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		d) KANADE ANAND UDYOG		
19.0	WELDING ELECTRODE	a) ADOR b) ESAB c) D & H d) HANOVAR		

GENERAL NOTES:

i. Only 'First' Quality materials shall be used

ii. OWNER / CONSULTANT reserve the right to choose any of the approved make / vendor as per this list. Make of the item not indicated and any other make for the specified item shall be subject to owner's / consultant's approval.

iii. Specifications of manufacturer's items shall be checked against tender item / specifications before selecting any product or brand name. In case of any discrepancy, tender item / specifications shall prevail, and any such brand of item shall not be used which is not conforming to tender specifications even if it is listed in this vendor list.

iv. In case of non-availability of any material among approved vendors / makes in a particular site / region, alternate vendor / make conforming to IS / BS etc. Shall be used subject to approval by OWNER / CONSULTANT.

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HEALTH, SAFETY AND ENVIRONMENT (HSE) MANAGEMENT

FOR

HINDUSTAN URVARAK & RASAYAN LIMITED

0	30.10.17	30.10.17	FOR ISSUANCE	DILIP	GC	SM
REV	**REV DATE**	**EFF DATE**	**PURPOSE**	**PREPD**	**REVWD**	**APPD**

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1.0 INTRODUCTION

1.1 The purpose of the present document is to outline the minimum safety requirements applicable to personnel, equipment and facilities during erection, pre-commissioning and commissioning activities of OWNER / CONSULTANT Construction Sites. Constructing safe structure and providing safe working environment to the personnel is a vital factor in successful construction business. Safety and health are as much as part of effective project planning and control as the cost, schedules, procurement and quality. Indeed they are all closely interrelated. Productivity, safety and quality can move forward in close proximity.

1.2 OBJECTIVES

OWNER/CONSULTANT Site Management has following main objectives regarding safety at site.

a) No Accident
b) To make the environment safe
c) No harm to people
d) Safety is everyone's responsibility
e) To make the job safe

2.0 GENERAL

2.1 These rules do not exempt the Contractor from statutory Health, Safety and Environmental duties but are intended to assist in attaining a high standard of compliance with those duties, in order to provide a safe and healthy working environment.

2.2 OWNER/CONSULTANT will assist Contractors in any practical way to facilitate safe working, and requires full co-operation in observing these rules.

2.3 The rules for Health and Safety specified herein are in no way intended to relieve the Contractor from any obligation or liability under the Contract, nor is it intended to relieve the Contractor of any of his legal obligations for the avoidance of accidents.

2.4 In all matters arising in the performance of the Contract, the Contractor shall conform with all Statutory Regulations and By-Laws made with statutory authority by Government Departments or by Local or other Authorities that shall be applicable to the Works.

2.5 The Contractor, in the performance of the Contract, shall not endanger the safety or unlawfully interfere with the convenience of the public in any manner.

2.6 The Contractor's representative on Site shall communicate details of these rules for Health, Safety and Environment to all Contractors' employees and to all Subcontractors and Subcontractors' employees employed on the Site.

2.7 The requirements of the Client/Owner's existing Site Rules/Regulations form part of the Contract and in the case of conflict between the OWNER/CONSULTANT'S rules, the highest standard shall be applied.

2.8 At the tender stage OWNER/CONSULTANT will require to see a copy of the Contractor's policy, organization and arrangements for the Health and Safety at Work. The Contractor shall submitted complete documents Health and Safety Questionnaire. Contractor shall deploy safety officer of adequate experience at each work site or during each shift including Sunday/holiday with approval of EIC/Owner.

3.0 SITE HEALTH, SAFETY AND ENVIRONMENT INDUCTION

3.1 All personnel shall receive OWNER/CONSULTANT and Contractors' site Health, Safety and Environment induction before they commence work on site. The induction shall comprise information on the various hazards which they may come into contact with, instructions on the site emergency procedures, warning and alarm systems, and permit to work system, first aid locations, welfare facilities, access routes and project specific rules.

3.2 It is the responsibility of the Contractor to familiarize all new personnel to the Project on the actual location of muster points, fire alarm points, first aid stations and the like.

4.0 DEMARCATION

4.1 Construction personnel are restricted to the construction areas shown on the Contract Drawings. Any personnel found on/in or interfering with the existing works/plant, without permission, will be dismissed from site. Any work outside of these areas may only be carried out with the written agreement of OWNER/CONSULTANT.

Before any work is started on the site, the Contractor's representative shall report to OWNER/CONSULTANT, who will confirm to the Contractor's representative, the limits of the working area(s) and shall be informed of any special requirements appertaining thereto.

5.0 ACCESS TO THE CLIENT'S FACILITIES/BUILDINGS

5.1 The Client's Facilities, including the canteen/cafeteria and toilets shall not be used by Construction Personnel.

5.2 Construction Personnel shall not enter any of the Owner's building unless escorted by a member of the OWNER/CONSULTANT'S staff (or working with prior agreement to Owner's Permit to Work System).

6.0 BEHAVIOR ON SITE

6.1 All Contractors' personnel shall treat everyone with respect and will refrain from any sexually suggestive or abusive comments or behavior.

7.0 SMOKING, EATING AND DRINKING

7.1 Smoking, eating and drinking is allowed in designated areas.

8.0 DRUGS AND ALCOHOL

8.1 The possession or use of illicit drugs and alcohol on site is not permitted. Anyone who is found, or suspected to be, under the influence of either will be removed from site (subject to the Contractors' disciplinary procedure).

8.2 Anyone taking prescriptive drugs shall advise their employer, in particular those drugs that may impair their performance. Their employer may make arrangements to assign them to more suitable work, but shall ensure that the OWNER/CONSULTANT Construction manager is informed without delay.

9.0 PERMIT TO WORK SYSTEM

9.1 All construction works will be carried out under a permit to work system. It is designed to protect personnel and plant and consists of an organized and predefined safety procedure. It forms a clear record of all foreseeable hazards which have been considered in advance of construction operations.

9.2 The identities of the permit "Issuing Authority" will be OWNER and the "Permit Acceptor" will be the Contractor.

9.3 The following types of permits will be issued:

- Clearance Certificate - all other permits are invalid without this Certificate, (this certificate can be used for general work).
- Hot Job Work Permit.
- Electrical Work Permit.
- Confined Spaces Work Permit.
- Excavations Work Permit.
- Working at Height work Permit.
- Radiography Work Permit.
- Cold Job Work Permit.
- Road Closure Work Permit.

9.4 Written requests for permits must be submitted to Owner at least twenty-four hours in advance and the permits will be issued daily. Permits shall be given to Safety Officers of the contractor, by representatives authorized by Owner in approved formats.

10.0 ACCESS, SITE PASSES AND SECURITY

10. 1 Passes

All personnel and vehicles shall enter and leave the site via the entrance authorized for construction personnel and traffic. Contractors' employees shall not enter any part of the site other than for the purpose of carrying out the Works.

All personnel shall be issued with a site pass. The site pass must be carried (or displayed on the pass holder's lapel) at all times. Details of all personnel requiring site passes shall be submitted to OWNER/CONSULTANT at least seven working days in advance of the

planned start-on-site date. Site passes shall be submitted for inspection on entering or leaving the site, or when requested for inspection by OWNER/CONSULTANT or Security.

Loss of site passes must be reported immediately to Owner/Consultant. Lack of a site pass may mean delay at the site entrance. Owner/Consultant shall not accept any responsibility for lost time or costs incurred.

On completion of their assignment, or termination or their employment, all personnel will return their site pass to Owner or Owner representative/ Owner authorized personal.

10.2 **Security**

The security of Contractor's plant, tools, equipment, materials (including free issue materials properly handed-over by Owner/Consultant) are the responsibility of the Contractor. It is the Contractor's responsibility to satisfy themselves that the security arrangements in existence on the site are adequate. The Contractor shall provide any other security measure that he deems necessary for the control and security of Contractor owned equipment and plant, including for free-issue plant and materials, both within the site establishment area and the working areas on the site.

Owner accepts no liability for any loss, damage or deterioration to the Contractor's plant tools equipment and materials.

Owner reserves the right to search at random all personnel, any Contractor's employee, or employees of its servants, agents, Contractors or any vehicle entering or leaving the site. Any package or container being taken into or out of the site may be opened and inspected by security staff or any other persons authorized by Owner/Consultant to make such a search or inspection.

It is the Contractor's obligation and responsibility to ensure that OWNER / CONSULTANT right to search and inspect persons and property, extends to and is brought to the attention of all his personnel.

Personnel shall give all possible assistance and make available any facilities required to assist OWNER/CONSULTANT and the Police in pursuance of the prosecution of any person(s) responsible for alleged malicious damage or loss to the Works or existing installations.

Owner shall not accept any responsibility for the loss or damage of personal effects. The security and safekeeping of personal effects is the responsibility of each individual.

10.3 Construction personnel will not be admitted to the Construction Areas unless they have undergone Owner/ Consultant’s induction, and received a security pass.

No Induction, No Pass, No Access to the Site

10.4 OWNER/CONSULTANT reserves the right to deny access to the Construction Site/Areas and/or the Construction Car parks to any person, or vehicle.

10.5 Individuals may be excluded from and refused future entry to the Site and/or Construction Areas for any breach of Safety or Security Rules, or exceeding the speed limit (20 mph on roads leading to the site off the public highway and 5 mph in the construction area).

10.6 No plant/skips waste or materials may leave the Construction Area without the clearance of OWNER/CONSULTANT.

10.7 The taking of photographs on the site is prohibited.

10.8 Vehicles with children under the age of 16 years or animals onboard will not be allowed access.

10.9 Visitors will only be allowed by appointment (two days' notice to OWNER/CONSULTANT is required). Visitors shall be accompanied by a member of the Contractor's team (who has received Health, Safety and Environment Induction) at all times. The visitor will have to obtain a visitor's pass, and be collected from and returned to the main gate.

10.10 Each Contractor will keep a daily register of who is on site. The register will record name, pass number, time-in and time-out (records on time-clocks will not be permitted). This information shall be used to check personnel (role call) in the event of an emergency

11.0 PARKING, DELIVERIES AND VEHICLE PASSES

11.1 Contractors' personnel shall not be allowed to park any vehicle on the main car park or site. All contractors shall park in the Contractors' Temporary Car Park.

11.2 The Contractor shall arrange transport between the parking area(s), the main site gate and the Contractor's establishment and working areas if judged to be necessary.

11.3 Vehicles used solely for transporting of tools and equipment may be allowed access to the working area(s) for unloading/loading only.

11.4 Owners of vehicles parked illegally will have their car pass taken off them and told to remove the vehicle from site. They may have their site pass withdrawn and be refused further access to the Construction Site.

11.5 The Construction Areas will be restricted to construction plant and delivery vehicles.

11.6 The speed limit on site is 10 mph on the approach roads leading to the site off the public highway and 5 mph on the construction areas

12.0 SITE OPENING AND CLOSING TIMES

12.1 The site will be open from 8.00am to 6.00pm Monday to Saturday. Work outside the agreed normal working hours will be by agreement with Owner (subject to two working days' notice). All applications for out of hour working will identify the scope of work, supervision arrangements and a list of personnel.

13.0 SITE SUPERVISION

13.1 The Contractor must ensure that an employee of suitable seniority and authority, with responsibility for Health and Safety, is always present on site during the course of the works, to supervise and direct the Works and to receive and implement instructions from OWNER/CONSULTANT. Seven days before commencing works on site, the Contractor must notify OWNER/CONSULTANT of the name of that employee.

13.2 All supervisory staff shall be made aware of their responsibilities for safety.

14.0 TRAINING, COMPETENCE OF EMPLOYEES AND NOTIFICATION OF HAZARDS

14.1 Each Contractor must ensure that all his supervision and employees have had adequate safety training and are experienced to carry out their work safely, prior to starting on site. Training should be continuous throughout a project and should include regular toolbox discussions, (on site briefings at the start of each working day/shift).

To this end, the Contractor must also ensure that specific hazards likely to be experienced on the Site, whether notified to them or discovered by them, are notified to their workforce together with any precautions to be taken and local rules to be observed. Similarly, such hazards should be notified to their Subcontractors and, where discovered by them, to OWNER/CONSULTANT.

14.2 Where particularly severe or unusual hazards may arise on site, OWNER/CONSULTANT reserves the right at no additional cost to request Contractors' employees to attend special safety training and instruction sessions, whether carried out on site or externally. OWNER/CONSULTANT also requires Contractors' employees to undergo specified induction safety training. These aspects should be checked prior to submission of Tenders or execution of the works.

15.0 METHOD STATEMENTS

15.1 Contractors shall submit Safety Method Statements and JSA for all work activities, for example:

- Piling Operations.
- Excavation works.
- Lifting operations, as specified.
- Steel erection.
- Hot work operations.
- Radiography/NDT.
- Entry into confined spaces.
- Pressure testing.
- Working at height.
- Shot fired tools.
- Installation of pre-cast concrete planks.
- Pre-cast concrete structure.
- The erection of safety nets and fall arrest equipment.

Safety method statements must also be submitted for activities which have been identified as being of significant risk during the risk assessment process and activities selected by OWNER/CONSULTANT.

15.2 All Safety method statements must be submitted to OWNER/CONSULTANT at least seven days before planned commencement of the works.

15.3 The Safety method statement shall detail:

- The job to be undertaken.
- The individual activities required to complete the job.
- The individual trades/disciplines involved in each activity.
- Plant, equipment and tools be used in each activity.
- Any substances/chemicals to be used and where, and during which activity they will be used (together with a COSHH assessment).
- The Name(s) of the Supervisor(s) for each activity.
- The Name of the person in overall charge of the job.
- A detailed description of how the work will be done including control measures and procedures to complete each activity and the overall job safety.
- All hot work.

15.4 Compliance with the contents of the safety method statement shall be monitored on a daily basis and addressed during Contractors' safety management meetings.

15.5 The Contractor must ensure that employees executing the works are fully briefed and are made aware of the details within the approved Safety Method Statements, prior to starting the task, this includes highlighting hazards associated, associated risk assessments and reduction measures.

16.0 RISK ASSESSMENTS

16.1 Contractors will be required to produce risk assessments for all works under their control. The risk assessment shall be submitted as part of the Safety Method Statement to OWNER/CONSULTANT at least seven days before the job commences, and include the following information:

- Identification of all hazards applicable to significant risk activities.
- Details of measures in place to control the risk.
- Justification that the existing control measures are adequate or if not, a detailed action plan on how the risk(s) shall be controlled.

16.2 The use of Generic Risk Assessments is only acceptable if they follow the logical progression of the method statement and that specific operation, otherwise, task specific risk assessments will be required.

16.3 All risk assessments must be communicated to the workforce who will be responsible for undertaking the work.

17.0 COMPLIANCE WITH STATUTORY REGULATIONS

17.1 Contractors shall carry out their work in accordance with statutory legislation.
It is the duty of the Contractor to have knowledge of all relevant legislation and take account of it in the planning and execution of the work on OWNER/CONSULTANT' Sites.

18.0 INFORMATION TO BE PROVIDED AND POSTED

18.1 Contractors shall have in place, and issue to OWNER/CONSULTANT the following documents or information prior to commencement of their work, (where detailed within these rules):

18.1.1 Safety, Health and Environmental Policy.
18.1.2 Employer's Liability Insurance Certificate.
18.1.3 A detailed Health, Safety and Environment Plan, compliant with the project plan developed by the Planning Supervisor and/or Principal Contractor.
18.1.4 Work Method Statement Lifting Studies.
18.1.5 COSHH Procedures and Assessments.
18.1.6 Noise Procedures and Assessments.
18.1.7 Name of the individual appointed as the Site Safety Supervisor/Advisor.
18.1.8 Test certificates and examination for lifting gear, plant and appliances to be used on site. (Duplicates to be provided for OWNER/CONSULTANT's records.)
18.1.9 Drawings and calculations relating to false work, designed scaffolds, ground works and supporting temporary works.
18.1.10 Details of young persons to be employed on site.
18.1.11 Information relating to hazards associated with plant, operation and materials used in the works.
18.1.12 Proof of training for all personnel engaged in the works.
18.1.13 Daily Labour Returns.
18.1.14 Monthly Return of Accident Statistics to submitted OWNER/CONSULTANT format (Nil returns required).
18.1.15 Personal Injury Report to submitted to OWNER/CONSULTANT format (all injuries, however minor, to be reported). OWNER/CONSULTANT may request a detailed investigation into an accident. OWNER/CONSULTANT' decision on which incidents require detailed investigation is final.
18.1.16 Dangerous Occurrences, Incidents, Damage to Equipment and/or Property report to be submitted to OWNER/CONSULTANT format.
18.1.17 All entries/records of accidents entered into the Contractor's Accident Book shall also be copied into OWNER/CONSULTANT' Accident Book by the Contractor.
18.1.18 Copies of all Statutory Registers to be submitted weekly to OWNER/CONSULTANT.
18.1.19 Copies of the Contractor's Safety Officer/Advisor's reports of their findings on site visits/inspections.

18.2 Accidents, Incidents, Dangerous Occurrences and Notifiable Diseases

18.2.1 Accidents/Incidents/ Dangerous Occurrences/Near Misses

All accidents/incidents/dangerous occurrences/near misses must be notified to OWNER/CONSULTANT immediately, and a report prepared.

For reportable incidents, a copy the report to the Authority must be submitted to OWNER/CONSULTANT on completion but no later than two calendar days after the accident.

18.2.2 OWNER/CONSULTANT reserves the right to decide which accident, incidents or minor injuries shall be Investigated, and to what extent/format/contents of any investigation.

Note: All such notification or reports to OWNER/CONSULTANT do not release the Contractor of his statutory duties to report such matters to the Authorities by the quickest possible means (viz, telephone, fax and e-mail) immediately following the incident/accident.

19.0 PERSONAL PROTECTIVE EQUIPMENT/CLOTHING

19.1 All personnel on OWNER/CONSULTANT' site must wear as a minimum safety helmet, hi-vis vest, safety glasses and protective footwear. Additional personal protective equipment may be required dependent on the tasks being undertaken or as dictated by the risk assessment.

19.2 Contractors shall provide all necessary personal protective clothing and equipment for their employees and renew as necessary. Records of the issue of such equipment must be maintained for inspection by OWNER/CONSULTANT.

19.3 The Contractor shall:

- Provide personal protective equipment which is comfortable and fit for purpose.
- Maintain and clean personal protective equipment.
- Replace free of charge defective, broken or lost personal protective equipment.
- Provide storage for personal protective equipment when not being used.
- Ensure that personal protective equipment is properly used.
- Give training, information and instruction on its use to employees.
- Ensure that all personnel wear suitable clothing at all times **(no shorts, no sports shirts and no colours that may invite aggression - HSE "Keep Your Tops On" is enforced).**
- OWNER/CONSULTANT reserves the right to direct the contractor to change/replace personal protective equipment if they determine that it is unsuitable or inadequate for its proposed use.

20.0 SUBSTANCES (Control of Substances Hazardous to Health – COSHH)

20.1 Substances hazardous to health must be identified prior to taking them onto site and, if they cannot be substituted or eliminated, assessments stating how the substances will be controlled and what precautions will be introduced must be carried out and recorded in writing by a competent person. This assessment must be communicated to, and understood by, the members of the workforce who are likely to come into contact with the substance(s). A copy of all assessments should be submitted to OWNER/CONSULTANT.

20.2 Hazardous substances may only be brought to site with OWNER/CONSULTANT' permission. They shall be kept to a minimum and must be stored in secure, appropriate containers with the contents clearly labelled. The containers must be stored in a secure

area, preferably quarantined from the main stores areas, with suitable warning notices and signage posted.

20.3 Hazardous materials must not be allowed to discharge into natural watercourses or drainage systems.

20.4 All hazardous material waste must be kept separate from normal waste and be disposed of in a specialist disposal facility.

21.0 NOISE

21.1 When any operation of a Contractor is likely to expose any employee on site to an average noise level of 85 dB(A) and above, an assessment shall be carried out, by the Contractor, and records maintained for OWNER/CONSULTANT' inspection. In such circumstances, the Contractor must keep stocks of adequate ear defenders or other suitable hearing protection.

21.2 In addition to the foregoing, noise must be kept to a minimum at all times and must not exceed acceptable and/or locally specified rules and conditions relating to noise imposed by the Contract. Due regard must always be given to noise levels, and their effects on the local community and persons not involved in the operations. Permissible times for noisy work operations, and other restrictions, may be imposed by the Local Authority. Contractors receiving Notices or Prohibition Notices under the related legislation must notify OWNER/CONSULTANT of such Notices.

22.0 FIRST AID

22.1 All Contractors shall provide or ensure that they are provided with, such equipment and facilities as are adequate and appropriate in the circumstances for enabling first-aid to be rendered to any of their employees if they are injured or become ill at work.

22.2 No work shall commence on site until Contractors have trained first aid personnel on site. Contractor at all times during execution, shall station at site an emergency vehicle without any extra cost or claim.

23.0 TOOL BOX TALKS

23.1 Tool Box Talks will be implemented by all Contractors. The agenda for these talks will be agreed with OWNER/CONSULTANT prior to the commencing of work.

24.0 HEALTH, SAFETY AND ENVIRONMENT INSPECTIONS/HEALTH, SAFETY AND ENVIRONMENT ADVISORS

24.1 The OWNER/CONSULTANT' Health, Safety and Environment Engineer/Advisor will visit the sites and carry out Site Safety Inspections. Contractors must co-operate in these inspections. Whenever Contractors' own Health, Safety and Environment Advisors visit site they must report their arrival and departure to the OWNER/CONSULTANT' Senior Representative, and provide a report of their findings and any necessary corrective action to be undertaken.

24.2 Contractors on the project must provide a full-time site based Health, Safety and Environment Advisor, when the intensity of the work requires or at the request of the OWNER/CONSULTANT.

24.3 Contractors who do not have full-time site based Health, Safety and Environment Advisors, shall ensure that their Health, Safety and Environment Advisor visits site once per week as a minimum.

24.4 **Appointment of Health, Safety and Environment Supervision**

The Contractor shall appoint safety supervision. The name of each appointee, together with evidence of his or her competence to carry out the requirements of the role, shall be submitted to OWNER/CONSULTANT for their approval.

25.0 HEALTH, SAFETY AND ENVIRONMENT MEETINGS

25.1 Health, Safety and Environment will form part of the agenda at all Site Progress Meetings. The Contractor's Safety Advisor may be asked to attend these progress meetings.

25.2 Once per month OWNER/CONSULTANT' Resident Construction Manager shall convene a Health Safety and Environment Meeting of all Contractors. Attendees at the meeting shall be all Contractors' Safety Advisors and Site Managers.

26.0 HEALTH, SAFETY AND ENVIRONMENT COMMITTEES AND SAFETY REPRESENTATIVES

26.1 OWNER/CONSULTANT encourages the workforce to nominate Safety Representatives as a way of improving communication on Health, Safety and Environment issues. Wherever Contractors' Safety Representatives have been appointed, OWNER/CONSULTANT must be informed of their appointment in writing.

27.0 HOUSEKEEPING

27.1 Contractors are expected to carry out their work in a clean, safe and orderly manner.

27.2 Dust shall be kept to acceptable levels for the work being carried out. Waste materials and rubbish shall be cleared up as the work progresses and not left to introduce a safety hazard for other personnel engaged on the works.

27.3 Construction waste should never obstruct emergency exit routes, Firefighting equipment, emergency alarm call points or other emergency facilities.

27.4 From time to time as judged necessary, at the expiration of the contract, or when instructed to do so by OWNER/CONSULTANT, the Contractor shall undertake to clean and tidy his areas of occupation and work to the satisfaction of OWNER/CONSULTANT. Should the Contractor fail to do this, OWNER/CONSULTANT reserves the right to remove all offending materials and debris and to deduct the cost of this operation from the Contract Price. OWNER/CONSULTANT accepts no responsibility for any materials and/or tools which may be removed during this operation.

27.5 The Contractor must ensure that the following requirements are strictly enforced:

- Ample provision of refuse bins for all rubbish including organic waste such as food scraps, etc.
- Daily clearance of all such bins to the area designated for this discharge.
- No discharge of deleterious matter such as oils or other industrial waste.

27.6 All site offices, toilets, eating facilities, changing rooms, drying areas, stores, etc, which are the responsibility of the Contractor, shall be cleaned daily as a minimum by the Contractor. These facilities shall be checked for vermin on a two weekly rota.

28.0 FIRE PREVENTION

28.1 Before welding, flame or arc cutting of metals, or other processes involving heat or naked lights are permitted, a fire risk assessment shall be carried out by the contractor and arrangements agreed with OWNER/CONSULTANT who will issue a Permit to Work.

28.2 Contractors shall familiarize both themselves and their employees with the fire safety arrangements, fire alarms, means of escape and emergency evacuation procedures.

28.3 Before leaving the premises and site, contractors shall ensure that naked lights and other ignition sources have been extinguished and electrical apparatus, where practicable, switched off and/or disconnected.

28.4 Contractors shall store Highly Flammable Liquids and Liquefied Petroleum Gases in a manner approved by OWNER/CONSULTANT.

28.5 OWNER/CONSULTANT' fire protection equipment shall only be used in an Emergency. Fire extinguishers/fire blankets for use when carrying out hot work shall be provided by the Contractor.

29.0 REMOVAL OF WASTE FROM CONSTRUCTION SITES

29.1 The removal of waste shall only be undertaken by Licensed Waste Carriers.

29.2 Where there is any doubt of the composition of excavation spoil, it must be analyzed before it is removed from site.

29.3 Evidence of compliance shall be submitted to OWNER/CONSULTANT prior to the removal of any waste from site.

29.4 Controlled waste is any kind of household, industrial or commercial waste. This includes, for example:

- Scrap metal.
- Building, construction, demolition and excavation waste, including waste from any repair or renovation.
- Clinical waste.

- Anything which is unwanted because it is surplus, broken, worn out, contaminated or spoiled in some other way.

Controlled waste disposal must be managed via a chain of transfer notes, maintained by the contractor and readily retrievable for OWNER/CONSULTANT' inspection.

30.0 EXCAVATIONS AND OPENINGS

30.1 No excavation work shall be commenced by the Contractor unless a valid excavation permit has been issued. The Contractor shall have on site at all times while excavation work is being carried out, detection equipment which meets the latest technology.

30.2 Prior to the start of any excavation, OWNER/CONSULTANT shall be consulted and the presence of overhead and buried service records shall be checked. Where "live" services are present, hand excavation must be carried out until the location of the service has been identified, recorded and made safe.

30.3 The Contractor must erect suitable solid edge protection (i.e., double handrails) around excavations or openings. During the hours of darkness any excavations, openings or obstructions near or on roadways and walkways must be indicated by a sufficient number of warning lamps.

30.4 The sides of all excavations should be properly shored, battered or stepped to prevent collapse. No excavation work shall commence unless there are adequate resources present to ensure the stability of the excavation. Excavations shall be inspected prior to, or re-commencement of the work to ensure the excavation is still in a safe condition.

30.5 All excavations shall have a proper ladder access point provided.

30.6 Spoil from excavations must be piled at least 1m from the edge of the hole.

30.7 Vehicular traffic shall be restricted from the edges of excavations, to prevent possible collapse.

31.0 ELECTRICITY

31.1 All Contractors must provide their own electrical power supplies or as per Technical ITB.

31.2 Contractors must not interfere with, or work on any of, the Client's electrical installations or equipment without written consent.

31.3 Where Contractors have to work in the vicinity of electrical equipment they must carry out a risk assessment prior to commencement of any works.

ALL EQUIPMENT MUST BE TREATED AS "LIVE" UNLESS ISOLATED/LOCKED OFF AND TAGGED.

31.4 Repair or installation of any electrical equipment must only be carried out by a competent qualified electrician.

31.5 The electrical supply to powered hand tools must not exceed permissible volts, centre tapped giving appropriate volts to earth. Where this is not possible, due to the type of tool being used, the approval of OWNER/CONSULTANT must be sought in writing.

Electrical lighting for use in confined spaces must not exceed 24 volts (and be explosion proof where applicable). Powered hand tools used in confined spaces should, where possible, be air operated.

31.6 Contractors requiring to install temporary electrical supply equipment shall submit a temporary electrical supply procedure to OWNER/CONSULTANT for approval. The procedure shall, where necessary, cover installation of 380/440 volt system, installation of 110 volt system, lighting system, welding equipment installation, inspection testing operation and maintenance of temporary electrical systems.

31.6.1 **Distribution Boards** - Semi-permanent or Long Term

These should be accommodated in weatherproofed locations and be so arranged, if possible, that they will not need to be moved during the Contract. They should be proofed against interference or unauthorized operation and they should be large enough to accommodate all the necessary apparatus required. Each circuit should be clearly labeled and a circuit diagram should be located at each board.

31.6.2 **Distribution Boards** – Temporary

These are usually small portable panels or boards containing two or three socket outlets. They must be of robust construction, preferably all-insulated and should be supplied by heavy duty flexible cables, these cables shall not be spliced. Socket outlets, plug connectors and cable couplers should comply with High Standards or equivalent industry standard.

31.6.3 **Distribution Cables**

These cables run from the main distribution boards to the local distribution boards throughout the site.

The cables will normally be multi-strand multi-core armored PVC cables but, in certain cases, may take the form of Mineral Insulated Copper Clad (MICC) cables. The latter type should be sheathed with PVC.

The installation must be so arranged as to prevent the need for long trailing cables. Socket outlets should be located as near the working point as possible.

Power and lighting circuits should be kept separate.

A full record should be made of all parts of the installation and should be kept up to date when alterations or extensions are made.

31.6.4 **Underground Cables**

Cables may be provided by the Contractor and laid underground or overhead to connect the supply or metering point to the semi-permanent site distribution boards.

The cables must be suitable for the duty and loading expected, e.g., armored PVC cables.

The cables should be buried at a safe depth or taken from a height so as not to obstruct the movement of persons and vehicles and their routes clearly marked both on the site and on the site plans.

The cables should be properly terminated and be provided with efficient circuit protection.

Cable routes should be so arranged that the minimum of obstruction is caused. The cables should be treated with care and given the same supervision and protection as other cables.

31.7 No temporary electrical supply shall be installed or modified without the agreement and approval of OWNER/CONSULTANT.

31.8 Any tool, plant or equipment exceeding 110 volts (55v to earth) shall be connected to an earth leakage circuit breaker (ELCB).

32.0 WORK IN CONFINED SPACES

32.1 All work in confined spaces must be covered by a safety method statement.

Safety method statements for work in confined spaces should include arrangements for the following as a minimum:

- Issue of a permit to work
- Work scope and method.
- Nominated Supervisor.
- Tally man.
- Rescue procedures and equipment.
- Training.
- Tools and equipment to be used, including low voltage or pneumatic.
- Lighting requirements, including standby/emergency.
- Explosion proof fittings.
- Low voltage or pneumatic tools.
- Ventilation.
- Access.
- Bonding to prevent both electrical shock and static discharge.
- Work cycles, to reduce risk of heat exhaustion.
- Fire safety and extinguisher requirements.

32.2 Contractors shall not enter or commence work in any excavation, tank, vessel, pipe or chamber or other enclosed space, until a valid permit to work has been issued. Where Contractor's operations result in a dangerous atmosphere arising during the monitoring of the work activity, the permit to work issuing authority must be informed and all personnel removed from the area.

No new activity shall be introduced into a confined space without the permission and signed approval of the permit to work issuing authority.

Whilst work is ongoing within a confined space, the Contractor will be required to provide a trained standby/tally man.

32.4 All personnel who have to enter confined spaces must have undertaken the training appropriate to this task.

33.0 MOBILE CRANES

33.1 All cranes (including piling rigs, fork lift trucks, mobile elevated work platforms, hand lorries and similar equipment), whether owned by the Contractor or hired, must carry relevant test certificates and thorough examination reports, together with the manufacturer's handbook. Copies of this documentation must be submitted to Owner/Consultant prior to commencing work.

33.2 Only persons who are certificated as competent and authorized shall be allowed to operate cranes. The Contractor must be able to prove the competence of their employees to operate such equipment prior to its use.

33.3 Crane operators or other competent persons must carry out daily inspections and enter these in the crane register. Failure to maintain the register properly may lead to suspension of operations. This obligation is the responsibility of the crane hirer when he is supplying the crane and the operator. In addition, the Contractor will implement a regular inspection and maintenance programme to ensure that all components of the lifting device are in good condition.

33.4 Travel routes for cranes and crane standing must be agreed with OWNER/CONSULTANT in order to avoid such things as overhead lines and other structures, underground services, excavations, made up ground, etc. Load spreader pads of sufficient size and thickness area, and of suitable material, e.g., metal plates, timber, etc, are to be placed under each outrigger foot, before all crane lifting operations are allowed to commence.

33.5 Crane duty charts (Load Radius Tables) must be displayed on or be available in the crane for easy reference. In addition, crane manufacturers' rigging/de-rigging instructions must be available on site. During rigging/de-rigging of jibs/booms, provision must be made to support sections/either side of rigging points, from below, utilizing tightly packed blocks.

33.6 All cranes shall be fitted with:

- A reverse warning audible alarm.
- Load radius indicator.
- Automatic safe load indication.
- Crane hooks with safety catches.

All of which must be serviceable.

33.7 All lifting equipment accompanying the crane shall comply with the requirements of lifting regulations.

33.8 The assembly, rigging and de-rigging of any crane components, including fly jibs, shall only be done under the supervision of a competent lifting supervisor. An approved risk assessment, together with the manufacturers' rigging/de-rigging instructions must be in place covering rigging activities for the equipment.

33.9 Every Contractor involved in lifting operations with a crane (including a piling rig) or mobile crane shall appoint, in writing, a lifting supervisor to oversee all lifting operations.

33.10 No crane shall travel with a suspended load.

33.11 Outriggers, when installed, must always be used.

34.0 LIFTING OPERATIONS

34.1 A Lifting Study and Safety Method Statement must be prepared for all heavy lifts exceeding 10 tons, or of a complex nature, e.g., tandem lifts or as specified by the Construction Manager (or the Rigging and Lifting Supervisor) and submitted to OWNER/CONSULTANT for review.

34.2 Every lifting operation must be properly planned by a nominated, competent person.

34.3 Every lifting operation shall be appropriately supervised.

34.4 All slinging and rigging of loads must be carried out by competent personnel.

34.5 Clear communications between the crane operator and the person responsible for controlling the lift must be established.

All statutory Inspection Reports/Certification/Documentation and proof of the driver's training shall be photocopied and handed to OWNER/CONSULTANT prior to the setting up of the crane. Certification for lifting equipment to be used in the lift shall be identified and cross checked with the item of plant

35.0 STEEL ERECTION

35.1 The weight of each component in excess of 500 kg shall be clearly marked upon it.

35.2 Erectors must be fully informed of the correct erection sequence, by their supervisor, prior to each stage of work commencing.

35.3 Vertical access provision should, whenever possible, be fixed to the steel before it is lifted into position. Where this is not possible permanent access, ie, stairways or permanent metal ladders, shall be installed as early as possible.

35.4 Where horizontal access along structural members is required, as much work as possible must be completed before the steel is lifted into position. This includes:

Fixing of handrails or posts for securing steel wire ropes to be used in conjunction with safety harnesses or inertia reels.

The fixing of scaffold tubes (needles) to the lower flange of an I-beam to allow a working platform to be erected.

Where scaffold tubes (needles) are used they shall not support a working platform wider than three boards, or one lightweight staging without being "picked up".

Where no ladder access, permanent stairway, etc, leads onto working platforms, as described above, employees must use man riding baskets or mobile elevated work platforms as far as reasonably practicable to access working areas.

36.0 SCAFFOLDING

36.1 All scaffolding must be of good quality, be erected in compliance Good Practices for Access and Working Scaffolds, and special scaffold structures in steel. In addition to the main guard rail, an additional guardrail is required such that the gap between the toe-board and main guardrail does not exceed 470mm and all boards must be secured, without causing a tripping hazard.

36.2 All scaffolding shall be erected, modified and inspected by qualified competent scaffolders.

36.3 Where materials are to be positioned on scaffolding the Contractor's supervision must ensure that the scaffolding is not overloaded.

36.4 Before use, scaffolding shall be inspected by an authorized Scaffold Inspector who shall complete a "scaffold tag" and secure it in a prominent position at the base of all ladder access points. The scaffolding tag will clearly show the following information as a minimum:

- Location.
- Reference number.
- Requested by.
- Access Scaffold Classification.
- Maximum distributed load/working lift.
- Maximum number of working lifts to be used simultaneously.
- Date erected.
- Erected by.
- Inspected by.

36.5 Scaffolds shall be inspected at weekly intervals or after storms by the authorised Scaffold Inspector who shall sign and date the "Scaffold Tag" after each inspection. Scaffolding not considered safe shall have the Scaffold Tag withdrawn and a prominent "DO NOT USE" sign displayed.

36.6 A scaffold register shall be maintained by the authorized Scaffold Inspector. This shall contain:

- Date of first and subsequent weekly inspections.

- Individual identifications of all scaffolds which shall be cross-referenced to the Scaffold Tag identity number.

- Clear name and signature of the authorized Scaffold Inspector against each separate scaffold inspected.

36.7 No scaffold may be erected which impedes normal access or can be accidentally struck by moving plant without prior consultation with OWNER/CONSULTANT to ensure that a safe system of work is in place.

36.8 Contractors are not permitted to erect or carry scaffolding near live overhead electrical cables, or equipment because of the danger of tubes making accidental contact with electrically charged apparatus.

36.9 If there is any doubt about the security of any anchorage, suspension points or ties for a scaffold, e.g., strength of existing buildings/structures, or those under construction, OWNER/CONSULTANT must be consulted before proceeding with erection.

36.10 All scaffolds must be provided with suitable access. Where ladders are used for this purpose they must be of adequate length and properly secured by lashing or fixing to prevent displacement.

36.11 Action shall be taken to warn personnel against using partly erected or dismantled scaffolds. A prominent “DO NOT USE” sign shall be clearly displayed.

36.12 OWNER/CONSULTANT shall approve the sitting of the scaffold material racks/compounds.

36.13 Mobile tower scaffolds shall not be constructed with a height greater than 3 times the minimum base width and shall only be used on level ground. Towers shall only be erected by trained personnel.

36.14 In addition to weekly inspections, wooden scaffold boards shall be subject to a monthly inspection to ensure wood has not rotted or been subject to insect damage

36.15 The Contractor shall ensure that the system of work employed for the erection and dismantling of scaffolding shall not expose the Scaffolders to any risk.

36.16 All scaffolding must be erected and dismantled to the requirements laid down in the current regulations and guidance notes and to the requirements of OWNER/CONSULTANT.

37.0 LADDERS/STEPS

37.1 Ladders must be in good condition and free from defects, i.e., broken rungs, split stiles.

37.2 Ladders must not be painted.

37.3 Ladders must:

- Be securely fastened at the top.
- Be properly positioned at the base.
- Extend at least 1m (5 rungs) above the working platform.
- Be at an angle of 300mm out for every 1.2m vertical drop.

37.4 **All steps used on the project Site**.

37.5 Only one person must be allowed on a set of steps at any one time.

37.6 Persons must work with a set of steps of the appropriate height for the task.

37.7 The top rung of the steps must be kept at waist height, no work to be carried out above this height on steps.

37.8 Ladders are to be used as a means of access not as a working platform except for light, minor or one off activities. Then the person must wear a harness and tie-off to a suitable anchorage whilst carrying out the minor task.

38.0 FALL PROTECTION

38.1 Depending on the task and the risks, harnesses and appropriate anchorages/running lines will be used for activities carried out above a height of 2 meters.

38.2 Fall protection equipment shall be subject to regular inspection by a competent person, and a register maintained for OWNER/CONSULTANT' inspection.

38.3 During the execution of work at height, where it is not practicable to work from within a standard working platform with double handrail and toe boards (for example erection of structural steelwork, installation of roof components, etc), safety netting capable of catching a falling person must be installed as far as reasonably practicable.

38.4 The provision of safety netting does not relieve individuals from utilizing fall protection devices during the execution of the works.

38.5 The safety nets should be manufactured to Indian Standard and erected in accordance with good practices by a competent person.

38.6 The safety nets must bear a label stating the normal size of the net; the date of manufacture, the deflection at the centre of the net during the prescribed test and the maximum distance below the working height for which the net is designed to be used.

38.7 Test certificates must be provided for all safety nets, which will state the breaking strength of the net and provide details of the drop test carried out.

38.8 All safety nets must be periodically tested at intervals not exceeding three months – and records of these tests must be retained.

38.9 A formal inspection of safety nets must be carried out weekly to check for damage, loose ties, changes in anchorage points, etc. Records of these inspections must also be retained.

39.0 MOBILE ELEVATED WORK PLATFORMS

39.1 The term Mobile Elevated Work Platform (MEWP) covers the following types of equipment:

- Scissor lifts.
- Telescopic booms or jibs.
- Articulating and telescopic booms.

39.2 Anyone who is to operate a MEWP must be competent and have received formal training accredited by manufacturer.

39.3 Prior to any MEWP being used on site, a formal risk assessment must be carried out to identify any potential hazards which may exist as a consequence.

39.4 Whilst working within the platform of a MEWP, all personnel must wear a safety harness which is attached to a secure anchorage point within the platform.

39.5 Before commencing work from a MEWP, the surrounding area should be cordoned-off to prevent personnel straying into a potentially hazardous area.

39.6 The Safe Working Load specified on the MEWP must not be exceeded.

39.7 If the MEWP has been manufactured with outriggers or stabilizers, they must always be deployed.

39.8 Prior to commencing work, ground conditions must be checked to ensure that the ground bearing capacity will not be exceeded by the loading from the MEWP. Where required, spreader plates shall be used to distribute the loading.

39.9 The MEWP shall only be permitted to travel with the platform occupied and/or the boom extended if it is within the machine's specified operational capabilities.

39.10 MEWP shall not be used as a jack, prop or support.

39.11 MEWP shall not be used as a crane or lifting device.

39.12 MEWP shall not be used primarily for the transport of goods or materials.

39.13 MEWP shall not be used in wind speed exceeding 30 mph (12.5 m/s).

39.14 All MEWPs must be subjected to a regular maintenance and inspection regime, which as a minimum will require weekly inspections by a competent person and a thorough examination every six months.

40.0 CONTRACTORS' TOOLS AND EQUIPMENT

40.1 All Contractors' tools and equipment must be fit for purpose. Tools should be CE marked.

40.2 Guards and electrical trip switches must work effectively and must not be removed or by-passed.

40.3 All tools shall be of good quality and maintained in a safe working condition. Home made tools are not permitted.

40.4 The Contractor shall provide suitable storage with suitable racks and bins for storing tools and equipment.

40.5 All temporary construction leads, lighting and portable electric tools shall be of appropriate volts.

40.6 The Contractor shall nominate or employ the services of a competent qualified person to inspect and tag electrical power hand tools, transformers, distribution boards, extension cables, etc, on an at least a three monthly basis (PAT testing). The tag shall display name, signature of the individual inspecting the tool and date of inspection.

40.7 The Contractor shall keep, on site, a register of all electrical power hand tools in use. The register shall detail:

- Individual identity number of the tool.
- Name, signature and company of the qualified electrician carrying out the inspection.
- Date of inspection.
- Maintenance and Inspection schedule.
- Remarks on condition of tool and whether repaired or withdrawn from use.

40.8 No electrical powered hand tool shall be used unless it is tagged with a current "INSPECTION" tag.

40.9 All electrical leads must be connected to the power source through standard industrial waterproofed plugs and sockets, which shall be in good condition.

41.0 MECHANICAL PLANT AND EQUIPMENT

41.1 Mechanical plant and equipment is defined as:

- Earthmoving plant.
- Road making plant and equipment.
- Concrete batching plant and mixers.
- Forklift trucks.
- Miscellaneous plant, including generators and compressors.
- Mobile elevating work platforms (e.g., star- lift, cherry picker, etc).

41.2 All items of mechanical plant transported to the project shall be in a safe and sound condition and shall be properly maintained. Emissions shall be to acceptable limits and no smoke shall be discharged.

41.3 A programme of regular, preventative maintenance shall be established by the Contractor, as per the manufacturer's handbook, to ensure that all plant equipment is systematically inspected, maintained and repaired as necessary.

41.4 The preventative maintenance programme and the Contractor's employee responsible for taking the action shall be clearly detailed, identified and given to OWNER/CONSULTANT.

41.5 A safe system of work must exist during all maintenance and repair operations to ensure that no part of the machinery is set in motion while work is being carried out.

41.6 Plant maintenance must not be carried out within the main construction site.

41.7 Where refueling is required, facilities provided shall be adequately covered by fire extinguishers, earthing, warning signs, bonding and proper fuel dispensers. Refueling areas shall be curbed to avoid spills.

41.8 Waste oil removed from vehicles after servicing shall be sent to the appropriate off-site waste disposal facility and this is the responsibility of the Contractor.

41.9 The OWNER/CONSULTANT'S tools, plant and equipment may not be used by Contractors without their express permission.

42.0 COMPETENCY/PLANT EQUIPMENT

42.1 All drivers and operators of mobile plant (mechanically propelled vehicles) shall be in possession of the appropriate license for the class of vehicle.

42.2 It is the responsibility of the contractor to ensure that all drivers, operators and banks men of mobile plant (mechanically propelled vehicles) are certificated as competent.

42.3 **General**

42.3.1 Every dangerous part of machinery shall be securely guarded.

42.3.2 Any guards removed for maintenance or repair purposes must be replaced before the machine is set in motion.

42.3.3 No mobile plant (mechanically propelled vehicles) shall carry passengers unless a proper fixed seat is provided, except when the equipment is specifically designed for standing personnel.

42.3.4 Mobile plant (mechanically propelled vehicles) must be parked on firm level ground when unattended, the engine stopped, brakes on and any load or attachment lowered to the ground and the keys left in the ignition.

42.3.5 No mechanical plant or equipment shall be sited on or operated on any area of the project without express the permission of OWNER/CONSULTANT.

42.3.6 All items of mobile plant (mechanically propelled vehicles) shall be fitted with a reverse warning audible alarm.

42.3.7 All drivers/operators of mobile plant (mechanically propelled vehicles) shall strictly obey the instructions of the site security, traffic regulations and speed limits. A banks man shall be in attendance during all reversing procedures.

42.4 **Inspection**

All mobile equipment (mechanically propelled vehicles) shall be inspected by a competent person appointed by the Contractor prior to use on site. Equipment considered to be unsafe, by OWNER/CONSULTANT, shall not be allowed access to the site.

42.5 Flame Arrestors

42.6 All mobile plant for use in Petro Chemical Live Plant Areas, or during the Start-up and Commissioning Phase of the project, must be fitted with Exhaust Flame Arrestors and Chalwyn Valves where there is a risk of flammable gas releases.

43.0 MACHINERY GUARDING

43.1 Unauthorized personnel must not operate, interfere or tamper with plant or equipment.

43.2 Persons authorized to use machines must first check that guards are in position and that any other safety devices, e.g., emergency stops, are in working order.

43.3 All plant or equipment brought onto the site must be properly guarded to prevent injury and be CE marked.

NO GUARD OR FENCE MAY BE REMOVED FROM MACHINERY.

44.0 WELDING

44.1 Welding sets shall be in good condition, properly maintained and earthed.

44.2 Isolation switches on welding sets shall be readily accessible.

44.3 Terminals and live components shall be adequately protected.

44.4 Cables shall be frequently inspected to ensure the insulation is intact.

44.5 Damaged cables or electrical holders shall be properly repaired or replaced.

44.6 The welding return cable shall be secured onto the work piece. If this is not practical it shall be as near as possible.

44.7 Proper cable connectors shall be used when connecting runs of cables.

44.8 Welders shall wear:

- Face and eye protection with correct grade of filter.
- Welder's gauntlets.
- Long sleeved flame retardant overalls.

Welders shall wear safety helmets at all times, except whilst welding, when it is agreed as impractical and written permission is granted by OWNER/CONSULTANT, subject to mitigation of hazard, i.e., no work overhead, or shielded from falling objects.

44.9 Welding areas should whenever possible be screened off using flame retardant blanket or other suitable material. All combustible materials must be cleared from the vicinity of all welding operations.

44.10 Asbestos material shall not be used on the project.

44.11 Electric Arc Welding equipment and accessories shall conform to Latest Engineering Standards.

44.12 Fire extinguishers must be provided and kept adjacent to any welding or cutting activity.

45.0 ABRASIVE WHEELS

45.1 Contractors must ensure that any of their employees authorized to change Abrasive Wheels have attended an approved course of training and have been appointed in writing.

45.2 Details of each employee trained must be entered in the training register kept on site. Contractors must produce certificates and registers on request.

45.3 Machines used to drive Abrasive Wheels must be in good condition and properly guarded.

45.4 Pedestal or bench mounted grinders must have an emergency stop button and be fitted with a properly adjusted tool rest and guard.

45.5 All hand held grinders shall have a “Dead Man” switch and appropriate guards fitted.

45.6 The use of hand held angle grinders over 115mm shall only be permitted for specific tasks, subject to Owner’s / Consultant’s approval.

46.0 USE OF GAS AND OXYGEN EQUIPMENT

46.1 Compressed gas cylinders shall:

- Be in good condition and not suffering from corrosion.
- Be properly colour coded (reference should be made to National Standards).
- Be individually identified.

Hoses shall be properly colour coded to the internationally recognized standard for the gas being used, in good condition and fitted with hose connectors attached by permanent clips.

Check valves and flashback arrestors must be used on both hoses at all times.

46.2 Users shall check the equipment for perished, damaged hoses, regulators, and pressure gauges, etc. Defects must be reported to their supervisors and faulty equipment must be replaced.

46.3 When on site, cylinders must be in trolleys or secured in an upright position at all times. A bottle key shall be kept with cylinders in use.

46.4 Stored oxygen and fuel gas cylinders shall be kept separate with minimum separation distance of 5m. Cylinders must never be stored or used in a horizontal position cylinders must be secured in an upright position. Empty cylinders must also be separated from full cylinders. Cylinders shall be stored in lockable open mesh bottle cages.

46.5 All gas cylinders must be handled with care and they must not be misused or abused. They must be properly shut off when not in use and safety caps must be fitted when being moved.

46.6 Great care must be taken to ensure that gas equipment, including hoses, are not allowed to cause obstruction of roadways, walkways, manholes, ladders or other means of access where they can cause hazards or be damaged. Hoses not in use should be coiled up and put in a safe place. Hoses should whenever possible be supported off the ground.

46.7 Where any operation involves the use of gas and oxygen equipment in enclosed or semi-enclosed spaces, Contractors' supervision must carry out frequent checks to ensure these procedures are complied with.

46.8 During meal breaks and at stopping times, hoses and equipment must be removed from confined spaces or excavations. Oxygen or gas cylinders must not be taken into confined spaces for use or storage.

46.9 No modification to tanks or drums which have contained flammable liquid shall be undertaken at the site.

47.0 ABRASIVE AIR BLAST CLEANIN

47.1 Blast cleaning shall be carried out in an enclosed designated area.

Provision shall be made to prevent the spread of grit and dust out of the blast area and to collect and dispose of the spoil to an approved location.

47.2 The blast cleaning area shall be indicated by prominent warning signs.

47.3 Only approved abrasives having no free silica shall be used.

47.4 Personnel involved in the actual blasting of material shall be protected by a positive pressure, blast hood, meeting approved standards and providing both respiratory and eye protection, with breathing air supplied via a suitable filter.

47.5 The nozzle shall be fitted with a properly functioning dead man's handle, and anti-static abrasive blast hoses. It is required that all equipment be grounded and checked for ground potential

47.6 A standby man shall stay by the blast pot.

48.0 COMPRESSED AIR

48.1 All air receivers and compressors shall be in good condition and properly maintained.

48.2 Air receivers shall be individually identified and marked with their safe working pressure.

48.3 Air receivers shall be accompanied by a valid test certificate which shall be kept on site by the Contractor and shown to OWNER/CONSULTANT before bringing the vessel onto site.

48.4 All air receivers must be fitted with a properly set pressure relief valve.

48.5 Air receivers shall be examined and the pressure relief valve tested by an independent examiner at yearly intervals.

48.6 There shall be a register of all air receivers containing:
- Individual identification numbers.
- Dates of independent inspections.
- Name and signature of independent examiner.

- Rates safe working pressure.
- Pressure at which pressure relief valve lifted shall be kept on site by the Contractor along with all current certification.

48.7 The requirements inclusive also apply to compressor mounted air receivers.

48.8 All compressed air fittings shall be wired and/or restrained to prevent them from whipping should the coupling separate.

48.9 Only hose clamps designed for compressed air service shall be used. Worm drive (Jubilee) clips are not acceptable.

COMPRESSED AIR MUST NEVER BE USED FOR CLEANING CLOTHES.

48.10 Nozzles used for air blowing must be fitted with a “Dead Man” valve.

49.0 MOBILE PHONES AND PAGERS

49.1 Radios, personal CD and tape players are not allowed in the construction areas.

49.2 Mobile phones and pagers are prohibited in the designated construction areas by any hands-on personnel. External to the designated construction areas, providing it does not detract the user from any safety requirements and the user is stationary, then mobile phones and pagers may be used. **Other uses of this equipment will be at the discretion of OWNER/CONSULTANT.**

50.0 RADIOGRAPHY/NDT

50.1 Contractors who carry out radiography/NDT on the site must comply with safe systems of work. In particular, they MUST ensure that:

- Radiography areas are clearly marked using barrier tapes, notices and flashing lights.
- Audible warning (horns) must be sounded before a source is exposed.
- Only Classified Workers are engaged in radiography work.
- All other personnel are clear of the area before radiography takes place.
- Radiography work is supervised by a Qualified Radiological Protection Supervisor. Such supervisors must be nominated in writing and notified to OWNER/CONSULTANT.
- Any incident which may have resulted in over-exposure of any personnel is brought to the attention of OWNER/CONSULTANT for investigation.
- They have a written emergency procedure to be followed in the event of loss of an isotope or damage or malfunction of associated equipment. This procedure must be submitted to OWNER/CONSULTANT for approval before commencement.
- A certified meter is available on site.
- Radiography is carried out at the times agreed with OWNER/CONSULTANT normally this will only be during silent hours. OWNER/CONSULTANT requires twenty-four hours notice of such planned work.

50.2 Contractors who are not involved in radiography work must ensure that their employees observe warning notices, alarms and barriers in use where such work is being carried out.

50.3 Contractors must ensure that statutory notification is made to the authorities of radiography works.

50.4 Disposal of spent radioactive sources shall be agreed with OWNER/CONSULTANT.

51.0 WORKING OVER WATER/DIVING OPERATIONS

51.1 The Contractor shall provide a buoyancy aid to any employee working over (or near) water where there is a likelihood of falling in.

The Contractor shall also supply a sufficient number of life buoys to be permanently located at the point(s) of danger. The life buoys shall be attached to a throwing line.

Where rescue of a person falling into the water may be difficult, OWNER/CONSULTANT may require the Contractor to supply a standby boat, crewed by a competent boatman trained in rescue and resuscitation techniques.

51.2Diving operations may only be carried out using approved specialist diving contractors, employing certified commercial divers, and upon acceptance by OWNER/CONSULTANT of their Health, Safety and Environment plan and method statements (Diving Rules).

52.0 ASBESTOS

52.1 Only certified Contractors are allowed to handle asbestos.

53.0 IMPROVEMENT AND PROHIBITION NOTICES

53.1 In the event of an Improvement or Prohibition Notice being served by an Inspector, the OWNER/CONSULTANT Senior Representative must be notified immediately and the Contractor shall comply with the terms of such Notice immediately.

54.0 CARTRIDGE OPERATED FIXING TOOLS

The use of Cartridge Operated tools shall only be permitted with the express permission of OWNER/CONSULTANT, subject to an approved method statement and risk assessment, and use only by competent, trained operators).

55.0 SITE ESTABLISHMENT AND AMENITIES

55.1 Details of temporary services to be provided by Contractor or as Per Technical portion of ITB.

56.0 ACCOMMODATION

56.1 An area will be allocated for temporary site establishment facilities/services.

56.2 When required by the Contract, the Contractor shall provide and maintain (including de-watering when necessary) a suitable level and hardcore surface in the area allocated for temporary buildings such as offices, stores, workshops, mess huts and a stores compound.

56.3 When required by the Contract, the Contractor shall provide all site offices, stores facilities, workshops and mess huts for the accommodation of staff/site personnel. Proposals for the Contractor's temporary buildings shall be submitted to OWNER/CONSULTANT for approval with their tender.

56.4 **Storage in Permanent Buildings**

No Plant, Contractor's Equipment or Construction Aids shall be stored in any permanent building without first obtaining the written permission of OWNER/CONSULTANT. Such permission will not relieve the Contractor of the obligation to protect the building from damage whilst used as a store. If permission to use the building is refused by OWNER/CONSULTANT, the Contractor shall provide alternative storage facilities at no additional cost to OWNER/CONSULTANT.

56.5 **Sanitary Facilities**

All toilets and washing facilities shall be provided by the Contractor.
The supply and installation of necessary water sewage/drainage pipe work, pits, etc, for the facilities and the regular emptying and servicing are the responsibility of the Contractor.

56.6 **Canteen**

The Contractor must provide mess-huts for his employees and arrange any canteen facilities required for his employees and those of any others employed by him in connection with the Work.

57.0 TEMPORARY SERVICES

57.1 **Telephone, Facsimile, etc**

Arrangements for the provision of telephones, computer modems and/or facsimile facilities shall be made directly with providers of such facilities by the Contractor.

57.2 **Electricity**

If under the contract the Contractor is responsible for providing electricity for the site establishment amenities and working area(s), the Contractor shall ascertain the type, location and available spare capacity of the electrical point(s) of supply and provide cable, connections, isolating switches and earth leakage protection of approved specification.

If the Contractor's requirements for temporary electrical supplies exceed those agreed and render the available service inadequate, the Contractor shall provide the additional requirements at no extra cost to OWNER/CONSULTANT.

Electrical installations including all cables, temporary connections, wandering leads and all electrical facilities and/or equipment required for the execution of the Works shall be properly installed and maintained by the Contractor.

Temporary electrical installations must comply with all appropriate statutory requirements, the latest edition of the Institution of Electrical Engineers Regulations, COP for Distribution of Electricity on Construction and Building Sites and Electrical Safety on Construction Sites.

Electrical equipment and installation shall at all times be subject to inspection and approval by OWNER/CONSULTANT but this shall not relieve the Installer/User of their responsibilities for the safety of the system.

Electrical equipment or cables forming part of the permanent installation shall not be used by the Contractor for temporary services.

Temporary buildings shall have an external isolating switch.

The Contractor shall supply, install and maintain any temporary workface lighting.

57.3 **Water**

Supply of potable water for drinking and raw water for washing/toilet facilities, mixing concrete, hydrostatic testing and other construction purposes shall be in Contractor's scope. The Contractor shall ascertain the location of the supply point and shall provide and install any temporary pipe work necessary for the provision, use and disposal of such water.

58.0 DISCHARGES INTO THE INTERNAL AND EXTERNAL DRAINAGE SYSTEMS, LAND AND CONSTRUCTION AREAS

58.1 All proposed controlled discharges into the site drainage systems shall be agreed with OWNER/CONSULTANT.

58.2 Any water discharged on existing roads, hard shoulders or drainage systems shall first pass through a filtering interceptor (which must be regularly cleaned) to prevent the discharge of sludge or solids.

58.3 Any damage to the Works caused by prolonged or excessive pumping and any damage or nuisance arising out of pumping operations shall be the liability of the Contractor.

58.4 Subsequent to filling with water and testing of any part of the Works for hydraulic testing, the Contractor shall be responsible for safe disposal of the water, and shall ensure that the rate of discharge is controlled and kept within the capabilities of any drainage system utilized.

58.5 The Contractor shall provide all requisite equipment and materials to ensure that all drains, rivers, streams or waterways are safeguarded against pollution.

59.0 MAINTENANCE OF ROADS AND DRAINS

59.1 Existing roads, road gullies and drains shall be inspected by OWNER/CONSULTANT and the Contractor prior to work commencing. A record of this inspection shall be compiled and on the completion of the Works, a further inspection will be carried out and any necessary repairs to road surfaces or cleaning of drains shall be to the Contractor's cost.

59.2 The Contractor shall provide temporary protection to any existing roads to prevent all possibility of damage whatsoever arising from the Works.

59.3 The Contractor shall at all times in the execution of the work maintain all public and site roads in a clean condition to the satisfaction of OWNER/CONSULTANT.

59.4 The Contractor shall immediately remove all mud, earth and debris from road surfaces.

59.5 Track-laying cranes and similar vehicles must not travel on finished roads without written authority from OWNER/CONSULTANT and then only with the use of timber mats or approved precautions to prevent damage to the roads. Timber mats or other approved precautions shall be supplied by the Contractor.

60.0 MATERIALS – STORAGE AND CONTROL

60.1 The Contractor must give a minimum of twenty-four hours notice of the intention to uplift and transport materials/equipment supplied free-issue from OWNER/CONSULTANT/Client' storage facilities to the point of erection or Contractor's storage facility.

60.2 Free-issue materials/equipment furnished by OWNER/CONSULTANT shall be accepted by the Contractor and become the responsibility of the Contractor until acceptance of the Works. Any damage caused to free-issue materials after acceptance shall be repaired or replaced by the Contractor to OWNER/CONSULTANT' satisfaction.

60.3 Storage of Petrol, Fuels, Lubricants etc

All fuel and construction materials which may contaminate the site drains, land or watercourses shall be stored in bounded areas. Refueling of plant shall be via bounded bowers. All construction plant in static locations shall have drip trays which shall be cleared daily.

60.4 Environmental Impacts

The Contractor shall, prior to commencement of the work, present to OWNER/CONSULTANT for their approval a register of environmental impacts that necessarily arise from their works.

Each identified environmental impact shall be accompanied by an individual Risk Assessment, clearly showing the reduction measures put in place to ensure mitigation of residual risk.

61.0 PENALTY

The Contractor shall adhere consistently to all provisions of HSE requirements. In case of noncompliances and also for repeated failure in implementation of any of the HSE provisions, Consultant/Owner may impose stoppage of work without any cost & time implication to the Owner and/or impose a suitable penalty.

The amount of penalty shall be limited to 0.5 % (Zero decimal five percent) of the contract value.

The amount of penalty applicable for the Contractor on different types of HSE violations is as below.

1. For not using personal protective equipment (Helmet, Shoes, Goggles, Gloves, Full body harness, Face shield, Boiler suit, etc.) **Rs 500/- per day/ Item / Person.**

2. Working without Work Permit/Clearance **Rs 20000/- per occasion.**

3 Execution of work without deployment of requisite field engineer / supervisor at work spot **Rs. 5000/- per violation per day.**

4. Unsafe electrical practices (not installing ELCB,using poor joints of cables, using naked wire without top plug into socket, laying wire/cables on the roads, electrical jobs by incompetent person, etc.) **Rs 10000/- per item per day.**

5. Working at height without full body harness, using non-standard/ rejected scaffolding and not arranging fall protection arrangement as required, like handrails, life-lines, Safety Nets etc.**Rs. 10000/- per case per day.**

6. Unsafe handling of compressed gas cylinders (No trolley, jubilee clips double gauge regulator, and not keeping cylinders vertical during storage/handling, not using safety cap of cylinder).**Rs 500/- per item per day.**

7. Use of domestic LPG for cutting purpose / not using flash back arresters on both the hoses/tubes on both ends. **Rs. 3000/- per occasion.**

8. No fencing/barricading of excavated areas /trenches.Rs. 3000/- per occasion.

9. Not providing shoring/strutting/proper slope and not keeping the excavated earth at least 1.5M away from excavated area. Rs.5, 000/- per occasion.

10. Non display of scaffold tags, caution boards, list of hospitals, emergency services available at work locations.Rs.1000/- per occasion per day

11. Traffic rules violations like over speeding of vehicles, rash driving, talking on mobile phones during vehicle driving, wrong parking, not using seat belts, vehicles not fitted with reverse horn / warning alarms / flicker lamps during foggy weather. Rs. 2000/- per occasion per day

12. Absence of Contractor's RCM/SIC or his nominated representative (prior approval must be taken for each meeting for nomination) from site HSE meetings whenever called by Consultant/Owner & failure to nominate his immediate deputy (in the site organ gram) for such HSE meetings. Rs10000/- per meeting.

13. Failure to maintain HSE records by Contractor Safety personnel, in line with approved HSE Plan/Procedures/Contract specifications.Rs 10000/- per month.

14. Failure to conduct daily site safety inspection (by Contractor's safety engineers/safety officers), internal HSE meeting, internal HSE Awareness/Motivation Program, Site HSE Training and HSE audit at predefined frequencies (as approved in HSE Plan).Rs.10000/- per occasion.

15. Failure to submit the monthly HSE report by 5th of subsequent month to Project's Engineer-in-Charge /Owner Rs. 10000/- per occasion and Rs.1000/- per day of further delay.

16. Poor House Keeping Rs. 5000/- per occasion per subject

17. Failure to report & follow up accident (including Near Miss) reporting system within specific timeframe.Rs. 20000/- per occasion

18. Degradation of environment (not confining toxic spills, spilling oil/lubricants onto ground).Rs10000/- per occasion

19. Not medically examining the workers before allowing them to work at height / to work in confined space / to work in shot-blasting / to work for painting / to work in bitumen or asphalt works, not providing ear muffs while allowing them to work in noise polluted areas, made them to work in air polluted areas without respiratory protective devices,etc. Rs 5000/- per occasion per worker.

20. Violation of any other safety condition as per job HSE plan / work permit and HSE conditions of contract (e.g. using crowbar on cable trenches, improper welding booth, not keeping fire extinguisher ready at hot work site, unsafe rigging practices, non-availability of First-Aid box at site, not using hood with respiratory devices by blaster for shot//grit blasting, etc.) Rs. 5000/- per occasion.

21. Failure to carry-out Safety audit in time (internal & external), close-out of identified shortfalls of Observations of Safety Aspects(OSA),etc. Rs. 20,000/- per occasion.

22. Carrying out sand blasting instead of grit/shot blasting Rs. 50,000/- per day.

23. Failure to deploy adequately qualified and competent Safety Officer Rs. 10000/- per day per Officer.

24. Utilization of hydra/ back-hoe loader for material shifting or any other unauthorized /unsafe lifting works Rs 25,000/- per occasion.

25. Any violation not covered above to be decided by Consultant/Owner.

26. Any physical injury - maximum of Rs.2,00,000 per injury

27. Fatal accident - Rs. 25,00,000 per fatality

62.0 FOLLOWING SHALL BE APPLICABLE FOR MANDATORY MEDICAL EXAMINATION OF CONTRACTOR WORKERS BEFORE DEPLOYMENT AT WORK SITE:

Medical examination will be in the scope of the contractors.
Medical examination to be conducted by a doctor with minimum MBBS qualification, having registration number for practicing.

Certificate issued should have endorsement on the photo & clearly mention general health/fitness of the candidate to carryout work inside plant, including eye sight, Vertigo, BP,Heart, convulsion problem etc.

Certificate of fitness is to be issued on letter head of doctor and to be produced with application for photo Gate pass to the E-I-C for the job.

Validity of medical certificate will be for one year from the date of issuance.

Gate pass issued by CISF will bear “Medically Fit” stamp based on the E-I-C‘s recommendation.

Accordingly, this shall be treated as part of the tender.

MEDICAL CERTIFICATE

Affix latest PHOTO impression of the workmen half covering the photo.

Form for Medical Check Up for the Workman engaged by the Contractor

Certified that I, _____ have examined Shri _____Age _____
who has signed / thumb impression above on the photo in my presence. The details of his examination
as required are given in the enclosed medical examination report. I certify that all clinical and pathological tests were done in my hospital/dispensary under my instructions. General and physical examinations of Shri _____ do not reveal any abnormality. He does not suffer from any
acute / chronic disease or any contagious or infectious disease. He is medically fit to work inside plant. He is free from Vertigo, Epilepsy or Fits, general giddiness and height related disease. His B.P.Pulse, Eyesight etc. are normal.

In my opinion, Shri _____ is physically and mentally fit for undertaking physical labour inside the plant.

Sign_____
Date: _____

Signature and Rubber stamp of medical practitioner with name

Note: This certificate is to be given on the letterhead of the registered medical practitioner who is possessing MBBS qualification as recognized by the Indian medical council. Below the signature, the
rubber stamp of the medical practitioner should be affixed. The letterhead normally should contain the following:

1) Name of the Medical practitioner:
2) Qualifications:
3) Registration Number:
4) Designation:
5) Address:

63.0 ADDITIONAL SAFETY REQUIREMENT

A. Strict implementation of IS marked safety helmets & IS/CE marked safety shoes for contract personnel

All the contractors working inside the plant shall ensure that their supervisors/labourers compulsorily wear IS marked safety helmets & IS/CE marked safety shoes while entering plant premises. No contract personnel shall be allowed inside battery area without wearing IS marked safety helmets & IS/CE marked safety shoes. All EIC's/site engineers and F&S department shall sensitize and spread awareness among the contract personnel.

Name of Tenderer: ……..

Signature & Seal of Tenderer: ……