

# HINDUSTAN URVARAK & RASAYAN LIMITED

(A JOINT VENTURE OF CIL, NTPC, IOCL, FCIL & HFCL)

## BARAUNI UNIT

Barauni Urvarak Nagar, Begusarai

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115

[Registered Office SCOPE Minar, Core 4, 9TH Floor, Laxmi Nagar District Center, Delhi-110092]



## SECTION – I

### NOTICE INVITING TENDER (NIT)

**TENDER DESCRIPTION**

**RENOVATION OF OLD HFCL 48 NOS. TYPE IV QUARTERS  
AT TOWNSHIP, HURL BARAUNI.**

**NIT NO.**

**HURL/BR/CC/25-26/2027**



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI UNIT**  
(A JOINT VENTURE OF CIL, NTPC, IOCL, FCIL & HFCL)

1.0 HURL (Hindustan Urvarak & Rasayan Limited), Barauni invites on-line bids from eligible Bidders fulfilling the Qualifying Requirements / Pre-Qualification Criteria (PQC) under Two Bid system for aforesaid package.

2.0 **Brief Details**

Published Date	Refer CPP Portal
Bid Document Download / Sale Start Date	Refer CPP Portal
Bid submission Start Date	Refer CPP Portal
Last Date and Time for Bid submission	Refer CPP Portal
Technical Bid Opening Date & Time	Refer CPP Portal
<b>Earnest Money Deposit (EMD) in INR</b>	<b>₹ 20,69,074.00/-</b>
Pre-Bid Conference Date & Time (if any)	Refer CPP Portal
Last Query Date	Refer CPP Portal
Reverse Auction	Shall be intimated later

3.0 EMD/Bid Security shall be submitted online/ electronically by RTGS / NEFT in the account of HURL as mentioned below details by the stipulated bid submission closing date and time. The payment details of Bid security shall be submitted along with the bidding documents. Any bid without an acceptable Bid Security (if applicable) shall be treated as non-responsive by the employer and shall not be opened.

Name of the Bank	:	State Bank of India, Overseas Branch, Delhi
Account Name	:	Hindustan Urvarak & Rasayan Limited
Account No.	:	41288344914
IFSC Code	:	SBIN0004803

In case of EMD payment through RTGS/NEFT, Bidder must mention "E2027" in the transaction description while making the payment (Refer Clause 14 of Section II-ITB).

4.0 This tender is a **"work Contract"** and there is no exemption clause for EMD (Earnest Money Deposit) in the tender for work contracts.

~~5.0 All UDYAM registered vendors - MSE Category are exempted from submission of tender fee & EMD. UDYAM REGISTRATION CERTIFICATE must be submitted online along with the bidding documents to avail the exemption from furnishing the EMD.~~

~~MSE bidders seeking benefits of MSE as specified in the Tender Documents, must submit Attested/Self attested copy of UDYAM certificates (as mentioned in clause 4.0 of ITB) failing which no benefit of MSE shall be extended.~~

6.0 A complete set of Bidding Documents may be downloaded by any interested from the e-tendering Site (<https://eprocure.gov.in/eprocure/app>). Bidder who has downloaded the tender from the Central Public Procurement Portal (CPPP) website <https://eprocure.gov.in/eprocure/app>, shall



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not tamper/modify the tender document/form including downloaded price bid template in any manner. In case the same is found to be tampered/modified in any manner, bid will be completely rejected and EMD would be forfeited and Bidder is liable to be banned from doing business with HURL for a period of two years.

Intending Bidders are advised to visit CPPP website <https://eprocure.gov.in/eprocure/app> regularly till closing date of submission of tender for any corrigendum / addendum/ amendment.

Not more than one tender shall be submitted by one bidder/ bidder(s) having business relationship. Under no circumstance will father and his son(s) or other close relations who have business relationship with one another (i.e., when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection.

## 7.0 Qualifying Requirements / Pre-Qualification Criteria (PQC)

### 7.1 Commercial Pre- Qualification Criteria

Following is the commercial Pre-Qualification Criteria (PQC) for the subject tender:

<b>Condition 1:</b> Bidder should be either Partnership firm/Sole Proprietor / Limited company.
<b>Documents required (To be Submitted along with technical bid):</b> <ol style="list-style-type: none"><li>1. For Proprietorship firm - Name of the proprietor to be mentioned. Affidavit of proprietorship in original duly notarized (Latest).</li><li>2. For partnership firms –Affidavit in originals duly notarized, confirming the current status of the firm along with names of the partners or copy of partnership deed duly notarized (latest) to be submitted</li><li>3. For limited companies, notarized copy of Certificate of Incorporation, Memorandum &amp; Articles of Association and copy of allotment of Director Identification Number (DIN) number.</li></ol>
<b>Condition 2:</b> The Average Annual financial turnover during the last 3 years financial years should be at least ₹ 3,10,36,112.00/- <b>Note-</b> <ol style="list-style-type: none"><li>1. Other income shall not be considered for arriving at annual turnover.</li><li>2. Bidder can either submit Annual turnover for<ol style="list-style-type: none"><li>a. FY 2022-23, 23-24 &amp; 24-25 with CA certified UDIN.</li><li>b. FY 2021-22, 22-23 &amp; 23-24 with CA certified UDIN.</li></ol></li><li>3. Only ATO with UDIN shall be considered for Evaluation.</li></ol>
<b>Documents required (To be Submitted along with technical bid)</b> <ol style="list-style-type: none"><li>1. Proof of ATO shall be submitted in the form of Audited Balance Sheet along with annual statement of Profit &amp; Loss Account certified by Chartered Accountant (CA)". Unique Document Identification Number (UDIN) No. of CA must be clearly indicated in the above statement.<ol style="list-style-type: none"><li>a. In case above is not available, then certificate from practicing Chartered Accountants /statutory auditors with Membership No. of signatory &amp; Firm along with UDIN certifying the annual turnover for the last financial year along with audited annual statement of Profit-Loss statement &amp; Balance sheet certified by CA with UDIN</li></ol></li></ol>



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<p>number for two consecutive financial years preceding the last financial year along with relevant Annexures of NIT.</p> <p>b. In case above are not available, then audited Balance Sheet and Profit &amp; Loss Account for the three consecutive financial years preceding the last financial year along with relevant Annexures of NIT.</p> <p>c. In case above are not applicable, then certificate from practicing Chartered Accountants /statutory auditors with Membership No. of signatory &amp; Firm along with UDIN certifying the annual turnover for the three preceding financial years.</p> <p>d. In case above are not applicable, then certificate from practicing Chartered Accountants /statutory auditors with Membership No. of signatory &amp; Firm along with UDIN certifying the annual turnover for the three consecutive financial years preceding the last financial year along with relevant Annexures of NIT.</p> <p>2. NIT Publication date shall be considered for reckoning Annual Turnover (ATO).</p>
<p><b>Condition 3: The Bidder will submit Solvency certificate &amp; Net Worth Certificate</b></p> <p>1. Banker's Certificate for solvency from Scheduled Bank shall be produced regarding availability of access to credit with value of at least ₹ <b>2,06,90,741.00/-</b> or above (Excluding GST) (Issued within 3 months prior to date of submission of Bid).</p> <p>2. The Net Worth of the bidder should not be negative as on 31st March of the current / Last Financial Year (whichever is applicable) certified by CA with UDIN.</p>

**7.2 Technical Pre- Qualification Criteria**

Following is the Technical Pre-Qualification Criteria (PQC) for the subject tender:

<p><b>Condition 1: (7.2.1)</b></p> <p>BIDDER must have satisfactorily completed similar works during last seven (07) years ending last day of month previous to the one in which NIT is published and shall meet either of followings work order criteria mentioned below:</p> <p><b>One similar completed work</b> with executed value not less than the amount equal to ₹ <b>8,27,62,966.00/- 'OR'</b></p> <p><b>Two similar completed works</b> each with executed value not less than the amount equal to ₹ <b>5,17,26,854.00/- 'OR'</b></p> <p><b>Three similar completed works</b> each with executed value not less than the amount equal to Rs. ₹ <b>4,13,81,483.00/-</b></p> <p><b>Note: Amount mentioned is exclusive of GSTs.</b></p> <p>1. The Word <b>"Similar Nature of Work"</b> means <b>"The Bidders must have prior experience in the construction / Renovation of Buildings, including Civil &amp; Electrical Works"</b>.</p> <p><b>Note:</b></p> <p>1. The purchase order / agreement should contain complete BoQ / SOR with detailed scope of work.</p>
<p><b>Documents required (To be Submitted along with technical bid):</b></p> <p>1. Copy of Work Order (WO)/PO/rate contract/ agreement with following details:</p> <p>a. Work order/PO/rate contract/ agreement with number, date and value.</p> <p>b. Name of the client</p>



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- c. Period of contract.
  - d. Scope of work mentioning similar work.
  - 2. Completion certificate issued by Client highlighting below:
    - a. Reference Work order/PO/Rate contract with number, date and value
    - b. Name of the client.
    - c. Period of Contract
    - d. Completion value (excl. GST) under the Work order/PO/Rate contract/agreement.
- Note: Running work order shall not be considered against PQC.**

8.0 Documents for PQC:

- 8.1 BIDDER MUST SUBMIT ANNEXURE-12 of SECTION VI with complete details and all the terms mentioned in the form of note in annexure 12 shall be strictly followed. If the data is not provided in the same HURL reserves the right to reject the bid.
  - 8.2 The bidder shall be obligated to furnish an amended copy of the work order in the event that the executed value specified in the completion certificate surpasses the original order value. Failure to comply with this requirement shall grant HURL the right to disqualify the order, and no claims shall be entertained with respect to such occurrences.
  - 8.3 The bids will be opened as per date/time as mentioned on the Date specified above or on the date specified on the e-tendering portal. The date of Price-Bid opening will be intimated later on the e-tendering portal.
  - 8.4 The bidder is required to provide all requisite shortfall documents to HURL through the portal, as outlined in the PQC criteria. Bidders are explicitly instructed that HURL will not engage in seeking clarification from the order-issuing organization regarding the verification of submitted documents. HURL holds no responsibility for obtaining confirmation from the order-issuing organization. Failure to submit the necessary shortfall documents will lead to the rejection of the bid, and no claims will be entertained on this ground.
- 9.0 HURL shall not be responsible for any postal /courier delay for submission of EMD and/or other original documents, if applicable.
- 10.0 HURL reserves the right to reject any or all bids or cancel/withdraw the NIT for the subject package without assigning any reason whatsoever and in such case no bidder/intending bidder shall have any claim arising out of such action.
- 11.0 Bids shall be digitally signed and uploaded by someone legally authorized and competent on behalf of his firm / company i.e., Bidder and relevant documents w.r.t. the same to be uploaded along with the bid by the bidders. **The Power of Attorney of such person needs to be furnished along with bid.** The Power of Attorney to be submitted on Rs. 100/- Non-judicial Stamp paper or on Legal Notary (Duly Notarized).
- 12.0 Bidders are required to submit detailed work orders (similar in nature as defined) along with the work completion certificate endorsed by the client, containing details such as value, quantity, GST, work order reference, actual date of completion, etc. These documents are necessary to fulfill the PQ criteria mentioned and must be submitted with the technical bid. As part of our standard bid evaluation process, HURL reserves the right to request bidders to provide supporting documents for the purpose of verifying the authenticity of bid documents, as well as the information related to quantity, value, or any other relevant details provided in the submitted bid documents. These may



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- include TDS, GSTR forms, Form 26AS, manufacturing license, plant design capacity, production details and other relevant documents. It is important to note that failure to submit the required documents within the stipulated time frame may result in the rejection of the bid.
- 13.0 Wherever executed value is not mentioned in the completion certificate, the copy of certified bills with service tax/GST details as applicable / Separate certificate from respective client (PO issuing company /Engineer In Charge) regarding executed value with GST details, date of completion etc., shall also be accepted towards fulfillment of PQC, if same is submitted along with completion certificate.
- 14.0 Completion certificate submitted by the bidders shall have clarity with respect to whether GST is included/excluded in the supplied value, towards fulfillment of PQC and same shall be ensured by the bidders by submitting proper and relevant documents as required (e.g. separate certificate from respective client regarding GST) along with delivery completion certificate.
- 15.0 If no clear documents as mentioned above regarding GST / Duties component included/extra/not applicable with respect to the supplied value mentioned in delivery completion certificate is submitted by the bidder & In case GST/duties amount / component is also not specified in the submitted delivery completion certificate, then the amount equivalent to rate of applicable GST/duties as considered by HURL for the subject tender shall be deducted from the value of material supplied mentioned in the completion certificate to arrive at the value of the supplied material without GST/duties.
- ~~16.0 In composite orders where different types and categories of Materials or services are included the evaluation shall be performed considering only the items and its respective values which cover under "Similar nature of work" and accordingly the bidder shall submit the supporting documents. In case of non submission of the said documents, HURL reserves the right to evaluate as per the data provided by the bidder and the evaluation result shall be unquestionable by the bidder. Also, if the bidder does not submit the said documents may lead to rejection of the bid.~~
- 17.0 The GST part of the bill shall be paid only after confirmation of payment from the successful awarded bidder or after confirmation of the corresponding return filed by the contractor from the GST portal. The GST part of the bill shall be withheld till such confirmation.
- 18.0 In case of sub contract orders, credential as sub-contractor for above PQC shall be considered only when such work orders for sub contract have been issued with approval or written permission of end user/owner/ consultant of the owner of the contract from the scope of work of which contractor under the contract has sub contracted a part of or entire work under such work order. In this regard, the bidder has to submit a certificate from the end user/owner/consultant of the owner stating that the main contractor has intimated them about the engagement of sub-contracting OR have been allowed/ permitted as a sub-contractor. Based on such Sub contracted portion of the job actually executed by the bidder as subcontractor, PQC evaluation shall be done i.e. In case only part job is subcontracted, similar job & executed value etc. for the part job only shall be considered for PQC and not the full job.
- 19.0 Work completion date shall be considered for deciding the period of work experience.
- 20.0 Evaluation Basis:
- 20.1 Bidder should submit the Shortfall documents as requested in the portal. If Bidder do not respond to the shortfall, HURL reserves the right to evaluate without shortfall documents considering the



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available bid documents and in such case no bidder/intending bidder shall have any claim arising out of such action.

20.2 In case of a tie at the lowest bid (L-1) position between 02 or more bidders, the following sequence of preference shall be adopted while processing the Letter of Acceptance (LOA)/ Purchase Order.

- A. In case, one of the bidders is MSE owned by SC/ST Entrepreneur, then the order shall be placed on such bidder.
- B. In case, one of the bidders is MSE owned by women Entrepreneur, then the order shall be placed on such bidder.
- C. In case, one of the bidders is MSE then the order shall be placed on such bidder.
- D. Otherwise, the order shall be placed on the bidder having higher turnover in the last audited financial year.

20.3 In case there is a tie at lowest bid (L1) position between only startup bidders and none of them has past turnover, the Purchase order/ LOA will be placed on the startup who has registered earlier with the department Promotion of industry and Internal Trade. However, the above order of performance while processing LOA is subject to instructions/guidelines issued by the government of India from Time to time.

### 20.4 Evaluation Criteria – On percentage Basis

### 20.5 Reverse Auction - Applicable

## 21.0 ADDRESS FOR COMMUNICATION:

From Technical Department:		
Sh. Anil Chnadrakar Head In Charge (Civil) <a href="mailto:anilchandrakar@hurl.net.in">anilchandrakar@hurl.net.in</a> , PH: 06279 310490	Shri Amit Kumar Mishra Sr. Manager (QA&I/Civil) <a href="mailto:amitmishra@hurl.net.in">amitmishra@hurl.net.in</a> , PH: 06279 310487	Sh. Golam Sarowar Deputy Manager - Civil <a href="mailto:golamsarowar@hurl.net.in">golamsarowar@hurl.net.in</a> , PH: 06279 310467
From Contracts & Materials (C&M) Purchase Department:		
Sh. Ravi Kumar Saw Chief Manager (C&M) <a href="mailto:ravikrsaw@hurl.net.in">ravikrsaw@hurl.net.in</a> PH: 06279 310380	Sh. Ashish Kumar Mishra Deputy Manager (C&M) <a href="mailto:ashishkumarmishra@hurl.net.in">ashishkumarmishra@hurl.net.in</a> PH: 06279 310381	Sh. Niket Kumar Singh Sr. Officer (C&M) <a href="mailto:niketkumarsingh@hurl.net.in">niketkumarsingh@hurl.net.in</a> Ph.: 06279 310385
From Stores Department:		
Sh. Mukesh Kumar Prajapati Manager (Store) <a href="mailto:mukeshprajapati@hurl.net.in">mukeshprajapati@hurl.net.in</a> PH: 06279 310387	Sh. Chandan Kr. Singh JSA-II – C&M-Stores <a href="mailto:chandankumarsingh@hurl.net.in">chandankumarsingh@hurl.net.in</a> PH: 06279 310387	
Hindustan Urvarak & Rasayan Limited, Barauni Urvarak Nagar, Begusarai, Bihar – 851115		

## 22.0 Checklist of documents to be submitted:

Sr. No	Documents
1	Techno Commercial Proposal Bid Form. (Enclosed as Annexure-1 of Section VI)





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2	Power of Attorney as per requirement mentioned in NIT.
3	Signed, Stamped and Scanned copy of proof for payment of Earnest Money Deposit (EMD) / <del>MSE Certificate with applicable annexure form for exemption.</del>
4	Signed, Stamped and Scanned copy of Certificates like Registration certificate, GST No, PAN No, PF, etc.
5	Signed, Stamped and Scanned copy of Format for Electronics Payment (Enclosed as Annexure-2 to Forms and Procedures i.e., Section VI)
6	Signed, Stamped and Scanned copy of Tender Acceptance Letter (Enclosed as Annexure-3 to Forms and Procedures i.e., Section VI)
7	Documents as required in accordance with Qualifying Requirements / Pre-Qualification Criteria (PQC) i.e., <u>Clause 7</u> of NIT
8	Signed, Stamped and Scanned copy of No deviation Certificate (Enclosed as Annexure-4 to Forms and Procedures i.e., Section VI)
9	Signed, Stamped and Scanned copy of Certificate from CEO/MD/ Legally Authorized Signatory, in the format as enclosed as Annexure-5 to Forms and Procedures i.e., Section VI.
10	Acceptance to Fraud Prevention Policy of HURL, for which the bidder has to submit Signed, Stamped and Scanned copy of Form of Acceptance of Fraud Prevention Policy of HURL. (Enclosed as Annexure-6 to Forms and Procedures i.e., Section VI).
11	Certificate related to Restrictions on procurement from a Bidder of a country which shares a land border with India” i.e. (Enclosed as Annexure-7 to Forms and Procedures i.e., Section VI).
12	Work orders subject to tender for qualification as per Annex – 12 with clearly mentioning Purchase order details relevant to tender based on which PQC can be achieved. Not to be mentioned as “As Attached”/ “mentioned in Bid”/ etc.
13	Declaration of GST (annexure -15) Signed, Stamped and Scanned copy of Declaration of GST (Enclosed as Annexure-15 to Forms and Procedures i.e., Section VI).
14	Signed, Stamped and Scanned copy of Bid Security Declaration Form (Enclosed as Annexure-13 to Forms and Procedures i.e., Section VI).
15	Signed, Stamped and Scanned copy of GCC, SCC & Scope of Work (i.e. Section-V) of tender document.
16	Any Other Document asked for in the Bidding Document

**Note:** Failure to Upload Authentic and Correct Documents as mentioned at Sr. No, 1 to 16 above would lead to Rejection of Techno- Commercial Bid. Price Bids shall be opened only of those bidders who are qualified and whose techno-commercial bids are acceptable.



# **HINDUSTAN URVARAK & RASAYAN LIMITED**

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## **BARAUNI UNIT**

Barauni Urvarak Nagar, Begusarai

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115

[Registered Office SCOPE Minar, Core 4, 9TH Floor, Laxmi Nagar District Center, Delhi-110092]



## **SECTION – II**

### ***INSTRUCTIONS TO BIDDERS (ITB)***



# HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI UNIT

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1.0	Introduction	<p>Hindustan Urvarak &amp; Rasayan Limited (HURL) is a joint venture company of Coal India Limited (CIL), NTPC Limited (NTPC) and Indian Oil Corporation Limited (IOCL) as the lead promoters with Fertilizer Corporation of India Limited (FCIL) and Hindustan Fertilizer Corporation Limited (HFCL) as other two partners.</p> <p>HURL, Barauni referred to herein as ‘the Employer’, intends to engage an agency for supply of Goods &amp; related Services or Services as per specifications, Scope of Work as detailed in the Bidding documents.</p>												
2.0	General Information	<p>The prospective Bidders are invited to submit a “Technical &amp; Commercial Bid” and “Price Bid” for the package. Methodology for submission of Bid has been detailed hereunder in this document.</p> <p>Applicability of Reverse Auction may be seen on the CPP website / NIT.</p>												
3.0	Content of Bidding Documents	<p>The items and/or services required, bidding procedures, order/contract terms and technical requirements are prescribed in the bidding documents/Bidding Documents.</p> <p>The bidding documents include the following sections:</p> <table><tr><td>Section-I</td><td>Notice Inviting Tender (NIT)/Tender Enquiry/Invitation for Bid (IFB)</td></tr><tr><td>Section-II</td><td>Instruction to bidder (ITB)</td></tr><tr><td>Section-III</td><td>General Conditions of Contract (GCC)</td></tr><tr><td>Section-IV</td><td>Special Conditions of Contract (SCC)</td></tr><tr><td>Section-V</td><td>Technical specifications, SOR &amp; Scope of work and other terms &amp; condition.</td></tr><tr><td>Section-VI</td><td>Forms and Procedures</td></tr></table> <p>The Bidder is expected to examine all instructions, forms, terms, conditions, specifications and other information in the bidding documents. Failure to furnish all information required as per the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder’s risk and may result in rejection of its bid.</p>	Section-I	Notice Inviting Tender (NIT)/Tender Enquiry/Invitation for Bid (IFB)	Section-II	Instruction to bidder (ITB)	Section-III	General Conditions of Contract (GCC)	Section-IV	Special Conditions of Contract (SCC)	Section-V	Technical specifications, SOR & Scope of work and other terms & condition.	Section-VI	Forms and Procedures
Section-I	Notice Inviting Tender (NIT)/Tender Enquiry/Invitation for Bid (IFB)													
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Section-V	Technical specifications, SOR & Scope of work and other terms & condition.													
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4.0	Benefits to MSEs	<p><del>Micro and Small Enterprises (MSEs) shall be exempted from paying Earnest Money Deposit.</del></p> <p><del>Further, in case of tenders where splitting of quantity is possible, participating MSEs quoting price within price band of L1 + 15 percent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is</del></p>												



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		<p><del>from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 25 percent of total tendered value. In case of more than one such MSE, the supply will be shared proportionately (to tendered quantity).</del></p> <p><del>The benefit as above to MSEs shall be available only for Goods/Services produced &amp; provided by MSEs.</del></p> <p><del>MSEs seeking exemption and benefits should enclose/upload in e-tender portal an attested/self-certified copy of following registration certificate and <b>BID Security declaration form</b> (Annexure — 13) as a part of his bid, failing which they run the risk of their bid being passed over as ineligible for the benefits applicable to MSEs.</del></p> <p><del>i) Ministry of MSME vide Gazette notification no. CG-DL-E-26062020-220191 dated 26.06.2020 had notified certain criteria for classifying the enterprises as Micro, Small and Medium Enterprises and specified, form and procedure for filing the memorandum (Udyam Registration) w.e.f. 01.07.2020 (for complete details of policy refer website of Ministry of MSME i.e. <a href="https://msme.gov.in/">https://msme.gov.in/</a>) Accordingly, Micro and Small Enterprises (MSEs) shall be required to submit <b>Udyam Registration Certificate</b> for availing benefit under Public Procurement Policy for MSEs 2012.</del></p> <p><del>ii) An enterprise registered prior to 30.06.2020 and who is not re-registered with Udyam Registration, shall continue to be valid for a period up to 31.12.2022. Such enterprise shall submit EM Part-II or Udyog Aadhaar Memorandum (UAM) for availing benefits of PPP 2012. (Ref Notification No. CG-DL-E-19012022-232763)</del></p>
5.0	Cost of Bidding	<p>The Bidder shall bear all costs associated with the preparation and submission of its bid and the Employer will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.</p>
6.0	Clarification on Bidding Documents	<p>A prospective Bidder requiring any clarification of the Bidding Document shall put the query under Clarification tab of the on-line bid at least three days prior to the clarification end date. EMPLOYER will respond to any request for clarification or modification of the bidding documents that it receives within the time line specified.</p> <p>EMPLOYER will post the Clarifications under Clarification tab at e-tender i.e., CPP website. Bidders can view these clarifications.</p> <p>Bidders are advised to regularly check under Clarification tab regarding posting of clarification, if any.</p> <p>Bidders must check the Clarifications issued before submission of Bid. Should the Employer deem it necessary to amend the Bidding Document as a result of a clarification, it shall do so and upload the</p>



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		amendments in the tender on the e-tender portal.
<b>7.0</b>	<b>Corrigendum/ Amendment to Bidding Documents</b>	<p>At any time prior to the deadline for submission of bids, EMPLOYER may, for any reason, whether at its own initiative, or in response to a clarification requested by a prospective Bidder, amend the bidding documents.</p> <p>The corrigendum's/amendment's will be posted in the tender on the e-tender portal for viewing by the Bidder. The amendments will be binding on Bidders and it will be assumed that the information contained therein will have been taken into account by the Bidder in its bid. Bidders are advised to regularly check the tender regarding posting of Amendments, if any.</p> <p>To give prospective Bidders reasonable time to take the corrigendum/amendment into account in preparing their bid, EMPLOYER may, at its discretion, extend the deadline for the submission of bids.</p>
<b>8.0</b>	<b>Language of Bid</b>	<p>The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be written in English language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English. In such case for purposes of interpretation of the Bid such translation shall govern.</p>
<b>9.0</b>	<b>Bid Proposal</b>	<p>Bid shall be complete in all respects and shall be submitted with requisite information and Attachments. It shall be free from any ambiguity.</p> <p>For preparation of Bids, Bidders are expected to go through the complete bidding documents carefully. Material deficiencies in providing the information requested may result in rejection of the Bid.</p>
<b>10.0</b>	<b>Documents Comprising the Bid</b>	<p>The Bid shall comprise of following components:</p> <p><b>Technical Bid:</b></p> <p>The following documents are to be furnished by the Bidder as part of the Technical Bid:</p> <ol style="list-style-type: none"> <li>Techno Commercial Proposal Bid Form</li> <li>Power of Attorney as per requirement mentioned in NIT.</li> <li>Proof for payment of Earnest Money Deposit (EMD)/ MSE Certificate for exemption with Annexure -13.</li> <li>Certificates like Registration certificate, GST No, PAN No. etc.</li> <li>Format for Electronic Payment</li> <li>Tender Acceptance Letter &amp; Letter of authorization to submit bid.</li> <li>Documents as required in accordance with Eligibility Criteria. Bidder must fill all the details in Annexure-12.</li> </ol>



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		<p>h) No deviation Certificate.</p> <p>i) Certificate from CEO or Managing Director or Legally Authorized Signatory, in the format as enclosed with the Bidding Document certifying that the data and documents furnished by them in respect of Techno-Commercial Evaluation are true and correct including the contents thereof. However, if at any point of time the declarations given in bid are found to be incorrect, HURL shall have the full right to terminate the contract and take any action as per provisions of contract including forfeiture of EMD/Security Deposit.</p> <p>j) Acceptance of Fraud Prevention Policy of HURL,</p> <p>k) Certificate related to Restrictions on procurement from a Bidder of a country which shares a land border with India”.</p> <p>l) Any other document asked for in the Bidding Documents.</p> <p>m) Signed and stamp Copy of GCC, SCC, Technical Specification/scope of work and dully filled all annexures.</p> <p><b>Price Bid:</b></p> <p>The Price bid is to be submitted in the BOQ provided in the Tender at <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.</p> <p>Bidders are advised to fill the BOQ and upload the same on the portal. Bidder should not tamper/modify download price bid template. In case if the same is found to be tampered / modified in any manner, bid will be rejected and EMD would be forfeited and Bidder is liable to be banned from doing business with HURL for a period of 2 years.</p>
<b>11.0</b>	<b>Bid Prices</b>	<p>Bidders shall quote such that the bid price covers all the Supplier's obligations mentioned in or to be reasonably inferred from the bidding documents including all requirements in accordance with the requirements of the Technical Specifications &amp; Scope of Work. Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding documents.</p> <p>Bidders shall give a breakdown of the prices in the manner and detail called for in the Bill of Quantity (BOQ).</p>
<b>12.0</b>	<b>Price Basis</b>	Bidders are required to quote price on the price basis as per Scope of Work / stipulated in the SCC.
<b>13.0</b>	<b>Bid Currencies</b>	All prices to be quoted by the bidders will be in Indian Rupees only, unless otherwise mentioned in the Special Conditions of Contract, on <b>FIRM</b> price basis and to remain valid during the currency of the Contract.
<b>14.0</b>	<b>EARNEST MONEY DEPOSIT (EMD) / BID SECURITY / GUARANTEE:</b>	<p>i. The Bidder shall furnish, as part of his bid, Earnest Money Deposit in the amount as stipulated in NIT/IFB/Tender Enquiry, in the form of online payment mode by RTGS / NEFT in the account of HURL details as given in subsequent paragraphs. The receipt of the payment shall be attached as a part of bidding documents. If</p>





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the EMD is paid other than online mode then the EMD shall be submitted in a separate Envelope super-scribed on the top as under:

***“ORIGINAL EARNEST MONEY DEPOSIT FOR NIT NO. ....DATED.....  
FOR ..... (NAME OF PACKAGE) ..... DUE ON ..... (DATE OF BID OPENING)  
FROM ..... (NAME OF THE BIDDER).”***

ii. The Earnest Money Deposit (EMD) shall, at Bidders option, be submitted in the following forms:

a) electronically by RTGS / NEFT in the account of HURL details as given in subsequent paragraphs

or

b) in the form of Demand Draft in favor of *Hindustan Urvarak & Rasayan Limited*, Payable at New Delhi.

or

c) in the form of an irrevocable bank guarantee.

The format of Bid Guarantee (BG) towards EMD shall be in accordance with the form of EMD included in the bidding documents (Annexure 8 of Section VI (Forms and Procedures)). The BG towards EMD shall remain valid for a period of forty-five (45) days beyond the original Bid validity period or beyond any extension in the period of Bid validity subsequently requested from any Scheduled / Commercial Bank recognized by Reserve Bank of India. The Bank Guarantee Verification Checklist duly filled in as per format given in the Bidding Documents is also to be submitted. Bidder shall ensure that all the points of check list are replied in "Yes".

iii. Wherever Bids under Joint Venture route are permitted as per Qualifying Requirement in the Bidding Documents, the Earnest Money Deposit of the Joint Venture must be on behalf of all the partners of the Joint Venture.

iv. Any bid not accompanied by an acceptable Earnest Money Deposit in accordance with the aforesaid provisions shall be rejected by the Employer as being non-responsive and shall be rejected without being opened.

v. The Earnest Money Deposit shall be forfeited in any of the following circumstances without any notice or proof of damage to the Employer:

a) If the Bidder withdraws or varies its bid during the period of Bid validity.

b) If the Bidder does not accept the Arithmetical correction of its Bid Price

c) If the Bidder refuses to withdraw, without any cost to the Employer, any deviation, variation, additional condition or any other mention anywhere in the bid, contrary to the provisions of bidding documents;

d) In the case of a successful Bidder, if the Bidder fails, within the time limit,

(i) to sign the Contract Agreement

(ii) to furnish the required Security Deposit

e) If the bidder / his representatives commit any fraud while competing for this contract pursuant to Fraud Prevention Policy of HURL.

f) if the Bidder withdraws/ amends, impairs and derogates from the tender.

vi. No interest will be payable by the Employer on the said amount covered under



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	<p>Earnest Money Deposit.</p> <p>vii. EMD shall be refunded to all the unsuccessful Bidder within thirty days of acceptance of work order by the successful Bidders and no interest shall be payable thereon. EMD of the bidders whose price are not considered to be opened, shall be released/refunded at the earliest but not later than thirty days beyond the award of the subject work.</p> <p>EMD shall be refunded to successful bidder within (30) thirty days of acceptance of LOA and on submission of PBG by the successful Bidders and no interest shall be payable thereon.</p> <p>viii. RTGS / NEFT details of HURL as under:  BANK Details for EMD Payment through NEFT/RTGS:  Bank Name—State Bank of India, Overseas Branch, NEW DELHI (17313)  IFS CODE: SBIN0004803, Account No: 41288344914.</p> <p><b>Bidders are required to upload Signed, Stamped and Scanned copy of the Certificate as part of Technical Bid, failing to which their bids are liable for rejection.</b></p> <p>Price Bids shall be opened only of those bidder(s) whose EMD shall be found as per the requirement of the bidding documents.</p> <p>Employer shall not be liable for loss/non-receipt/late receipt of above documents in postal transit.</p> <p><del><b>Exemption from submission of EMD:</b></del>  <del>Micro and Small Enterprises (MSEs) bidders are exempted from submission of EMD as per provisions at clause 4.0 above and shall submit Annexure — 13.</del></p> <p><b><u>IMPORTANT:</u></b>  IN CASE OF EMD PAYMENT THROUGH RTGS / NEFT, BIDDER MUST MENTION “<b>EXXX</b>” (As per Section I, clause 3.0) IN TRANSCATION DESCRIPTION WHILE DOING THE PAYMENT. “XXX” to be replaced with the last three digits of the tender reference number.  (Example: Tender No.: HURL/BR/CC/22-23/432 then the payment description to be mentioned as “E432”)</p>		
<p style="text-align: center;"><b>15.0</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; vertical-align: top;"> <p><b>Performance Security / Performance Bank Guarantee (PBG)</b></p> </td><td style="vertical-align: top;"> <p>Within thirty (30) days of the receipt of Purchase Order/Service Order from the Employer, the contractor shall furnish the Contract Performance Security / Guarantee, for the due performance of the Contract for the value as tabulated below with an initial validity up to ninety (90) days beyond the completion date for work plus defect liability period (if any), for due performance of the Contract(s)/Order(s) in any form acceptable to the Employer.</p> <p>PBG amount equivalent to 10% of the work order value including GST shall be applicable.</p> <p>Performance Security / Performance Bank Guarantee (PBG) may be submitted in any of the following forms:</p> <p style="margin-left: 40px;">a) electronically by RTGS / NEFT in the account of HURL details of which are given in bidding document</p> <p style="text-align: center;">or</p> </td></tr> </table>	<p><b>Performance Security / Performance Bank Guarantee (PBG)</b></p>	<p>Within thirty (30) days of the receipt of Purchase Order/Service Order from the Employer, the contractor shall furnish the Contract Performance Security / Guarantee, for the due performance of the Contract for the value as tabulated below with an initial validity up to ninety (90) days beyond the completion date for work plus defect liability period (if any), for due performance of the Contract(s)/Order(s) in any form acceptable to the Employer.</p> <p>PBG amount equivalent to 10% of the work order value including GST shall be applicable.</p> <p>Performance Security / Performance Bank Guarantee (PBG) may be submitted in any of the following forms:</p> <p style="margin-left: 40px;">a) electronically by RTGS / NEFT in the account of HURL details of which are given in bidding document</p> <p style="text-align: center;">or</p>
<p><b>Performance Security / Performance Bank Guarantee (PBG)</b></p>	<p>Within thirty (30) days of the receipt of Purchase Order/Service Order from the Employer, the contractor shall furnish the Contract Performance Security / Guarantee, for the due performance of the Contract for the value as tabulated below with an initial validity up to ninety (90) days beyond the completion date for work plus defect liability period (if any), for due performance of the Contract(s)/Order(s) in any form acceptable to the Employer.</p> <p>PBG amount equivalent to 10% of the work order value including GST shall be applicable.</p> <p>Performance Security / Performance Bank Guarantee (PBG) may be submitted in any of the following forms:</p> <p style="margin-left: 40px;">a) electronically by RTGS / NEFT in the account of HURL details of which are given in bidding document</p> <p style="text-align: center;">or</p>		



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		<p>b) in the form of an irrevocable bank guarantee in accordance with the form of included in the bidding documents (Annexure 9 of Section VI (Forms and Procedures)) from any Nationalized bank / Scheduled Bank recognized by Reserve Bank of India.</p> <p>Failure of the supplier to submit the above-mentioned Performance Security / Performance Bank Guarantee (PBG) shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.</p> <p>No interest shall be payable by the Employer to the Contractor against the Security Deposit furnished.</p> <p>Performance Security shall be returned after Certification of completion of work and Defect Liability period (if any) by EIC. However, the contractor will have to apply in writing, for refund of the same.</p> <p><b><u>IMPORTANT:</u></b></p> <p>IN CASE OF PBG PAYMENT THROUGH RTGS / NEFT, BIDDER MUST MENTION “PXXX” IN TRANSCATION DESCRIPTION WHILE DOING THE PAYMENT. “XXX” to be replaced with the last three digits of the tender reference number.</p> <p>(Example: Tender No.: HURL/BR/CC/22-23/432 then the payment description to be mentioned as “P432”)</p>
16.0	Confirmation of BGs through Structured Financial Messaging System (SFMS)/SWIFT	<p>While issuing the physical BGs, the Bidder’s Bank shall also send electronic message through secure SFMS (in case of BGs issued from within India) or SWIFT (in case of BGs issued from outside India) to Employer’s Beneficiary Bank whose details are provided in the Special Purchase Conditions.</p> <p><b>Bidders are advised to ensure that the message is sent by their Bankers and the Bidders must submit the reference details as part of the bid with the EMD.</b></p> <p><u>Name of Beneficiary of Bank Guarantee:</u></p> <p>Name of the Bank: <b>State Bank of India</b></p> <p>Account Name-Hindustan Urvarak &amp; Rasayan Limited</p> <p>Account no- 41288344914</p> <p>IFSC code- SBIN0004803</p> <p>In case of submission of EMD in the form of Bank Guarantee, bidders are requested to provide the Details like Bank Name, Branch address, IFSC code and Branch E-mail Id of BG issuing Branch on EMD submission covering letter</p>
17.0	Ineligibility For Future Tenders	<p>If a bidder after opening of tenders withdraws its offer within the validity period of the offer, then such bidder shall be treated as ineligible for participation in the present and future tenders issued from HURL for a period of 6 months from the date of withdrawal of the bid in addition to forfeiture of EMD, wherever applicable.</p>



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		<p>Notwithstanding the provisions regarding forfeiture of Earnest Money Deposit specified above, if a bidder after having been issued the Purchase Order/Contract, either does not accept the Purchase Order/ Contract or does not submit an acceptable Performance Security and which results in tender being annulled then such bidder shall be treated ineligible for participation in the present and future tenders issued from HURL for a period of not exceeding 24 months from the date of debarment notice issued by HURL.</p> <p>Notwithstanding the provisions regarding forfeiture of PBG / Security Deposit specified above, If a contractor / supplier after having been issued the Notification of Award/Purchase Order / Work order of a package does not fulfill the contractual obligation, HURL reserves the right to initiate necessary action towards procurement of Goods / Services / Works from alternate source at Risk &amp; Cost of the contractor / supplier.</p> <p>Note: The List of Debarred bidders should be communicated across all the three Units and HQ as and when the instance occurs.</p>
18.0	<b>Period of Validity of Bids (Techno-Commercial Bid and Price Bid)</b>	<p>Bids shall remain valid for a period of 90 days from the closing date prescribed by EMPLOYER for the receipt of bids, unless otherwise specified in Special Conditions of Contract (SCC). A bid valid for a shorter period shall be rejected by EMPLOYER as being non-responsive.</p> <p>In exceptional circumstances, EMPLOYER may solicit the Bidder's consent to an extension of the bid validity period. The request and responses thereto shall be made in writing by post or email or by telefax followed by post confirmation. If a Bidder accepts to extend the period of bid validity, the validity of Earnest Money Deposit shall also be suitably extended. A Bidder may refuse the request without forfeiting its Earnest Money Deposit. A Bidder granting the request will not be required nor permitted to modify its bid.</p>
19.0	<b>Nil Deviation</b>	<p><b>No deviation, whatsoever, is permitted by EMPLOYER to any provision of Bidding Documents.</b> The Bidders are advised that while making their Bids and quoting prices, all conditions are appropriately taken into consideration. Bidders shall certify their compliance to the complete Bidding Documents as per Certificate at Annexure 4 of Section VI (Forms and Procedures).</p> <p>In case the Products and/or Services offered do not meet the Technical requirements, the bid shall be rejected as Technically non-responsive.</p> <p>Bidders may note that in case the Bidder refuses to withdraw additional conditions/deviations/variations/exception, implicit or explicit, found anywhere in the techno-commercial bid, the bid shall be rejected as Technically non-responsive.</p> <p>Bidders may also note that any deviation/variation in any form in the</p>



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		Price Bid shall result in forfeiture of EMD.
20.0	<b>Format and Signing of Bid</b>	<p>The bid including all documents uploaded in the on-line bid shall be digitally certified by a duly authorized representative of the Bidder to bind him to the contract using Class II or Class-III digital signature (in the name of designated individual with Organization name). The Digital Signature shall be as per Indian IT Act from the licensed Certifying Authorities (CA) operating under the Root Certifying Authority of India (RCAI) namely Controller of Certifying Authorities (CCA) of India.</p> <p>An authorization letter/power of attorney indicating that the person signing the bid has the authority to sign the bid is to be submitted in Physical form and copy uploaded as part of the Techno-commercial Bid.</p>
21.0	<b>Submission of Bids</b>	Bid shall be submitted through e-tender mode in the manner specified elsewhere in bidding document. No Manual/ Hard Copy of the Bid shall be acceptable except those asked for in Physical form.
21.1	<b>PHYSICAL BID</b>	
	<b>EMD</b>	<p><del>The Bidder shall furnish, as part of his bid, a Earnest Money Deposit in the amount as stipulated in NIT/IFB/Tender Enquiry, in a separate envelope (in case paid in modes other than on-line payment) superscribed on the top as under:</del></p> <p><del><b>"ORIGINAL EARNEST MONEY DEPOSIT FOR NIT NO. .... DATED..... FOR ..... (NAME OF PACKAGE) ..... DUE ON ..... (DATE OF BID OPENING) FROM ..... (NAME OF THE BIDDER)."</b></del></p>
21.2	<b>ON-LINE</b>	<p>Bid along with all the documents should be submitted in the electronic form only through e-Tendering system.</p> <p>Any revision or amendment in bid shall be possible only up to the due date and time of submission of tender.</p>
21.2.1	<b>Techno-Commercial Bid</b>	
(A)	<b>COVER TYPE – FEE</b>	<del>MSEs seeking exemption and benefits should enclose/upload in e-tender portal a attested/self-certified copy of registration certificate as a part of his bid, failing which they run the risk of their bid being passed over as ineligible for the benefits applicable to MSEs.</del>
(B)	<b>COVER TYPE – TECHNICAL</b>	<p>The bidders shall upload documents in compliance to the Bidding Documents.</p> <p>The following documents are to be furnished by the Bidder as part of the Technical Bid:</p>



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		<p>a) Techno Commercial Proposal Bid Form (Enclosed as Annexure-1 to Forms and Procedures i.e., Section VI)</p> <p>b) Power of Attorney as per requirement mentioned in NIT.</p> <p>c) Signed, Stamped and Scanned copy of proof for payment of Earnest Money Deposit (EMD)/ <del>MSE Certificate</del>.</p> <p>d) Signed, Stamped and Scanned copy of Certificates like Registration certificate, GST No, PAN No. etc.</p> <p>e) Signed, Stamped and Scanned copy of Format for Electronics Payment (Enclosed as Annexure-2 to Forms and Procedures i.e., Section VI)</p> <p>f) Signed, Stamped and Scanned copy of Tender Acceptance Letter &amp; Letter of authorization to submit bid (Enclosed as Annexure-3 to Forms and Procedures i.e., Section VI)</p> <p>g) Documents as required in accordance with Eligibility Criteria i.e., <u>Clause 6</u> of NIT</p> <p>h) Signed, Stamped and Scanned copy of No deviation Certificate Enclosed as Annexure-4 to Forms and Procedures i.e., Section VI)</p> <p>i) Signed, Stamped and Scanned copy of Certificate from CEO or Managing Director or Legally Authorized Signatory, in the format as enclosed as Annexure-5 to Forms and Procedures i.e., Section VI to Bidding Document shall be furnished certifying that the data and documents furnished by them in respect of Techno-Commercial Evaluation are true and correct including the contents thereof. However, if at any point of time the declarations given in bid are found to be incorrect, HURL shall have the full right to terminate the contract and take any action as per provisions of contract including forfeiture of EMD/Security Deposit.</p> <p>j) Acceptance to Fraud Prevention Policy of HURL, for which the bidder has to submit Signed, Stamped and Scanned copy of Form of Acceptance of Fraud Prevention Policy of HURL. (Enclosed as Annexure-6 to Forms and Procedures i.e., Section VI)</p> <p>k) Certificate related to Restrictions on procurement from a Bidder of a country which shares a land border with India". (Enclosed as Annexure-7 to Forms and Procedures i.e., Section VI)</p> <p>l) Declaration of GST</p>
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		<p>m) Any other document asked for in the Bidding Documents.</p> <p><b>Note: -</b></p> <p>Bidders are requested to upload the clearly visible documents only otherwise if not clearly visible then offer shall be liable for rejection without any further communication. <b>The Techno-Commercial Bid should not contain any price content entry. In case, the Techno-Commercial Bid is found to contain any price content, such bid shall be liable for rejection.</b></p> <p>Checklist of documents to be submitted is enclosed as Annexure-1 to ITB.</p>
21.2.2	<b>Price Bid (COVER TYPE – FINANCE)</b>	<p>The Price bid is to be submitted in the BOQ provided in the Tender at <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.</p> <p>Bidders are advised to fill the BOQ and upload the same on the portal. Bidder should not tamper/modify download price bid template. In case if the same is found to be tampered / modified in any manner, bid will be rejected and EMD would be forfeited and Bidder is liable to be banned from doing business with HURL for a period of 2 years.</p> <p><b>Bidders shall necessarily submit the prices on-line in the Bill of Quantity (BOQ) only.</b></p> <p>For preparation of the “Price Bid”, Bidders are expected to take into account the requirements and conditions of the bidding documents. The Price Bid shall be made in the ‘BOQ’ (excel file) only of Bidding Documents.</p> <p>The rate quoted by the bidder shall be inclusive of all provisions for incidental expenses necessary for proper execution and completion of the work in accordance with the terms &amp; condition of the bidding document.</p> <p>All prices to be quoted by the bidders will be in Indian Rupees only, unless otherwise mentioned in the Special Conditions of Contract, on FIRM price basis and to remain valid during the currency of the Contract.</p>
	<b>Documents to be uploaded in the format stipulated in the tender (online).</b>	
	<b>Note:</b>	<p>In case of Single Stage Two envelope bidding, Price Bid of those bidders whose bids are found to be qualified and technically &amp; commercially responsive shall be opened at a later date under intimation to such bidders.</p>
<b>22.0</b>	<b>Deadline for Submission of Bids</b>	<p>Bids must be submitted online no later than the time and date stated in the Tender Enquiry/NIT/ on line Tender details.</p> <p><del>The Off line bid specified in the tender must be submitted to the</del></p>





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		<p><del>Employer at the address given in the Special Conditions of Contract before the last date &amp; Time for submission of Bid as specified in the NIT / Tender. Employer shall not be liable for loss/non receipt/late receipt of above documents in postal transit.</del></p> <p>The on-line Bid must be submitted on the system well before the expiry of time and the schedule specified in the tender notifications, and may note that there is a time lag between the actual placing the bid on the local computer of the bidder and the refreshing of the data on the server.</p> <p>The processing time for data exchange depends on the internet speed of the bidder, therefore bidder should avoid the last-minute hosting of their bid. The bids visible to the Employer will be final for the purpose of acceptance.</p> <p>EMPLOYER may, at its discretion, extend this deadline for submission of bids, in which case all rights and obligations of Employer and Bidders will thereafter be subject to the deadline as extended.</p>
<b>23.0</b>	<b>Modification and Withdrawal of Bids</b>	<p>The Bidder may modify or withdraw its bid after submission prior to the deadline prescribed for bid submission. In case of withdrawal a letter giving the reason for withdrawal is to be uploaded. Once a bid is withdrawn, the bid cannot be re-submitted.</p> <p>No bid may be withdrawn / modified in the interval between the bid submission deadline and the expiration of the bid validity period. Withdrawal/Modification of a bid during this interval may result in the Bidder's forfeiture of its Earnest Money Deposit, pursuant to ITB Clause 14 above.</p>
<b>24.0</b>	<b>Opening of Bids</b>	
	<b>Techno-Commercial Bid Opening</b>	<p>The Employer will first open the Techno-Commercial Bid on the date and at the place specified in the tender enquiry/NIT. In the event of the specified date for the opening of bids being declared a holiday for EMPLOYER, the bids will be opened at the appointed time on the next working day. All important information and other such details as EMPLOYER, at its discretion, may consider appropriate, will be announced at the opening.</p> <p>Technical Bid shall be opened for evaluation.</p> <p>In case of Single Stage Two Envelope bidding, the Price Bid will remain unopened and the date and time for opening of price bids shall be intimated separately on the CPP website by EMPLOYER after completion of evaluation of Techno-Commercial Bids.</p>
	<b>Price Bid Opening</b>	<p>In case of Single Stage Single Envelope bidding, the Price Bid will be opened on the date and time for opening of bids specified after opening of Techno-commercial bids as specified above.</p>



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		<p>In case of Single Stage Two Envelope bidding, after the evaluation process of Techno-Commercial bid is completed, the date and time for opening of price bids shall be intimated separately by Employer. Bidders, whose Techno-Commercial Bid is not substantially responsive, their Technical Bid shall be rejected and their Price bid will also be rejected &amp; shall not be opened and their Earnest Money Deposit shall be returned.</p> <p>Price bids of those Bidders, who have been considered qualified and whose Techno-commercial Bid is found to be responsive, will be opened online in presence of the Bidder's authorized representatives who choose to attend.</p> <p><b>The participating bidders will be able to view the bid prices of all the bidders after online opening of Price Bids by Employer on the e-tender portal.</b></p>
25.0	<b>Clarification on Bids</b>	<p>During bid evaluation, EMPLOYER may, at its discretion, ask the Bidder for a clarification of its bid including documentary evidence pertaining to the Purchase Orders/Contracts executed declared in the bid for the purpose of meeting Qualifying Requirement specified in NIT/IFB. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid including substitution of Purchase Orders/Contracts executed in the bid by new/additional Purchase Orders/Contracts executed for conforming to Qualifying Requirement shall be sought, offered or permitted.</p> <p>For this purpose, only 1 chance, shall be given. If the techno-commercial acceptability of bidder is established upon verification of documents including clarifications submitted, the case shall be considered for further processing. If the bidder happens to be defaulter upon verification of the documents or has not uploaded the required document within the mentioned time frame his bid would be analyzed based on the uploaded documents and if found not in order as per requirement, would be outrightly rejected.</p>
26.0	<b>Preliminary Examination Of Techno-Commercial Bids</b>	<p>EMPLOYER will examine the bids to determine whether they are complete, whether required securities have been furnished, whether the documents have been properly signed and whether the bids are generally in order.</p> <p>Prior to the detailed evaluation, the Employer will determine whether the bid is of acceptable quality, is generally complete and is substantially responsive to the bidding document. For purpose of this determination, a substantially responsive bid is one that conforms to all the terms, condition and specifications of the bidding documents without material deviations, objections, conditionality or reservations.</p> <p>A material deviation, objection, conditionality or reservation is</p>



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		<p>(i) that effects in any substantial way the scope quality or performance of the contract.</p> <p>(ii) that limits in any substantial way inconsistent with the bidding document the Employers right or the successful bidders obligation under the contract or</p> <p>(iii) whose rectification would unfairly affect the competitive position of other bidders who are presenting substantially responsive bids.</p> <p>Material deficiencies in the bid may render the bid non-responsive and may lead to the rejection of the bid.</p> <p>EMPLOYER'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 EMPLOYER, and may not subsequently be made responsive by the Bidder by correction of the nonconformity.</p>
<b>27.0</b>	<b>Evaluation Of Techno-Commercial Bids</b>	<p>EMPLOYER will carry out a detailed evaluation of the Techno-Commercial bids (of the qualified bidders shortlisted as above) previously determined to be substantially responsive in order to determine whether the technical and commercial aspects are in accordance with the requirements set forth in the bidding documents. In order to reach such a determination, EMPLOYER will examine and compare the technical and commercial aspects of the bids on the basis of the information supplied by the bidders. Bidder may note that no deviation, whatsoever, is permitted by EMPLOYER to any provisions of Bidding Documents.</p> <p>In case the Bidder refuses to withdraw additional conditions/deviations/variations/exception, implicit or explicit, found anywhere in the bid in respect of techno-commercial requirements of the bidding documents, without any financial implication whatsoever to the Employer, the bid shall be rejected as technically non-responsive. Product(s) and/or service(s) not meeting the specified technical requirements &amp; scope work, shall be rejected.</p>
<b>28.0</b>	<b>Preliminary Examination Of Price Bid</b>	<p>The Employer will examine the Price bids to determine whether they are complete, whether any computational errors have been made, and whether the bids are generally in order.</p> <p>In case any additional conditions/deviations/variations/exception, implicit or explicit, is found anywhere in the Price bid, the Earnest Money Deposit shall be forfeited.</p>
<b>29.0</b>	<b>Discrepancies In Bid</b>	<p>In case of discrepancies in the bid, the following will be adopted to correct the discrepancies for Arithmetical for the purpose of evaluation.</p> <p>a) In case of discrepancy between unit price in figures and words,</p>



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		<p>the unit price words will be considered as correct.</p> <p>b) In case of discrepancy between unit price and total price, the unit price will be considered as correct.</p> <p>d) In case of discrepancy between unit price and total price, which is obtained by multiplying the unit price and quantity, or between sub-totals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected accordingly.</p>
<b>30.0</b>	<b>Evaluation Criteria</b>	<p>The evaluation criteria specified in Special Conditions of Contract (SCC) shall over-ride all other similar related clauses appearing elsewhere in the bidding documents.</p> <p>The evaluation shall be based on the evaluated cost of fulfilling the contract in compliance with all commercial, contractual and technical obligations under this Bidding Document.</p>
<b>31.0</b>	<b>Evaluation Of Bids</b>	<p>a) The Employer shall evaluate each Bid that has been determined, up to this stage of the evaluation, to be substantially responsive.</p> <p>b) To evaluate a Bid, HURL shall only use all the criteria and methodologies defined in this document.</p> <p>c) To evaluate a Bid, HURL shall consider the following:</p> <ul style="list-style-type: none"> <li>● The bid price as quoted as per Bill of Quantity (BOQ)</li> <li>● Price adjustment for correction of discrepancy.</li> <li>● Price adjustment due to Price Preference, pursuant to ITB clause 4.0, if applicable</li> <li>● Price adjustment due to Price Preference due to any other condition specified in Special Purchase Condition;</li> <li>● Price adjustment due to application of the evaluation criteria.</li> </ul>
<b>32.0</b>	<b>Contacting The Employer</b>	<p>Subject to ITB clause 25.0 above, no Bidder shall contact the Employer on any matter relating to its bid, from the time of the opening of Bids to the time the contract is awarded.</p> <p>Any effort by a Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid.</p>
<b>33.0</b>	<b>Employer's Right To Accept Any Bid And To Reject Any Or All Bids</b>	<p>The Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all Bids at any time prior to Contract award, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder(s) of the grounds for the Employer's action.</p>
<b>34.0</b>	<b>Award Criteria</b>	<p>Subject to ITB Clause 33, the Employer will award the contract to the successful Bidder whose bid has been determined to be substantially responsive to the Bidding Documents and qualified to perform the contract satisfactorily, as per methodology specified in Special Conditions of Contract (SCC).</p>



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		The Bidder will be required to comply with all requirements of the Bidding Documents without any extra cost to the Employer, failing which his Earnest Money Deposit will be forfeited.
<b>35.0</b>	<b>Construction of Contract</b>	<p>If required, HURL may place separate Orders for supplies and Services.</p> <p>The award of separate Purchase Orders shall not in any way dilute the responsibility of the Supplier for the successful completion of the Facilities as per Contract documents and a breach in one Purchase Order shall be construed as a breach of the other Purchase Order(s) which will confer a right on the Employer to terminate the other Contract(s) also at the risk and cost of the Supplier.</p> <p>The total value of all the orders shall be the Total Package value.</p>
<b>36.0</b>	<b>Notification of Award</b>	Prior to the expiration of the period of bid validity, the Employer will notify the successful Bidder in writing by email or letter or by telefax to be confirmed in writing by letter sent by Speed Post/Registered/courier, that its bid has been accepted. The notification of award (Purchase/Service Order) will constitute the formation of the contract and shall be effective from the date of award or the date as specified in Special Conditions of Contract (SCC).
<b>37.0</b>	<b>Corrupt or Fraudulent Practices</b>	<p>Employer requires that Bidders, Contractors and Suppliers observe the highest standard of ethics during the procurement and execution of the contracts. In pursuance of this policy, Employer:</p> <p>(a) defines, for the purposes of this provision, the terms set forth below as follows:</p> <p>(i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and</p> <p>(ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition;</p> <p>(b) will reject a bid for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;</p> <p>(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing a contract of the</p>



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		Employer.
<b>38.0</b>	<b>Fraud Prevention Policy</b>	<p>The Bidders/ Service Providers/ Vendors/ Consultants etc. shall strictly adhere to the Fraud Prevention Policy of HURL displayed on its website <a href="http://www.hurl.net.in">http://www.hurl.net.in</a> and shall not indulge or allow anybody else working in their organization to indulge in fraudulent activities and immediately apprise HURL of the fraud/suspected fraud as soon as it comes to their notice. A certificate to this effect shall be furnished by the bidder along with his bid, in relevant attachment as per format enclosed (Annexure 6 of Section VI (Forms and Procedures)) with the Bidding Document.</p> <p>If in terms of above policy, it is established that the bidder/his representatives have committed any fraud while competing for this contract then the Earnest Money Deposit shall be forfeited.</p>
<b>39.0</b>	<b>Banning Policy</b>	Business dealings may be withheld or banned with the Contractor on account of any Default by the Contractor under Clause 44.
<b>40.0</b>	<b>Indian Agents</b>	<p>In a tender, either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product.</p> <p>If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit bid on behalf of another Principal/OEM in the same tender for the item/product.</p>
<b>41.0</b>	<b>Transfer of Bid Documents</b>	<p>a. Transfer of Bidding documents is not permissible.</p> <p>b. Documents purchased / downloaded by the intending bidders cannot be transferred.</p>
<b>42.0</b>	<b>Restrictions on procurement from a Bidder of a country which shares a land border with India</b>	<p>i. Any Bidder (including its Collaborator/Associate/DJU Partner/JV partner/Consortium Member/Assignee, wherever applicable) from a country which shares a land border with India will be eligible to bid in this tender only if bidder is registered with the Competent Authority.</p> <p>Such registration should be valid for the entire period of bid validity or any extension thereof. However, in case the validity period of registration is less than bid validity period, the Bidder shall be required to submit the extension of the validity period of registration before the opening of price bids, failing which the bid shall be rejected.</p> <p>Further the successful bidder shall not be allowed to sub-contract works to any "Sub-contractor" from a country which shares a land border with India unless such Sub-contractor is registered with the competent Authority as mentioned in SCC. However, the said requirement of registration will not apply to bidders/sub-contractors from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is</p>





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		<p>engaged in development projects. Bidders may apprise themselves of the updated lists of such countries available in the website of the Ministry of External Affairs.</p> <p>ii. “Bidder” (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.</p> <p>iii. “Sub-contractor” (including the term ‘Sub-vendor’/Sub-supplier’ in certain contexts) means any person or firm or company, every artificial juridical person not falling in any of the descriptions of Sub-contractors stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.</p> <p>iv. “Bidders from a country which shares a land border with India” / “Sub-contractor from a country which shares a land border with India” mentioned in para above means;</p> <p>a) An entity incorporated, established or registered in such a country; or</p> <p>b) A subsidiary of an entity incorporated, established or registered in such a country; or</p> <p>c) An entity substantially controlled through entities incorporated, established or registered in such a country; or</p> <p>d) An entity whose beneficial owner is situated in such a country; or</p> <p>e) An Indian (or other) agent of such an entity; or</p> <p>f) A natural person who is a citizen of such a country; or</p> <p>g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.</p> <p>v. The beneficial owner for the purpose of clause “iv” above will be as under;</p> <p>a) In case of company of Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.</p> <p>Explanation-</p> <p>i. “Controlling ownership interest” means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;</p> <p>ii. “Control” shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholdings or management rights or shareholders agreements or voting agreements;</p> <p>b) In case of a partnership firms, the beneficial owner is the</p>
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		<p>natural person(s) who, whether acting alone or together, or through one or more judicial person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;</p> <p>c) In case of an unincorporated associations or body of individuals, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;</p> <p>d) Where no natural person is identified under (a) or (b) or (c) above, the beneficial owner is the relevant natural person who holds the position of senior managing officials;</p> <p>e) In case of a trust, the identifications of beneficial owner(s) shall include identification of the author of trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.</p> <p>vi. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.</p> <p>vii. In regard to "Restrictions on procurement from a Bidder of a country which shares a land border with India" bidder has to submit Certificate as per Annexure 7 of Section VI (Forms and Procedures) of the bidding document.</p>
43.0	<b>Preference to Make In India (MII) and granting of purchase preference to local suppliers.</b>	<p>Preference to Make in India and Eligibility for participation/ granting of purchase preference to Class-I local suppliers.</p> <p>Preference shall be given to bidders as per the policy "Public Procurement (Preference to Make in India), Order 2017- Revision order No. 45021/2/2017-BE-II and amendments".</p> <p>Bidder must submit Annexure 14 of section VI for participating in Preference to MII.</p> <p>For order preference, MSE guidelines mentioned above in 4.0 read in conjunction with "Preference to Make in India and granting of purchase preference to local suppliers" mentioned in</p> <p>The bidders may apprise themselves of the relevant provisions of bidding documents in this regard before submission of their bids.</p>
44.0	<b>Termination of contract</b>	<p>If the Contractor:</p> <p>(a) at any time makes default in proceeding with the Works with due diligence and continues to do so after a notice of seven (7) days in writing from the Engineer-in Charge; or</p> <p>(b) commits default in complying with any of the terms and conditions of Contract and does not remedy it or take effective steps to remedy it within seven (7) days after a notice in writing is given to him in that behalf by the Engineer-in-Charge; or</p> <p>(c) fails to complete the Works or items of Work with individual dates of completion, on or before the date(s) of completion,</p>



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		<p>and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge; or</p> <p>(d) shall offer, or give or agree to give to any person in Employer's service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for the Employer; or</p> <p>(e) shall enter into a contract with the Employer in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Employer/ Engineer-in-Charge; or</p> <p>(f) shall obtain a Contract with the Employer as a result of ring bidding or other nonbonafide methods of competitive bidding;</p> <p>(g) In case of poor performance, the contract shall be terminated with a notice period of 15 days without any liability to HURL Barauni. IN the event of unsatisfactory performance, Hurl Barauni reserves right to cancel part or whole of the work order / contract /PO and make alternative arrangement at any time during of contract on risk &amp; cost of contractor and / or forfeit security deposit.</p> <p>(h) The Employer may, without prejudice to any other right to remedy which shall have accrued or shall accrue thereafter to the Employer by written notice, cancel the Contract as a whole or only such items of work in default, from the Contract.</p>
45	<b>Blacklisting</b>	If the contractor is terminated under clause 44 or made ineligible for tendering under clause 17 then HURL reserves the right to black list the bidder for 12 months from the date of notice.
46	<b>Contract Agreement</b>	On successful award of order or issue of Purchase order the bidder shall submit a non- judicial stamp paper of Rs. 1000/- with 03 bond dummy papers along with all other supporting documents as stipulated in the tender document within 30 days of receipt of Letter of Award (LOA) or Purchase order, failing which the tender is liable to be rejected.
47	<b>Cartelization Clause</b>	<p>A bidder can submit only one bid, in case of multiple bids by same bidder, all the bids of such bidder will be rejected.</p> <p>Not more than one tender shall be submitted by one bidder/bidder(s) having Business Ownership. For clarification, Business Ownership means bidders having common proprietor/partner(s)/director(s). In such case all such bids will be rejected.</p>



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		<p>In case Spouse, Father (including step-father), Mother (including step-mother), Son (including step-son), Son's wife, Daughter, Daughter's husband, Brother (including step- brothers) and Sister (including step-sisters) submit their bid for the same tender, all such bids will be rejected. However, in case they are a separate entity and are participating in the same tender they will provide an affidavit to this effect, as per given Annexure of the Tender Document, stating that they do not have a business relationship with the other bidders.</p> <p>At the time of submission of Tender, the TENDERER shall submit a declaration stating if the TENDERER or any employee of the TENDERER or any person acting on behalf of the TENDERER, 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 TENDERER, the same shall be disclosed by the TENDERER at the time of filing the tender. The TENDERER shall declare that they will not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of HURL.</p> <p>If any cartel/relationship in terms of establishment of relationship among the bidders is found at any stage during pendency of the Contract, HURL will cancel the Bid and action as deemed fit shall be taken against the particular bidder including termination of the contract, forfeiture of all dues including Earnest Money Deposit / Security Deposit and debarring/blacklisting of the bidder and all Partners of the bidder.</p>
	<b>Important Note</b>	<b>The Special Conditions of Contract (SCC) will supersede any other related conditions anywhere else in the Bidding Documents and will prevail for evaluation / finalization of the tender.</b>

### Annexure-1 to ITB

#### Checklist of documents to be submitted:

Sr. No	Documents
1	Techno Commercial Proposal Bid Form. (Enclosed as Annexure-1 to Forms and Procedures i.e., Section VI)
2	Power of Attorney as per requirement mentioned in NIT.
3	Signed, Stamped and Scanned copy of proof for payment of Earnest Money Deposit (EMD) / MSE Certificate with applicable annexure form for exemption.



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4	Signed, Stamped and Scanned copy of Certificates like Registration certificate, GST No, PAN No, PF, etc.
5	Signed, Stamped and Scanned copy of Format for Electronics Payment (Enclosed as Annexure-2 to Forms and Procedures i.e., Section VI)
6	Signed, Stamped and Scanned copy of Tender Acceptance Letter (Enclosed as Annexure-3 to Forms and Procedures i.e., Section VI)
7	Documents as required in accordance with Qualifying Requirements / Pre-Qualification Criteria (PQC) i.e., <u>Clause 7</u> of NIT
8	Signed, Stamped and Scanned copy of No deviation Certificate (Enclosed as Annexure-4 to Forms and Procedures i.e., Section VI)
9	Signed, Stamped and Scanned copy of Certificate from CEO/MD/ Legally Authorized Signatory, in the format as enclosed as Annexure-5 to Forms and Procedures i.e., Section VI) to Bidding Document shall be furnished certifying that the data and documents furnished by them in respect of Techno-Commercial Evaluation are true and correct including the contents thereof. However, if at any point of time the declarations given in bid are found to be incorrect, HURL shall have the full right to terminate the contract and take any action as per provisions of contract including forfeiture of EMD/Security Deposit.
10	Acceptance to Fraud Prevention Policy of HURL, for which the bidder has to submit Signed, Stamped and Scanned copy of Form of Acceptance of Fraud Prevention Policy of HURL. (Enclosed as Annexure-6 to Forms and Procedures i.e., Section VI).
11	Certificate related to Restrictions on procurement from a Bidder of a country which shares a land border with India" i.e. (Enclosed as Annexure-7 to Forms and Procedures i.e., Section VI).
12	Work orders subject to tender for qualification as per Annex – 12 with clearly mentioning Purchase order details relevant to tender based on which PQC can be achieved. Not to be mentioned as "As Attached"/ "mentioned in Bid"/ etc.
13	Declaration of GST (annexure -15) Signed, Stamped and Scanned copy of Declaration of GST (Enclosed as Annexure-15 to Forms and Procedures i.e., Section VI).
14	Signed, Stamped and Scanned copy of Bid Security Declaration Form (Enclosed as Annexure-13 to Forms and Procedures i.e., Section VI).
15	Signed, Stamped and Scanned copy of GCC, SCC & Scope of Work (i.e. Section-V) of tender document.
16	Any Other Document asked for in the Bidding Document

**Note:** Failure to Upload Authentic and Correct Documents as mentioned at Sr. No, I to 16 above would lead to Rejection of Techno- Commercial Bid. Price Bids shall be opened only of those bidders who are qualified and whose techno-commercial bids are acceptable.



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## Annexure 2 to ITB

A	<b>Instructions for Online Bid Submission</b>	<p>The bidders are required to submit their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.</p> <p>More information useful for submitting online bids on the CPP Portal may be obtained at: <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.</p> <p><b>1.0 REGISTRATION</b></p> <p><b>1.1</b> Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>) by clicking on the link "Online bidder Enrollment" on the CPP Portal which is free of charge.</p> <p><b>1.2</b> As part of the enrollment process, the bidders will be required to choose a unique username and assign a password for their accounts.</p> <p><b>1.3</b> Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.</p> <p><b>1.4</b> Upon enrollment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g., Sify / nCode / eMudhra etc.), with their profile.</p> <p><b>1.5</b> Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.</p> <p><b>1.6</b> Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.</p> <p><b>2.0 SEARCHING FOR BIDDING DOCUMENTS</b></p> <p><b>2.1</b> There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.</p> <p><b>2.2</b> Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the</p>
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		<p>respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e- mail in case there is any corrigendum issued to the Bidding Document.</p> <p><b>2.3</b> The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.</p> <p><b>3.0 <u>PREPARATION OF BIDS</u></b></p> <p><b>3.1</b> Bidder should take into account any corrigendum published on the Bidding Document before submitting their bids.</p> <p><b>3.2</b> Please go through the Bidding Document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.</p> <p><b>3.3</b> Bidder, in advance, should get ready the documents to be submitted as indicated in the Bidding Document / schedule. Generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.</p> <p><b>4.0 <u>SUBMISSION OF BIDS:</u></b></p> <p><b>4.1</b> Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. HURL shall NOT be responsible for any delay.</p> <p><b>4.2</b> The bidder has to digitally sign and upload the required bid documents one by one as indicated in the Bidding Document.</p> <p><b>4.3</b> Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.</p> <p><b>4.4</b> Bidder should prepare the EMD as per the instructions specified in the Bidding Document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the Bidding Documents.</p> <p><b>4.5</b> Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the Bidding Document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the blue colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and</p>
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		<p>submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.</p> <p><b>4.6</b> The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.</p> <p><b>4.7</b> All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology.</p> <p><b>4.8</b> Data storage encryption of sensitive fields is done. 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 Bidding Documents become readable only after the tender opening by the authorized bid openers.</p> <p><b>4.9</b> The uploaded Bidding Documents become readable only after the tender opening by the authorized bid openers. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message &amp; a bid summary will be displayed with the bid no. and the date &amp; time of submission of the bid with all other relevant details.</p> <p><b>4.10</b> The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.</p> <p><b>4.11</b> The Bidder is allowed to re-submit the Bid and related Bid documents before the last date of Bid submission and time. The Bid can be re-submitted as many times as required by the Bidder, within the indicated timelines. The last version of the Bid submitted by the Bidder before the Bid submission date and time will be considered for Bid evaluation.</p> <p><b>4.12</b> The Bidder is permitted to withdraw his Bid before the last date of Bid submission and time through the CPP Portal. The bidder should provide the supporting reasons for bid withdrawal and attach the supporting letter to the Purchaser.</p> <p><b>4.13</b> During bid evaluation, EMPLOYER may, at its discretion, ask the Bidder for a clarification of its bid including documentary evidence pertaining to the Purchase Orders/Contracts executed declared in the bid for the purpose of meeting Qualifying Requirement specified in NIT/IFB. The request for clarification and the response shall be in writing, and no</p>
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		<p>change in the price or substance of the bid including substitution of Purchase Orders/Contracts executed in the bid by new/additional Purchase Orders/Contracts executed for conforming to Qualifying Requirement shall be sought, offered or permitted.</p> <p>For this purpose, only 1 chance, shall be given. If the techno-commercial acceptability of bidder is established upon verification of documents including clarifications submitted, the case shall be considered for further processing. If the bidder happens to be defaulter upon verification of the documents or has not uploaded the required document within the mentioned time frame his bid would be analyzed based on the uploaded documents and if found not in order as per requirement, would be outrightly rejected.</p>
B.	<b>Reverse Auction</b>	<p>Procedure in submission of bids by the bidders during Reverse/Forward auction online.</p> <ul style="list-style-type: none"> <li>➤ Bidders shall login using their login ID &amp; Password and then using DSC.</li> <li>➤ Click on My Auctions button given in left side of page, to view Action details for which Techno-Commercially qualified.</li> <li>➤ For participating in Live Auction, <ul style="list-style-type: none"> <li>a) Click on Live Auction Button.</li> <li>b) Click on View button to participate in interested Auction.</li> <li>c) There is List of qualified Lots in which Bidder can participate against selected Auction.</li> <li>d) Click on Hammer Icon to participate in the respective lot.</li> <li>e) On clicking Hammer Icon, system will show Start price, Decremental (or incremental) price and Current price against lot. Current Price is appearing as Blank in case no bidder has offered price.</li> <li>f) Enter your Price in 'My Auction Price' in multiples of decremental (incremental) value up to above (below) Max Seal % value, and then sign it digitally by clicking on Sign Icon and Click on submit button.</li> <li>g) System will show your Latest Value / Price Quoted and system will also show Least Amount/ Rate which any Bidder would have quoted.</li> </ul> </li> </ul> <p>1. Tender Cum Auction is a combination of Tender Followed by Reverse Auction. It is also called as eRA.</p> <p>Subsequently, Reverse Auction will be conducted amongst techno-commercially qualified / approved bidders after Opening of Financial/Price Bids' online.</p> <p>The Reverse Auction will be normally initiated after Opening of Price Bids. There will be no participation fees for Auction. Only such bidders - who have been found techno-commercially qualified as per requirements of the tender will be permitted to participate in the Reverse Auction.</p> <p>After opening of the price (financial) bids, System displays L1</p>



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		<p>price based on either over all basis or item wise/lot basis automatically. Using this system provided price, which would be auction start price procuring entity will create Reverse Auction and publish the same.</p> <p>The Techno-commercially qualified bidders will receive Auction information through SMS &amp; email. The participating bidders get an opportunity to revise their prices (reduce in case of Reverse Auction). It allows bidders multiple opportunities to offer a price.</p> <ol style="list-style-type: none"> <li>2. The lowest value quoted by the bidder will become the auction start price for auction and the participant bidders have to quote below the auction price.</li> <li>3. The Bidder would be allowed to bid lower than the opening price of auction in multiples of the decrement value mentioned in <b>para-5</b>. However, bidder can only bid lower than the Lowest Bid.</li> <li>4. The auction will be done on bid value (to be provided by bidder) which will be derived based upon cost as mentioned in para below. It is inclusive of any taxes, etc.</li> <li>5. The minimum decrement value will be Rs. 10,000.00 as mentioned in <b>clause VII</b> below. The reduction shall have to be made as per decrement value or in multiple thereof.</li> <li>6. Bidders shall be able to view the following on their screen along with the necessary fields during Online Reverse Auction: <ol style="list-style-type: none"> <li>a) Current Bid Price in the Auction.</li> <li>b) Start Price.</li> <li>c) Decrement value.</li> </ol> <p>At no point of time will any bidder see the names of other bidders, or the prices of bidders other than the lowest bid.</p> </li> <li>7. In case of Reverse Auction, in order to displace a standing lowest bid and to become "L1", a bidder can offer a minimum bid decrement or in multiples of decremental value up to above Max Seal %. <p><b>For example:</b></p> <p>Current price:- Rs. 4,90,000 Decrement value: - Rs. 10000</p> <p>System Defined Maximum Seal %:- 50, in this case a bidder can quote minimum decrement amount as Rs 4,90,000-10,000= Rs. 4,80,000 and maximum decrement amount is 490000-245000-10000=235000=240000*.</p> </li> <li>8. A bidder can continue to revise his bid till the auction ends. However, the Bidder cannot quote/Bid equal to the Leading / Lowest Bid. He must always quote lower than the Leading/Lowest Bid site.</li> </ol>
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		<p>9. The evaluation criteria is based on Price alone in auction. The Bidder who quotes the lowest evaluated Price is determined as the lowest bidder.</p> <p>10. System protects bid and bidder information till auction gets over and displays current L1 price to the bidder.</p> <p>11. Initial period of reverse auction will be two hours in the slot of 10 minutes. There will be auto extensions of time every time by ten minutes in case of any reduction recorded in the last ten minutes. The reverse auction will come to a close only when there is no further reduction recorded in the last ten minutes slot in any site i.e., after 1 hour 50 minutes.</p> <p>12. The log details of the entire reverse auction process will be generated by the system once the process of reverse auction is completed.</p> <p>13. If a bidder does not submit his bid in the Reverse Auction, the price quoted by him in the price bid shall be considered as the final price of that bidder.</p> <p>14. Since, reverse auction is a sequel to e-tender, the process of finalizing the tender upon completion of reverse auction will be same as the tender process without reverse auction.</p> <p>15. The bid history shall reflect only the bid value inclusive of taxes. The value will not be same for two bidders even if any bidder makes such an attempt in the bidding.</p> <p>16. Only the chronologically last price bid submitted by the bidder till the end of the auction shall be considered as the valid price bid of that bidder. Any bid submitted prior to submission of his last bid will not be considered as the valid price bid.</p> <p>17. Server time shall be the basis of Start time &amp; Closing time for bidding and shall be binding for all. This would be visible to all concerned.</p> <p>18. All electronic bids submitted during the reverse auction process shall be legally binding on the bidder. The chronologically last bid submitted by the bidder till the end of the auction will be considered as the valid price bid offered by that bidder against that site and acceptance of the same by HURL will form a binding contract between HURL and the bidder for entering into a contract.</p> <p>19. If the lowest price received during reverse auction is unreasonable or it is unacceptable on ground of being too high compared with estimated price, the HURL management reserves right to seek justification of the price from lowest bidder. If the price is not considered reasonable, HURL may not accept such bid and may go for another tender process.</p> <p>20. In case of disruption of service at the service provider's end while the RAP is online, due to any technical snag or otherwise attributable to the system failure at the server end, the RAP process will start all over again. In such a situation, the last</p>
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		<p>recorded lowest price of prematurely ended RAP, will be the 'Start Bid' price for the restarted RAP. The prices quoted in the prematurely ended RAP will be binding on all the bidders for consideration, if the restarted RAP does not trigger within the stipulated time.</p> <p><b>21.</b> However, if Reverse Auction does not lead to any bid, HURL shall reserve the right to award the job based on the lowest prices quoted in online commercial bid.</p> <p><b>22.</b> The successful bidder needs to submit the revised BOQ in line with price quoted by him in reverse auction. The ratio of percentage decrease in cost of each item of BOQ component shall be same as the overall percentage reduction in the bid value originally quoted by successful bidder and final L1 value quoted by successful bidder.</p> <p><b>23.</b> The detailed Break-up of offered cost, provided by the successful bidder shall be considered and order, if placed, shall be with the same break-up of prices. The successful bidder(s) after reverse auction will be responsible to ensure that the rate as per the breakup of prices provided by him after the reverse auction and total value offered by him in the reverse auction are in same proportion. The successful bidder will not be allowed to increase the rate of any component while submitting the breakup. While giving the break up, the successful bidder will have to consider same rate of taxes as quoted while submitting the commercial bid. In case the successful bidder(s) fail(s) to submit the final BoQ within 3 days or the break up given by bidder does not match with total offered price, the HURL will be at liberty to place order by proportionately reducing the component rates on basis of the breakup of the e-auction bid submitted by the successful bidder along with the initial offer and the same will be binding on the successful bidder.</p>
		<b>Bidders must apprise themselves of the applicable guidelines for submission of and uploading of bids etc. on CPP website.</b>
<p>The GST part of the bill shall be paid only after confirmation of payment from the successful awarded bidder or after confirmation of the corresponding return filed by the contractor from the GST portal. The GST part of the bill shall be withheld till such confirmation.</p>		

# **HINDUSTAN URVARAK & RASAYAN LIMITED**

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## **BARAUNI UNIT**

Barauni Urvarak Nagar, Begusarai

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115

[Registered Office SCOPE Minar, Core 4, 9TH Floor, Laxmi Nagar District Center, Delhi-110092]



## **SECTION – III**

### ***GENERAL CONDITIONS OF CONTRACTS (GCC)***



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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The Special Conditions of Contracts (SCC) will supersede any related condition anywhere in the Bidding Documents and will prevail for evaluation / finalization of the tender.		
1	<b>Definitions &amp; Terminology</b>	<p>Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:</p> <p><b>“Employer” / “Owner”</b> means the Hindustan Urvarak &amp; Rasayan Limited (HURL), having its registered office Core-4, 9th Floor, Scope Minar, Laxmi Nagar District Centre, Delhi-110092 and its Project office at Barauni, Urvarak Nagar, Begusarai, Bihar – 851115 shall include their legal representatives, successors and permitted assigns.</p> <p><b>“Contract”</b> means the Contract Agreement entered into between the Owner and the Contractor, together with the Contract Documents referred to therein; they shall constitute the Contract, and the term “the Contract” shall in all such documents be construed accordingly.</p> <p><b>“Contract Documents”</b> mean the following documents that constitute the Contract between the Employer and the Contractor:</p> <ul style="list-style-type: none"> <li>(i) The Contract Agreement along with its appendices</li> <li>(ii) Letter of Award/Service Purchase Order along with its appendices including agreed variations annexed.</li> <li>(iii) Amendment to Tender/Bidding Documents</li> <li>(iv) Special Conditions of Contract</li> <li>(v) Technical Specifications</li> <li>(vi) General Conditions of Contract</li> <li>(vii) The Bid and Bill of Quantities submitted by the Contractor</li> <li>(viii) Instructions to Bidders</li> </ul> <p><b>“GCC”</b> means the General Conditions of Contract hereof.</p> <p><b>“SCC”</b> means the Special Conditions of Contract.</p> <p><b>“Day”</b> means calendar day of the Gregorian Calendar.</p> <p><b>“Week”</b> means a continuous period of seven (7) calendar days.</p> <p><b>“Month”</b> means calendar month of the Gregorian Calendar.</p> <p><b>“Completion”</b> means the fulfilment of the Services by the Contractor in accordance with the terms and conditions set forth in the Contract.</p> <p><b>“Contractor”</b> shall mean the successful Sole Bidder or Consortium whose bid has been accepted by the OWNER and who has been selected by the OWNER for the award of Works and shall include his heirs, legal representatives, successors and permitted assigns.</p> <p><b>“Contract Price”</b> means the price to be paid for the performance of the Services, exclusive of GST.</p>



## HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI

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		<b>Effective Date</b> means the date on which this Contract comes into force pursuant to GCC Clause 15.
		<b>Foreign Currency</b> means any currency other than the currency of the Owner's country.
		<b>"Local Currency"</b> means the currency of the Government of India.
		<b>"Government"</b> means the Government of the Owner's country i.e. INDIA.
		<b>Party</b> means the Owner or the Contractor, as the case may be, and <b>"Parties"</b> means both of them. Third party means any party other than Owner and Contractor.
		<b>Personnel</b> means professionals and support staff provided by the Contractor or by any Sub-Contractor and assigned to perform the Services or any part thereof;
		<b>"Funds"</b> means any funds allocated to the Owner under Company budget, or loan, grants and credits placed at the disposal of the Owner.
		<b>Services</b> means the work to be performed by the Contractor pursuant to this Contract
		<b>Sub-Contractor</b> means any person or entity to whom/which part of the Services is sub-consulted.
		<b>"Engineer"</b> or <b>"Engineer-in-Charge"</b> or <b>"E.I.C."</b> shall mean the officer appointed in writing by the Owner to act as <b>"Coordinator"</b> from time to time on behalf of Owner in all matters pertaining to this Contract. <b>"Engineer-in-Charge"</b> shall be authorized by the Client for supervision, inspection, scrutiny and approval of some or all of the services rendered by the Contractor under the Contract.
		<b>"Bill Of Quantity"</b> shall mean the priced and completed Bill of Quantity (BOQ) forming the part of the bid or such Bill of Quantity (BOQ) forming the part of the Contract, as the case may be, with amendments, if any, thereto.
2	<b>Order of the precedence of the</b>	Throughout these Bidding Documents, the term <b>"Bid"</b> and <b>"Tender"</b> and their derivatives (Bidder/ Tenderer, Bidding / Tendering, Bidding Document/Tender Document, etc.); Bill of Quantity / Schedule of Quantity / Schedule of Quantities/ Bill of Quantities; Owner / Employer / HURL; Bid Security / Earnest Money Deposit; Security Deposit / Performance Security/ Performance Guarantee; Engineer-in-Charge / Engineer, appearing anywhere in the Bidding Documents shall have the same meaning and are synonymous to each other.
		Subject to order of precedence listed below, all documents forming part of the Contract (and all parts thereof) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as





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	<b>Documents</b>	<p>a whole.</p> <p>The order of precedence of documents shall be as under:</p> <ol style="list-style-type: none"> <li>Contract Agreement and the Appendices</li> <li>Purchase Order/Service Order along with its annexures.</li> <li>Amendment to Bidding Documents</li> <li>Special Conditions of Contract</li> <li>Technical Specifications including Scope of Work</li> <li>General Purchase Conditions</li> <li>The Bid and BOQ submitted by the Supplier</li> <li>Instructions to bidders</li> </ol> <p>An amendment issued after issue of Contract shall take precedent over the formal Contract and all other contract documents.</p> <p>In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Documents are listed above.</p> <p>Any error in description, quantity or rate in Bill of Quantity (BOQ) or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the Works comprised therein according to drawings and specifications or from any of his obligations under the Contract.</p>
3	<b>Singular and Plural</b>	The singular shall include the plural and the plural the singular, except where the context otherwise requires.
4	<b>Headings</b>	<p>The headings and marginal notes in the General Conditions of Contract are included for ease of reference, and shall neither constitute a part of the Contract nor affect its interpretation.</p> <p>Heading and marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.</p>
5	<b>Communications and Notices</b>	<p>Communications between Parties (notice, request or consent required or permitted to be given or made by one party to the other) pursuant to the Contract shall be in writing to the Authorized Representatives named in the Contract.</p> <p>A notice shall be effective when delivered or on the notice's effective date, whichever is later.</p> <p>A Party may change its address for notice hereunder by giving the other Party notice of such change to the address.</p>
6	<b>Governing Laws</b>	<p>The Contract shall be governed by and interpreted in accordance with laws in force in India.</p> <p>The Courts of Delhi shall have exclusive jurisdiction in all matters arising</p>



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		under the Contract, unless otherwise stated in the SCC.
7	<b>Governing Language</b>	<p>The Contract shall be written in English. All correspondences and documents relating to the Contract shall be written in English. Supporting documents and printed literature that are part of the Contract may be in another language, as long as such literature is accompanied by a translation of its pertinent passages in English language in which case, for purposes of interpretation, the translation shall govern.</p> <p>The English Translation of the documents shall be carried out by professional translators and the translator shall certify that he is proficient in both languages in order to translate the document and that the translation is complete and accurate. Further, translation shall be authenticated by the Indian Consulate located in the Country where the documents have been issued or the Embassy of that Country in India.</p> <p>The Contractor shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.</p>
8	<b>Assignment</b>	Neither the Owner nor the Contractor shall assign, in whole or in part, their obligations under this Contract; except with prior written approval of the Owner.
9	<b>Authorized Representatives</b>	<p><b>Engineer-in-Charge</b></p> <p>If the Engineer-in-Charge is not named in the Contract, then within fourteen (14) days of the Effective Date, the Owner shall appoint and notify the Contractor in writing of the name of the Engineer-in-Charge. The Owner may from time to time appoint some other person as the Engineer-in-Charge in place of the person previously so appointed, and shall give a notice of the name of such other person to the Contractor without delay. The Owner shall take reasonable care to see that no such appointment is made at such a time or in such a manner as to impede the progress of work. The Engineer-in-Charge shall represent and act for the Owner at all times during the currency of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract shall be given by the Engineer-in-Charge, except as herein otherwise provided. All notices, instructions, information and other communications given by the Contractor to the Owner under the Contract shall be given to the Engineer-in-Charge, except as herein otherwise provided.</p>
10	<b>Contractor's Authorised Representative</b>	<p><b>Contractor's Representative</b></p> <p>If the Contractor's Representative is not named in the Contract, then within fourteen (14) days of the Effective Date, the Contractor shall appoint the Contractor's Representative and shall request the Owner in writing to approve the person so appointed. If the Owner makes no objection to the appointment within fourteen (14) days, the Contractor's Representative shall be deemed to have been approved. If the Owner objects to the appointment within fourteen (14) days giving the reason therefore, then the Contractor shall appoint a replacement</p>



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		<p>within fourteen (14) days of such objection, and the foregoing provisions of this GCC Clause shall apply thereto.</p> <p>The Contractor's Representative shall represent and act for the Contractor at all times during the currency of the Contract and shall give to the Engineer-in-Charge all the Contractor's notices, instructions, information and all other communications under the Contract.</p> <p>All notices, instructions, information and all other communications given by the Owner or the Engineer-in-Charge to the Contractor under the Contract shall be given to the Contractor's Representative or, in its absence, its deputy, except as herein otherwise provided.</p> <p>The Contractor shall not revoke the appointment of the Contractor's Representative without the Owner's prior written consent, which shall not be unreasonably withheld. If the Owner consents thereto, the Contractor shall appoint some other person as the Contractor's Representative, pursuant to the procedure set out in above GCC Clause.</p> <p>The Contractor's Representative may, subject to the approval of the Owner (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Contractor's Representative, and shall specify the powers, functions and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the Owner and the Engineer-in-Charge.</p> <p>Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with the above GCC Clause shall be deemed to be an act or exercise by the Contractor's Representative.</p>
11	<b>Relation between the Parties</b>	<p>Nothing contained herein shall be construed as establishing a relation of master and servant or of principal and agent as between the Owner and the Contractor. The Contractor, subject to this Contract, has complete charge of Personnel and Sub-Contractors, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.</p>
12	<b>Location</b>	<p>The Services shall be performed at such locations as are specified in the Contract and, where the location of a Special task is not so specified, at such locations as the Owner may approve.</p>
13	<b>Taxes &amp; Duties</b>	<p>Contractor, shall bear all tax liabilities, duties, Govt. levies etc. on account of payments made under this Contract. It shall be the responsibility of the Contractor to submit to the concerned Indian authorities the returns and all other concerned documents required for this purpose and to comply in all respects with the requirements of the laws in this regard, in time.</p> <p>It shall be incumbent upon the Contractor to obtain a registration certificate as a dealer under GST Law, and other law(s) relating to levy</p>



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		<p>of tax, duty, cess etc. and necessary evidence to this effect shall be furnished by the Contractor to the Owner.</p> <p>The Contract Price (of both domestic and foreign Contractor) shall also be exclusive of GST applicable on services as per the rates prevailing as on seven (7) days prior to the date of Techno-Commercial bid opening. In case the Contractor is from outside India, who does not have any fixed establishment or permanent address in India, the GST shall be paid to the concerned Tax Authorities in India by the Owner and the same shall be recovered/ deducted from the Contractor.</p> <p>In case of any variation in the rate of GST during the period of Contract, an equitable amount shall be paid/ recovered from the Contractor to fully take into account any such change.</p> <p>If a new tax, duty or levy is imposed or any rates of tax are increased or decreased under statute or law in India after the date seven (7) days prior to date of Techno-Commercial bid opening and the Contractor becomes liable there under to pay and actually pays the said new tax, duty or levy for bonafide use on the work contracted, the same shall be reimbursed/recovered to the Contractor.</p> <p>As regards Income Tax, Surcharge on Income Tax and other Corporate Taxes, including Cess wherever applicable, the Contractor shall be responsible for such payments to the concerned authorities.</p> <p>The Owner shall be entitled to make necessary tax deductions at source as per the prevalent laws. The Contractor shall be required to submit the PAN details before the submission of the first bill/invoice under the Contract.</p> <p>The GST part of the bill shall be paid only after confirmation of payment from the successful awarded bidder or after confirmation of the corresponding return filed by the contractor from the GST portal. The GST part of the bill shall be withheld till such confirmation.</p> <p>In case the Contractor is from outside India, it shall be required to either furnish (i) the certificate from Indian Tax Authority or (ii) Ruling from "the Authority for Advance Ruling (AAR)" determining the applicable rate of Income Tax in India before release of first payment.</p> <p>The Contractor shall himself be informed of all the applicable laws, notifications, rules, circulars and other communications of the State or Central or other authorities with regard to levy of any tax, duty, cess, levy or fee etc, which in any manner may impinge upon him in performance of any obligations/responsibilities under or arising out of the Contract.</p> <p>Further in case of foreign Contractor, certain benefits of Income Tax may be available to him in his country under Double Taxation Avoidance Agreement (DTAA). While quoting for the assignment, the foreign Contractors are required to consider such benefits in their proposal.</p>
14	<b>Effectiveness of</b>	The Contract shall come into force and effect on the date, called the



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	<b>Contract</b>	“Effective Date”, of the Owner’s notice to the Contractor instructing the Contractor to commence carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, as specified in the SCC have been met or as mentioned elsewhere in the tender document.
15	<b>Effective Date</b>	The date the Contract comes into effect shall be as specified in the SCC.
16	<b>Commencement of Services</b>	The Contractor shall commence carrying out the Services not later than the number of days after the Effective Date as specified in the SCC.
17	<b>Modifications or Changes or Amendment</b>	No Modifications or changes or amendment or other variation of the Contract (Purchase Order / Service Purchase) shall be effective unless it is in writing, is dated, expressly refers to the Purchase Order / Service Order, and is signed by a duly authorized representative of Employer and accepted by the Contractor.
18	<b>Contract Price</b>	The Contract price, other than GST, shall remain FIRM throughout the contract period and will be NOT be subject to adjustment for price escalation during the performance of the Contract until unless specified otherwise in the SCC.
19	<b>Severability</b>	If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.
20	<b>Standard of Performance</b>	The Contractor shall perform the Services and carry out its obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Contractor shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Owner, and shall at all times support and safeguard the Owner’s legitimate interests in any dealings with Sub Contractors or Third Parties.
21	<b>Conflict of Interests</b>	The Contractor shall hold the Owner’s interest’s paramount, without any consideration for future work, and strictly avoid conflict with other assignments or their own corporate interests.
22	<b>Confidentiality</b>	The Owner and the Contractor shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following termination of the Contract. Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Owner to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor



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		under this clause of GCC.
23	<b>Limitation of Liability</b>	<p>HURL shall in no way be responsible for any liabilities arising out of the Contractor's Contractual obligations with the Contractor's personnel, experts, engineers, sub-Contractors, licensors, collaborators, vendors, or subsidiaries. Similarly, the Contractor shall in no way be responsible for any liabilities arising out of HURL's personnel, sub-Contractors, licensors, collaborators, vendors or subsidiaries.</p> <p>The Contractor and HURL both agree that each shall assume full risk of damages or injury to its own properties, employees and representatives caused by any act or omission to act by their respective employees or representatives, during the performance of this Contract.</p> <p>Except in cases of criminal negligence or willful misconduct,</p> <p>(a) Neither Party shall be liable to the other Party, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, which may be suffered by the other Party in connection with the Contract, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages to the Employer and</p> <p>(b) The aggregate liability of the either party to the other party, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.</p> <p>Notwithstanding anything contained hereinabove, the aggregate liability of the Employer to the Contractor shall not exceed the Total Contract Price, less payments already released to the Contractor, if any.</p>
24	<b>Liability of the Contractor</b>	<p>The Contractor, shall be, liable to and required to indemnify, the Owner as stated under for due performance of the Contract.</p> <p>The Contractor shall indemnify the Owner from and against any and all claims, liabilities, obligations, losses, damages, penalties, actions, judgment, suits, proceedings, demands, costs, expenses and disbursements of whatsoever nature that may be imposed on, incurred by or asserted against the Owner during or in connection with the Services by reason of:</p> <p>(a) infringement or alleged infringement by the Contractor of any patent or other protected right; or</p> <p>(b) plagiarism or alleged plagiarism by the Contractor.</p> <p>The Contractor shall ensure that all goods and services (including without limitation all computer hardware, software and systems) procured by the Contractor out of funds provided or reimbursed by the Owner or used by the Contractor in the carrying out of the Services do not violate or infringe any industrial property or intellectual property right or claim of any third party.</p>
25	<b>Insurance to be</b>	The Contractor





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	<b>taken out by the Contractor</b>	<p>(a) shall take out and maintain, and shall cause any Sub-Contractors to take out and maintain, at their (or the Sub-Contractors', as the case may be) own cost, but on terms and conditions approved by the Owner, during the performance of the Contract, the insurance against the risks, and for the coverage as specified in the SCC; and</p> <p>(b) at the Owner's request, shall provide evidence to the Owner showing that such insurance has been taken out and maintained and that the current premiums therefore have been paid.</p>
26	<b>Contractor's Actions Requiring Owner's Prior Approval</b>	<p>The Contractor shall obtain the Owner's prior approval in writing before taking any of the following actions:</p> <p>(a) any subcontract relating to the Services to an extent and, with such specialists and entities as may be approved as</p> <p>(b) any other action that may be specified in the SCC.</p> <p>Notwithstanding any approval as above, the Contractor shall remain fully liable for the performance of Services by the Sub-Contractor and its Personnel and retain full responsibility for the Services.</p>
27	<b>Assistance and Exemptions</b>	<p>The Owner shall use its best efforts to ensure the following:</p> <p>(a) To ensure the accuracy of all information and/or data to be supplied by the Owner to the Contractor necessary for performance of the Contract, except when otherwise expressly stated in the Contract.</p> <p>(b) issue to officials, agents and representatives of the Owner all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services;</p> <p>(c) provide to the Contractor, Sub-Contractors and Personnel any such other assistance as may be specified in the SCC.</p>
28	<b>Payment Terms</b>	<p><b>General</b></p> <p>In consideration of the Services performed by the Contractor under this Contract, the Owner shall make to the Contractor such payments and in such manner as stated below:</p> <p>Payments will be made in the currency or currencies in which the Contract Price has been stated in the Contractor's bid i.e., INR.</p> <p>No payment made by the Owner herein shall be deemed to constitute acceptance of the Services nor relieve the Contractor of any obligations.</p> <p><b>Modes of Billing and Payment</b></p> <p>All the invoices of payment shall be supported by necessary Documents and submitted in quadruplicate for the certification of Engineer-in-Charge for which he will require a maximum time of fifteen (15) days before the same are submitted for processing the payment of amount admitted.</p> <p>The Owner shall pay to the Contractor all the admissible payments within thirty (30) days of certification of the Engineer-in-Charge of the amount payable for the services/Works.</p> <p>Contractor shall furnish the details of Bank Account in the prescribed format along with Bid in order to facilitate the Owner to release Payments electronically through Electronic Fund Transfer system wherever technically feasible. The Contractor shall hold the Owner harmless &amp; Owner shall not be liable for any direct, indirect or consequential loss or damage sustained by the Contractor on account of any error in the information or change in Bank details provided to the Owner in the prescribed form without intimation to Owner duly</p>





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		<p>acknowledged.</p> <p><b>Vendor Registration:</b></p> <p>In case of awarding a contract to an unregistered vendor, the vendor registration in HURL vendor data base shall be done based on the GST, MSME, Annexure -2 for bank details etc. submitted along with the bid documents. Once the contractor is registered no changes shall be made in the vendor details till a change request on contractor's letter head is received from the contractor in sign and stamp copy (as per Power of Attorney). The change request should contain the details of the data to be changed, present data, new data and reason for the change along with the supporting documents. For example, in case of change in bank details a change request form on contractor's letter head should contain old bank Account No, New bank account number and reason for change of account number addressing to HURL finance department, along with the cancelled cheque as a supporting document. The Bill payments shall be processed as per the bank details prescribed during the registration or further change request forms if applicable.</p> <p>In case of awarding a contract to HURL registered vendor, the payment shall be processed as per the details shared during initial registration or first awarding or latest bank detail change requests. The same shall apply for other details like MSME or other statutory requirements. The contractor while bidding for the tender should ensure the bid details should match as per the initial vendor registration data or the latest change request.</p> <p>HURL shall not be held responsible for any payment issues if the bank details shared while registration (or the change request if applicable) mismatches with the invoice bank details.</p>
29	<b>Early Warning</b>	<p>If at any time during performance of the Contract, the Contractor or its Sub-Contractors should encounter events, circumstances conditions that may adversely affect the quality of the work, increase the cost of Services or delay the execution of the Services, the Contractor shall promptly notify the Owner in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Contractor's notice, the Owner shall evaluate the situation, and the Contractor shall cooperate with the Owner in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced.</p>
30	<b>Extension of the Intended Completion Date</b>	<p>In the event the Contractor is unable to complete the assignment by the Intended Completion Date it may request the Owner to extend the Intended Completion Date giving reasons. The Owner may extend the Intended Completion Date if the reasons given by the Contractor, including prior review where necessary, are found acceptable. The Owner shall, however, decide by how much to extend the Intended Completion Date.</p>
31	<b>Good Faith</b>	<p>The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.</p>
32	<b>Liquidated Damage (LD) for Delay</b>	<p>In the event of Supplier's failure to deliver the material / services or fails to perform the incidental Works/ Services of acceptable quality within the stipulated delivery period, the liquidated damages are payable by the Supplier / Contractor @ ½% percent of the delivered price of the delayed</p>



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		<p>material / Services and/ or incidental Works/ Services for each week of delay or part thereof until actual delivery or performance, subject to a maximum deduction of the 5% of the delayed materials / Services' or incidental Works/ Services' contract price(s). However, the total liability of the Supplier / Contractor under this clause shall not exceed 5% of the Total Contract value as awarded.</p> <p>Note: LD is to be levied on Goods/ Services/ Works Contract value excluding GST.</p>
33	<b>Change in laws and regulations</b>	<p>If, after the date seven (7) days prior to the last date of Bid submission, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. However, these adjustments would be restricted to items in respect of both direct transactions between the Employer and Supplier.</p>
34	<b>Performance Security</b>	<p>Within thirty (30) days of the receipt of Purchase Order/Service Order from the Employer, the contractor shall furnish the Contract Performance Guarantee (CPG), if applicable, for the due performance of the Contract for ten percent (10%) of the Contract Price including GST with an initial validity up to ninety (90) days beyond the completion date for work plus defect liability period (if any), for due performance of the Contract(s)/Order(s) in any form acceptable to the Employer as mentioned below.</p> <p>CPG may be submitted in any of the following forms:</p> <ol style="list-style-type: none"> <li>crossed Demand Draft / Bankers cheque drawn in favour of HURL Payable at New Delhi.</li> <li>An irrevocable Bank Guarantee as per the HURL standard format from any Nationalized bank / Scheduled Bank as acceptable to HURL as per list enclosed.</li> </ol> <p>Failure of the supplier to submit the above-mentioned Contract Performance Guarantee shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.</p> <p>No interest shall be payable by the Employer to the Contractor against the Security Deposit furnished.</p> <p>Performance Security shall be returned after Certification of completion of work by EIC. However, the contractor will have to apply in writing, for refund of the same.</p> <p><b>IMPORTANT:</b></p> <p>In case of PBG payment through RTGS/NEFT, bidder must mention "PXXX-Bidder name" in transaction description while making the payment. "XXX" to be replaced with the last three digits of the tender reference number.</p> <p>(Example: Bidder Name: Pqrst Pvt. Ltd. , Tender No.: HURL/BR/CC/22-23/432 then the payment description to be mentioned as "P432-PqrstPvtLtd")</p>



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35	<b>Force Majeure</b>	<p>Neither CONTRACTOR nor OWNER shall be considered in default in the performance of their obligations under CONTRACT, as long as such performance is prevented or delayed for reasons such as, including but not limited to, whether similar or dissimilar, acts of God, earthquake, tidal wave, tsunami, hurricane, storm, typhoon or cyclone (except monsoon), floods, lightening, land slide, fire or explosions, plague or epidemic, strikes of a whole National category of workers and concerted act of workmen or other industrial disturbances (lasting more than 7 consecutive calendar DAYS), lockouts (lasting more than 7 consecutive calendar DAYS), sabotage, blockade, war, riots, invasion, act of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, terrorist acts, insurrection or military or usurped power of confiscation or trade embargoes or destruction or requisition by order of any Government or any Public Authority or for reasons or cause beyond the reasonable control of the affected party provided notice of any such cause is given forthwith and in any event not later than one week (7) DAYS of the happening of the event by the party claiming the benefit of this Clause to the other specifying the matter constituting FORCE MAJEURE explaining to what extent contractual obligations will thereby be prevented or delayed and the further period for which it is estimated that such prevention or delay will continue. CONTRACTOR shall provide justificatory documents countersigned by the local Chamber of Commerce. Notwithstanding the forgoing, FORCE MAJEURE shall not include (a) weather conditions reasonably to be expected for the climate in the geographic area of the SITE including but not limited to the monsoon season, (b) the occurrence of any manpower or material shortages unless such a shortage is itself caused by an event of force majeure, or (c) any delay, default or failure (direct or indirect) in obtaining materials, or in any SUB-CONTRACTOR/VENDOR or worker performing any WORK or any other delay, default or failure (financial or otherwise) attributable to SUB-CONTRACTOR/Vendor/worker, unless such delay, default or failure results from any act, event or condition which would, with respect to such SUBCONTRACTOR/ VENDOR/ worker, constitute an event of force majeure.</p> <p>If the CONTRACTOR suffers delay in the due execution of the contractual obligations due to delays caused by force majeure as defined above, the agreed time of completion of job covered by this CONTRACT or the obligation of the CONTRACTOR shall be extended by a period of time on account of force majeure conditions, provided that on the occurrence of any such contingency, the CONTRACTOR shall within 30 days reports to the OWNER in writing, the cause of delay and likely duration of cause of delay with requisite documentary evidence.</p> <p>Should one or both the parties be prevented from fulfilling the contractual obligations by a state of FORCE MAJEURE lasting continuously for a period of 6 weeks, the two parties shall consult each other regarding the future implementation of the CONTRACT. The mere shortage of labour, materials or utilities shall not constitute FORCE MAJEURE unless caused by circumstances which are themselves FORCE MAJEURE.</p>
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		<p>CONTRACTOR and OWNER shall endeavour to prevent, overcome or remove the causes of FORCE MAJEURE.</p> <p>No ground for exemption can be invoked if CONTRACTOR has failed to give timely notice by registered letter and subsequently supported it by documentary evidence.</p> <p>Delay or non-performance by a party hereto caused by the occurrence of any event of FORCE MAJEURE shall not:</p> <p style="padding-left: 40px;">(a) Constitute a default or breach of the CONTRACT,</p> <p style="padding-left: 80px;">Or</p> <p style="padding-left: 40px;">(b) Give rise to any claim for damages or additional cost or expense occasioned thereby, if such delay or non-performance is caused by the occurrence of any event of FORCE MAJEURE. FORCE MAJEURE conditions are not payable under any circumstances.</p> <p>Force Majeure is no one's fault, therefore each party should bear its own cost and a provision to terminate the CONTRACT in case of Force Majeure extending beyond six (06) month is provided. Should OWNER wish the CONTRACTOR to continue further, both parties may sit together and mutually agree on the future course failing which Parties will have the right to terminate. Such termination shall not be considered as Termination for Owner's Convenience. However, outstanding invoices, payment for supplies made and payment to the work already performed will be paid by OWNER on such termination and shall be detailed at the time of CONTRACT finalisation. CONTRACTOR shall have the right to take action to mitigate the impact of the prolonged Force Majeure event in mutual consent with Owner. FORCE MAJEURE shall not apply to any obligation of the OWNER to make payments to the CONTRACTOR under the contract.</p>
36	<b>No Breach of Contract</b>	<p>The failure of a Party to fulfil any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.</p>
37	<b>Measures to be Taken on Force Majeure</b>	<p>A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.</p> <p>A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any case not later than fourteen (14) days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.</p> <p>Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.</p> <p>During the period of their inability to perform the Services as a result of an event of Force Majeure, the Contractor, upon instructions by the Owner, shall either:</p> <p style="padding-left: 20px;">(a) demobilize, in which case the Contractor shall be reimbursed for</p>



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		<p>additional costs they reasonably and necessarily incurred, and, if required by the Owner, in reactivating the Services; or</p> <p>(b) continue with the Services to the extent possible, in which case the Contractor shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.</p>
38	<b>Suspension</b>	<p>The Contractor shall, on receipt of the order in writing of the Engineer-in-Charge, suspend the progress of the Works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary for any of the following reasons:</p> <p>(i) On account of any default on part of the Contractor; or</p> <p>(ii) for proper execution of the Works or part thereof for reasons other than the default on the part of the Contractor; or</p> <p>(iii) for safety of the Works or part thereof, for reasons other than those attributable to the Contractor.</p> <p>The Contractor shall, during such suspension, properly protect and secure the Works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.</p> <p>The time for completion of the WORKS will be extended for a period equal to the duration of the suspension. The Contractor shall not be eligible for any other compensation whatsoever for such suspension, except as otherwise provided herein under.</p> <p>If such suspension of WORK by OWNER delays or is likely to delay the progress of WORK or the carrying out of WORK under CONTRACT resulting in additional expenses or increased liability to CONTRACTOR, the OWNER shall pay to the CONTRACTOR all reasonable expenses, mutually agreed between OWNER and CONTRACTOR, arising from suspension of the work by an order in writing of the OWNER provided that such suspensions of work is more than a cumulative period of ninety (90) days and provided that such suspension is not due to some fault on the part of the CONTRACTOR or a SUBCONTRACTOR.</p>
39	<b>Termination for Default</b>	<p>The Owner or the Contractor, without prejudice to any other remedy for breach of Contract, by notice of default sent to the other party, may terminate the Contract in whole or in part if the other party causes a fundamental breach of contract. In such an occurrence one party shall give not less than thirty (30) days' written notice of termination to the other party.</p> <p>Fundamental breaches of the Contract shall include but shall not be limited to, the following:</p> <p>(a) If the Contractor fails to remedy a failure in the performance of their obligations hereunder, within thirty (30) days of receipt of such notice of suspension or within such further period as the Owner may have subsequently approved in writing;</p> <p>(b) If the Contractor submits to the Owner a statement which has a material effect on the rights, obligations or interests of the Owner and which the Contractor knows to be false;</p> <p>(c) if the Contractor, in the judgement of the Owner has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.</p>





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		<p>For the purpose of this Sub-Clause:</p> <p>"Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.</p> <p>"Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Owner and includes collusive practice among Contractors (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Owner of the benefits of free and open competition.</p>
40	<b>Termination for Insolvency</b>	<p>The Owner and the Contractor may at any time terminate the Contract by giving notice to the other party if:</p> <p>(a) the Owner becomes bankrupt or otherwise insolvent;</p> <p>(b) the Contractor becomes (or, if the Contractor consist of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary; or</p> <p>(c) in such event, termination will be without compensation to any party, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the other party.</p>
41	<b>Termination for Convenience</b>	<p>The Owner, by notice sent to the Contractor, may in its sole discretion and for any reason whatsoever, terminates the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Owner's convenience, the extent to which performance of the Contractor under the Contract is terminated, and the date upon which such termination becomes effective.</p> <p>In event of termination of Order/Contract, the Employer shall pay to the Supplier/Contractor the Contract Price, properly attributable to the works/supplies executed by the Supplier/Contractor as on the date of termination. However, any sums due to the Employer from the Contractor accruing prior to the date of termination shall be deducted from the amount to be paid to the Supplier under this Order/Contract.</p>
42	<b>Termination because of Force Majeure</b>	<p>The Owner and the Contractor may at any time terminate the Contract by giving notice to the other party if, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) days.</p>
43	<b>Cessation of Services</b>	<p>Upon termination of the Contract by notice of either Party to the other pursuant to GCC Clauses 39 to 42, the Contractor shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum.</p>
44	<b>Payment upon Termination</b>	<p>Upon termination of this Contract pursuant to GCC Clauses to 39 to 42, the Owner shall make the payments to the Contractor for Services satisfactorily performed prior to the effective date of termination.</p>
45	<b>Disputes about Events of Termination</b>	<p>If either Party disputes whether an event specified in GCC Clause 39, 40 or 41 has occurred, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to GCC Clause 46, and this Contract shall not be</p>



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		<p>terminated on account of such event except in accordance with the terms of any resulting arbitral award.</p> <p>In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to GCC Clause 46.</p>
46	<b>Settlement of Disputes</b>	<p><b>of Adjudicator</b></p> <p>Managing Director (MD) of HURL shall be the Appointing Authority for Adjudicator. Adjudicator under the Contract shall be retired judge of Supreme Court/High Court of India.</p> <p>If any dispute of any kind whatsoever shall arise between the Owner and the Contractor in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the services—whether during the progress of the work or after their completion and whether before or after the termination, abandonment or breach of the Contract—the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either party to the Adjudicator, with a copy to the other party.</p> <p>The Adjudicator shall give its decision in writing to both parties within twenty-eight (28) days of a dispute being referred to it. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the Owner or the Contractor within fifty-six (56) days of such reference, the decision shall become final and binding upon the Owner and the Contractor. Any decision that has become final and binding shall be implemented by the parties forthwith.</p> <p>Should the Adjudicator resign or die, or should the Owner and the Contractor agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract, another Adjudicator shall be jointly appointed by the Owner and the Contractor. Failing agreement between the two within twenty-eight (28) days, the new Adjudicator shall be appointed at the request of either party by the Appointing Authority. Expenses incurred in the process of adjudication including the fees required to be paid to the adjudicator, if any, shall be shared equally between the Owner and the Contractor.</p> <p><b>Arbitration</b></p> <p>If either the Owner or the Contractor is dissatisfied with the Adjudicator's decision, or if the Adjudicator fails to give a decision within twenty-eight (28) days of a dispute being referred to it, then either the Owner or the Contractor may, within fifty-six (56) days of such reference, give notice to the other party, with a copy for information to the Adjudicator, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.</p> <p>Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with above clause, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Services.</p>





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		<p>Any dispute submitted by a party to arbitration shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions set forth below.</p> <p>The Owner and the Contractor shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the two arbitrators do not succeed in appointing a third arbitrator within twenty-eight (28) days after the latter of the two arbitrators has been appointed, the third arbitrator shall, at the request of either party, be appointed by the Appointing Authority as given below:</p> <ul style="list-style-type: none"> <li>a) President, Institution of Engineers in case of an Indian Contractor.</li> <li>b) President, International Chambers of Commerce, Paris in case of a Foreign Contractor.</li> </ul> <p>If one party fails to appoint its arbitrator within forty-two (42) days after the other party has named its arbitrator, the party which has named an arbitrator may request the Appointing Authority to appoint the second arbitrator.</p> <p>If for any reason an arbitrator is unable to perform its function, the mandate of the Arbitrator shall terminate in accordance with the provisions of applicable laws as mentioned under the Clause related to Governing Law and a substitute shall be appointed in the same manner as the original arbitrator.</p> <p>Arbitration proceedings shall be conducted</p> <ul style="list-style-type: none"> <li>(i) in accordance with the following rules of procedure: - <ul style="list-style-type: none"> <li>a) In case of a foreign Contractor, the arbitration proceeding shall be conducted in accordance with the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules of 1976.</li> <li>b) In case of an Indian Contractor, adjudication/Arbitration proceedings shall be conducted in accordance with Indian Arbitration and Conciliation Act 1996. In case the Indian Contractor is an Indian Public Sector Enterprise/Government Department (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, Government of India.</li> <li>c) In case of a foreign collaborator/associate of the Contractor, the arbitration proceedings shall be conducted in accordance with the United Nation Commission on International Trade Law (UNCITRAL) Arbitration Rules of 1976.</li> </ul> </li> <li>(ii) in New Delhi, India (Place for Arbitration)</li> <li>(iii) in the language in which this Contract has been executed.</li> </ul> <p>The decision of a majority of the arbitrators (or of the third arbitrator chairing the arbitration, if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction as decree of the court. The parties thereby waive any objections to or claims of immunity from such enforcement.</p>
47	<b>Fraud Prevention</b>	The Supplier along with their associate / collaborator / subcontractors /



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	<b>Policy</b>	<p>sub-vendors / consultants / service providers shall strictly adhere to the Fraud Prevention policy of the Employer displayed on its tender website <a href="http://www.hurl.net.in">http://www.hurl.net.in</a>.</p> <p>The Supplier along with their associate / collaborator / subcontractors / sub-vendors / consultants / service providers shall observe the highest standard of ethics and shall not indulge or allow anybody else working in their organization to indulge in fraudulent activities during execution of the Contract (Purchase Order/Service Order).</p> <p>The Supplier shall immediately apprise the Employer about any fraud or suspected fraud as soon as it comes to their notice.</p>
48	<b>Risk purchase</b>	<p>In the event Contractor fails to execute the services in scheduled completion period, HURL reserves the right to get the job executed from any other source at the Contractors risk and cost and the difference in cost shall be borne by the Contractor.</p> <p>Further, HURL shall retain the right of forfeiture of Performance Security and or any other action as deemed fit.</p>
49	<b>Price Basis</b>	<ol style="list-style-type: none"> <li>1. The services/Works shall be carried out at HURL Barauni as required by EIC.</li> <li>2. The contractor shall ensure that the submitted quotation shall be in line with the latest statutory compliance.</li> <li>3. To &amp; Fro, Fooding, Boarding, Lodging and Local conveyance is in the scope of contractor.</li> </ol>

<b>IMPORTANT NOTE</b>	<p><b>The Special Conditions of Contract will supersede any other related conditions anywhere in the tender documents and will prevail for evaluation / finalization of the tender.</b></p>
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# HINDUSTAN URVARAK & RASAYAN LIMITED

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## BARAUNI UNIT

Barauni Urvarak Nagar, Begusarai

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115

[Registered Office SCOPE Minar, Core 4, 9TH Floor, Laxmi Nagar District Center, Delhi-110092]



## SECTION – IV

### ***SPECIAL CONDITIONS OF CONTRACTS (SCC)***



## HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI

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The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC).  
Wherever there is a conflict, the provisions herein shall prevail over those in the GCC. The corresponding clause number of the GCC is indicated.

SCC Clause	Reference Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract or additional clauses
1	Qualifying Requirements / Pre-Qualification Criteria (PQC)	As per clause 7.0 of Section 1 i.e., NIT (Notice Inviting Tender).
2	Price Bid/ BOQ	<p>Schedule of price bid / BOQ in the form of BOQ1585.xls is provided along with this tender document at <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.</p> <p>Bidders are advised to upload the same in the commercial bid. Bidder shall not tamper/modify download price bid template in any manner. In case if the same is found to be tampered / modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with HURL.</p> <p>The quoted rate/amount shall be inclusive of taxes duties, levies including any other incidental charges applicable for the complete scope/supply excluding GST.</p> <p>The GST shall be paid extra as per the provisions of Clause 6 (i.e., Taxes and Duties) of SCC.</p> <p><b>Note: Quantity mentioned in the BoQ is non-splitable under the tender.</b></p>
3	<u>Bid Evaluation</u>	<p><b><u>Pre-Qualification Evaluation</u></b></p> <p>HURL, by the examination of Techno-Commercial Bid, will determine to its satisfaction whether the participating bidders are qualified to satisfactorily perform the contract in terms of Pre- Qualification Criteria stipulated in clause 1 of SCC.</p> <p>An affirmative determination of meeting the Pre- Qualification Criteria will be a prerequisite for further evaluation of Techno-Commercial bid. A negative determination will result in rejection of the Bidder's Techno-Commercial Bid in which event HURL will not open the Price Bid of the concerned bidder and his EMD shall be returned.</p> <p><b><u>Technical Bid Evaluation</u></b></p> <p>Bids shall be scrutinized on Techno-Commercial parameters based on the documents as mentioned in Annexures to ITB. Bidders are required to submit fully compliant bid. The bidders are required to furnish no deviation certificate in conformity to same. The bidder who has not submitted / furnished such certificate, their price bid shall not be opened. The PRICE BID shall be opened only of those bidders whose bid would have been considered techno-commercially accepted. Conditional bid will not be accepted.</p> <p><b><u>Price Bid Evaluation</u></b></p>



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		<p>Price bid(s) of the bidder(s) shall be evaluated on the <b>Percentage basis</b> of bidder's quote for all the items as quoted by bidder in SOR excluding GST amount.</p> <p>The lowest evaluated price of the technically qualified bidder shall be considered for initiating of Reverse Auction (RA) Process and the Lowest Received Price of the bidder after the completion of Reverse auction shall be considered for award.</p> <p>Reverse Auction (RA) Process shall be conducted on the total quantity of BOQ.</p> <p>The financial comparison for selection of Lowest (L-1) Bidder after reverse auction shall be done based on the total derived price of all the items mentioned in BOQ/SOR. The aggregate amount will be worked out as total derived price of all items of BOQ, shall be considered for evaluation and award.</p> <p>The successful bidder needs to submit the revised BoQ in line with price quoted by him in reverse auction. The ratio of percentage decrease in cost of each component shall be same as the overall percentage reduction in the bid value originally quoted by successful bidder and final L1 value quoted by successful bidder after reverse auction.</p> <p>The detailed Break-up of offered cost, provided by the successful bidder shall be considered and order, if placed, shall be with the same break-up of prices. The successful bidder after reverse auction will be responsible to ensure that the rate as per the breakup of prices provided by him after the reverse auction and total value offered by him in the reverse auction are in same proportion. The successful bidder will not be allowed to increase the rate of any component while submitting the breakup. While giving the break up, the successful bidder will have to consider same rate of taxes as quoted while submitting the commercial bid. In case the successful bidder(s) fail(s) to submit the final BoQ within 3 days or the break up given by bidder does not match with total offered price, the HURL will be at liberty to place order by proportionately reducing the component rates on basis of the breakup of the e-auction bid submitted by the successful bidder along with the initial offer and the same will be binding on the successful bidder.</p> <p><b>However, if Reverse Auction does not lead to any bid, HURL shall reserve the right to award the job based on the lowest prices quoted in online commercial bid.</b></p> <p>HURL Reserves the right to cancel the reverse auction as per the requirement. The management reserves the right to accept/ reject any or all tenders at the time prior to award of contract without assigning any reasons whatsoever.</p>
4	<b>Award Criteria</b>	<p>HURL reserves the right to negotiate price with L1 bidder.</p> <p>HURL will award the Contract to the successful Bidder who's Technical and Commercial bid has been determined to be substantially responsive and Price Bid to be the lowest evaluated Bid.</p> <p>HURL reserves the right to negotiate with the L1 Bidder after the opening of the price bid. The L1 bidder must respond to the communication within stipulated time. Failure to respond will be considered a deliberate delay in the tendering process or a lack of interest in the tender. As a result, the L1 bid will be deemed invalid, potentially resulting in your exclusion from future tender opportunities.</p>



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		If intentional non-responsiveness is determined, HURL reserves the right to blacklist the bidder.
<b>5</b>	<b>Tie Breaker Clause</b>	<p>In case of a tie at the lowest bid (L-1) position between 02 or more bidders, the following sequence of preference shall be adopted while processing the Letter of Acceptance (LOA)/ Purchase Order.</p> <p>(a) In case, one of the bidders is MSE owned by SC/ST Entrepreneur, then the order shall be placed on such bidder.</p> <p>(b) In case, one of the bidders is MSE owned by women Entrepreneur, then the order shall be placed on such bidder.</p> <p>(c) In case, one of the bidders is MSE then the order shall be placed on such bidder.</p> <p>(d) Otherwise, the order shall be placed on the bidder having higher turnover in the last audited financial year.</p> <p>In case there is a tie at lowest bid (L1) position between only startup bidders and none of them has past turnover, the Purchase order/ LOA will be placed on the startup who has registered earlier with the department Promotion of industry and Internal Trade.</p> <p>However, the above order of performance while processing LOA is subject to instructions/ guidelines issued by the government of India from Time to time.</p>
<b>6</b>	<b>Contract Price</b>	<p>Price to be quoted shall be firm and subject to no escalation whatsoever during the contractual completion period including extended period, if any, except for any statutory variations i.e. change in the rate of tax &amp; duty and/or inclusion of any new tax &amp; duty. Bid with variable price will not be accepted.</p> <ol style="list-style-type: none"> <li>1. Material/Services/Works shall be delivered at HURL, Barauni site.</li> <li>2. FOR – HURL Barauni</li> <li>3. Packing, Forwarding, Freight &amp; insurance is in the scope of supplier.</li> <li>4. For installation / ARC / AMC services, the services shall be carried out at HURL Barauni plant site as required by EIC. To &amp; Fro, Fooding, Boarding, Lodging and Local conveyance is in the scope of contractor.</li> </ol>
<b>7</b>	<b>Taxes and Duties</b>	<p>The Bidder shall include all the taxes, duties/ levies etc (except GST) in their quoted rates / prices. GST charges shall be paid extra at actual by the owner limited to the GST charges indicated by the bidder in the summary of SOR. Statutory variation in taxes and duties including imposition of any new tax &amp; duty, within the scheduled Completion period, as per Contract/Work order, shall be paid by contractor.</p> <p>The Contractor has to submit / furnish all necessary documents / information to enable claim the input credit benefit, if any, under GST rules.</p> <p>The contractor shall indemnify the Company against levy of any taxes/charges etc., imposed by the Govt. or any authority which are in existence at the time of submission of tender and also future statutory levies and the Contractor failed</p>



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		<p>to deposit the same. The Company shall have the right to recover the total amount of tax so assessed including litigation expenses from contractor's bills / security deposit.</p> <p>GST payment applicable at the time of awarding the contract shall be subject to any change in GST law in future.</p> <p>The GST part of the bill shall be paid only after confirmation of payment from the successful awarded bidder or after confirmation of the corresponding return filed by the contractor from the GST portal. The GST part of the bill shall be withheld till such confirmation.</p> <p>GST Registration Number of HURL Barauni is 10AADCH9368N1Z7</p> <p>Please mention GST Number &amp; PO number in Invoice / Challan wherever applicable and HURL shall not be liable for any delay in payment if the same is not mentioned.</p>
8	<b>Payment Terms &amp; Documents required for Payment</b>	<p><b>1. <u>Payment terms:</u></b></p> <p><b><u>For Civil Works:</u></b></p> <p>a. The Owner shall pay to the Contractor all the admissible payments @60% on monthly basis for actual operated quantity as per BOQ within thirty (30) days from the date of submission of Invoice along with all required supporting documents duly certified by EIC.</p> <p>b. The balance 40% on Testing &amp; Acceptance of works and Commissioning / Completion of all works including all statutory compliances and providing of Quarter Occupancy certificate duly signed by EIC and HR dept.</p> <p><b><u>For Electrical Works:</u></b></p> <p>c. Progress Payments shall be released to CONTRACTOR against monthly running account bills duly certified by Engineer-in-charge after affecting the necessary deductions within 30 days from the date of submission of Invoice along with all required supporting documents duly certified by EIC.</p> <p>d. The basis for payment against various items shall be below:</p> <p><b><u>Supply Items</u></b></p> <p>a. 60% on receipt and acceptance of equipment at site.</p> <p>b. 40% after Erection / Installation and Commissioning / Completion of all works including all statutory compliances and providing of Quarter Occupancy certificate duly signed by EIC and HR dept.</p> <p><b><u>Erection Items:</u></b></p> <p>c. 60% on completion of Erection / Installation works</p> <p>d. 40% on Testing &amp; Acceptance of works and Commissioning / Completion of all works including all statutory and providing of Quarter Occupancy certificate duly signed by EIC and HR dept.</p> <p><b>2. <u>The following Documents required for Payment Processing:</u></b></p> <p>e. Copy of Work Order, Executed Contract Agreement, and Bank Guarantee, Kickoff meeting Minutes regarding mobilization of services to be submitted along with the first Running Account (RA-1) bill.</p> <p>f. Monthly Tax Invoice in compliance with the GST Act, clearly mentioning the services availed as per BOQ and period, duly certified by EIC.</p>





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		<p>g. Abstract sheet and measurement sheet duly mentioned with current claim qty and cumulative quantities duly certified by EIC and contractor.</p> <p>h. Copy of IMIR/SRV regarding material supplies and service completion reports regarding erections/installations. Further all the warranty, drawings, O&amp;M manuals and other relevant documents to be submitted.</p> <p>i. Copy of hindrance register in case of delay in execution of work.</p> <p>j. Monthly progress report indicating the financial progress as well as physical progress.</p> <p>k. HR Statutory compliance reports (Wage sheets, PF, ESI, WC, Labour liscence copy, etc.)</p> <p>l. In case of Final bill- In addition to above, Site clearance certificate, Applicable contract completion certificates duly provided by HURL EIC, No demand certificate, confirmation regarding all punch points/pending works are completed</p> <p><b>3. Other points:</b></p> <p>a. The contractor shall ensure timely submission of GST-compliant tax invoices and other relevant documents in accordance with the provisions of the Goods and Services Tax Act, 2017. The tax invoice must be submitted within the prescribed time limit as per Section 16 of the CGST Act, 2017, to enable the purchaser to claim Input Tax Credit (ITC) in the relevant tax period. Any delay or failure in submitting invoices shall be treated as non-compliance, and may result in withholding of payments, extension of PBG validity, and other contractual actions in addition to statutory penalties under GST and other applicable Acts.</p> <p>b. Additionally, failure to submit the tax invoice in time or delay in uploading the invoice on the GST portal, which results in denial or delay in claiming ITC by the HURL, shall make the contractor/supplier liable for the amount equivalent to such ITC loss. HURL reserves the right to deduct the amount of ineligible/delayed ITC from any payment due to the supplier or recover it separately</p> <p>c. The GST component shall be reimbursed to the Contractor/Vendor only after the corresponding invoice is duly uploaded by the Contractor/Vendor in the GST portal, the tax liability is discharged, and the credit is reflected in the Owner's GSTR-2B.</p> <p><b>4. Performance Bank Guarantee:</b> The bidder must deposit a Performance Bank Guarantee (PBG) amounting to 10% of the contract value (Incl. GST) in advance, with the validity of 27 months</p> <p><b>5. Release of Performance Bank Guarantee (PBG):</b> The PBG shall be returned only after successful completion of the contract, including the applicable Defect Liability Period (DLP), and upon submission of all invoices corresponding to the services availed under the contract. In the event of non-submission of invoices for services actually rendered, it shall be treated as non-compliance. Accordingly, the validity of the PBG shall be extended to cover such pending obligations.</p>
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		<p>6. Tax deduction at source Income tax, as applicable as per income tax act, shall be deducted at source from the Contractor's bills and a certificate towards this deduction shall be issued to the Contractor.</p> <p>7. Price Basis: Shall be firm till the completion of the contract for works.</p> <p>8. TDS shall be deducted as per the statutory norms.</p> <p>9. HURL's total sales turnover has exceeded Rs. 10 crores during the FY 2024-25. Consequently, we now qualify as a buyer under section 194Q requisite statement and proof of documents for claim". However, the of the Income Tax Act, and it is mandatory for us to deduct tax at a rate of 0.1% on the purchase of any goods with a value exceeding fifty lacs in the financial year or the aggregate of such value. All suppliers or contractors to discontinue the collection of tax (TCS) on all sales invoices. HURL will deduct tax at a rate of 0.1% TDS under section 194Q of the Income Tax Act.</p> <p>1. <b>Liquidated Damages (LD):</b> In the event of Supplier's failure to deliver the material / services or fails to perform the incidental Works/ Services of acceptable quality within the stipulated delivery period, the liquidated damages are payable by the Supplier / Contractor @ ½% percent of the delivered price of the delayed material / Services and/ or incidental Works/ Services for each week of delay or part thereof until actual delivery or performance, subject to a maximum deduction of the 5% of the delayed materials / Services' or incidental Works/ Services' contract price(s). However, the total liability of the Supplier / Contractor under this clause shall not exceed 5% of the Total Contract value as awarded.</p> <p>Note: LD is to be levied on Goods/ Services/ Works Contract value excluding GST.</p>
9	<b>Defect Liability Period</b>	12 Months from the date of certified final completion of work.
10	<b>Governing Laws GCC CLAUSE 6</b>	As per GCC.
11	<b>Effective Date GCC CLAUSE 14 &amp; 15</b>	From the date of handover of the site.
12	<b>Mobilization Period</b>	Within 07 days from the date of site handover.
13	<b>Deviation</b>	±10% of contract value.
14	<b>Quantity Variation</b>	Allowed (excluding minimum wage manpower components).
15	<b>Commencement of supply GCC CLAUSE 16</b>	From the date of handover of site.
16	<b>Insurance to be taken out</b>	The contractor must provide insurance coverage for all their workers for death or bodily injury or occupational disease that may arise out of or in the course of



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	<p><b>by the Contractor</b></p> <p><b>GCC CLAUSE 25</b></p>	<p>employment, in accordance with statutory requirements and wherever applicable. The necessary insurance(s) to cover the risk of accidents resulting in the loss of life, material, etc., to the crew or third party, must also be arranged by the contractor at their cost. All contractor equipment is solely at the contractor's risk.</p> <p>The contractor must insure all their personnel employed for the execution of the work against any personal injury that may result from the execution of the work, and provide satisfactory evidence to the owner/consultant that such insurance is in force, wherever applicable.</p> <p>The contractor must take out a workers' compensation policy and an ESIC policy for the deputed manpower, and the charges are deemed to be included in the quoted price wherever applicable or as per statutory compliance. Any additional insurance required during the execution of the work is the responsibility of the contractor.</p> <p>The contractor must arrange transit insurance coverage for all risks associated with the transportation of materials from the source to the destination. Any additional insurance required during the execution of the work, such as for the supply of materials, is also the responsibility of the contractor, and the insurance charges are deemed to be included in the quoted price.</p> <p>When installation services are needed, the contractor must obtain all necessary insurance for their manpower/field service engineers and comply with all statutory requirements. HURL will not be liable for the contractor's insurance. The contractor must properly cover and protect any part of the work that may be susceptible to damage due to exposure to weather, and take every reasonable precaution against accidents or injury to the work from any cause. All contractor equipment will be at the sole risk of the contractor. Insurance coverage for the manpower entering the plant premises for the delivery of the item is the responsibility of the contractor.</p>
17	<p><b>Contractor's Actions Requiring Owner's Prior Approval</b></p> <p><b>GCC CLAUSE 26</b></p>	<p><i>As per GCC</i></p>
18	<p><b>Contract Period</b></p>	<p>12 Months from the date of site handover.</p>
19	<p><b>Signing of Contract Agreement</b></p>	<p>The successful tenderer / bidder shall be required to execute a contract agreement on non-judicial stamp paper of Rs.1000 in the prescribed proforma (enclosed as Annexure-11 to Section VI i.e., Forms and Procedures) with the Company within 30 (thirty) days of the issue of the work order of the same for carrying out the work according to the general and special conditions of contract specified in the Tender Document.</p> <p>Cost of non-judicial stamp paper shall be borne by successful bidder. The contract shall be presumed to be effective from the effective date contract.</p>



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		The Tender Document, Letter of Acceptance and other correspondence between the Company and the tenderers shall form part of the contract. Failure of the successful tenderer / bidder to execute the above-mentioned Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.
20	<b>NOTICE OF DEFAULT</b>	In the event of any default by either party hereto, in respect of any of its obligations and responsibilities under the Contract, the party not in default shall give notice in writing to the other party calling upon it to rectify such default. Should the party in default does not rectify such default within a period of thirty (30) days of the receipt thereof within the said period, the other party shall be entitled to treat it as a breach of Contract and notice to that effect shall be given forth with.
21		If a tenderer resorts to any frivolous, malicious or baseless complaints/allegations with an intent to hamper or delay the tendering process or resorts to canvassing / rigging/influencing the tendering process, HURL reserves the right to debar such tenderer from participation in the future tenders up to a period of 2 years.
22		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, 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.
23		For proper execution of work sufficient numbers of tools & tackles are to be provided by the agency at their own cost, nothing shall be paid extra for this. The contractor shall abide by all statutory rules and regulations of Local authority, State and Central Govt. as the case may be with regard to statutory benefits and non-statutory benefits prevailing at HURL-Barauni as applicable, at his own cost and hence the agency has to quote their rate accordingly by taking care of all these. HURL reserve the right to terminate the contract at any time during the contract period in case performance is not found satisfactory and work not carried as per instruction of Officer-in-charge.
24		The Bid Specific conditions of contract mentioned In Section V shall supplement the Special Conditions of Contract (SCC) wherever applicable.
25		General Note: Wherever applicable, 1. The bidder must ensure that the transporter carries the necessary documents, including the driving license, RC book, PUC certificate, and insurance copy, during the delivery of materials along with the invoice. 2. The bidder must mention the Purchase order number on the consignment / Product package with the name of the concerned technical department and stores department mentioned in the Section -1 of tender / NIT / RFQ. 3. The bidder must share the dispatch details in advance with HURL C&M - Purchase, C&M- Stores and the indenting department as per the communication details mentioned in section 1 of the tender documents. 4. The bidder must mention the HURL Purchase Order number and material code in the invoice/Delivery challan against each line item.



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	<p>5. The bidder must provide the transporter with the contact details of HURL store personnel / EIC for ease of communication as mentioned in the Section -1 of tender / NIT / RFQ.</p> <p>6. Wherever applicable, the bidder must submit Security deposit and Contract agreement copy within stipulated time as mentioned in tender documents. The formats of the same are mentioned in the FORMS or in the Last section of the tender document as annexures.</p> <p>Any delays caused by non-compliance with the above instructions may result in delayed payment, and HURL shall not be responsible for such instances.</p> <p># Note: HURL's total sales turnover has exceeded Rs. 10 crores during the FY 2024-25. Consequently, we now qualify as a buyer under section 194Q of the Income Tax Act, and it is mandatory for us to deduct tax at a rate of 0.1% on the purchase of any goods with a value exceeding fifty lacs in the financial year or the aggregate of such value. Therefore, we kindly request all our suppliers or contractors to discontinue the collection of tax (TCS) on all sales invoices. HURL will deduct tax at a rate of 0.1% TDS under section 194Q of the Income Tax Act.</p>
26	<p><b>1. STATUTORY VARIATION IN TAXES AND DUTIES</b></p> <ol style="list-style-type: none"> <li>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 HURL BARAUNI 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 HURL BARAUNI during the delayed contractual project completion attributable to CONTRACTOR'S account.</li> <li>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 HURL BARAUNI 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.</li> <li>3. In case of delayed completion beyond the GUARANTEED COMPLETION DATE even though extension of completion time is allowed by HURL BARAUNI, 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 HURL BARAUNI.</li> </ol> <p><b>2. QUALITY ASSURANCE / QUALITY CONTROL</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>2. The Contractor shall establish document and maintain an effective quality assurance system outlined in recognized codes.</li> <li>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 HURL Barauni. The quality assurance system should indicate</li> </ol>



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organizational approach for quality control and quality assurance of the construction activities, at all stages of work at site.

4. The HURL Barauni 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
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.
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.
7. The Contractor shall adhere to the approved quality assurance system

### 3. HEALTH SAFETY AND ENVIRONMENT (HSE) MANAGEMENT

1. The Contractor, during entire duration of the Contract, shall adhere to HSE requirement as per Specifications.
2. The contractor shall ensure all his workers shall have Personal Protective Equipment's (PPE"s) at his cost (not to be charged to the worker) and ensure safety of site by providing Barricades for restricting movement of public to work area. The barricade arrangement shall be approved by Engineer in charge keeping in view the overall circulating pattern of the commuters in the station.
3. Any other item of work as may be required, to be carried out as per CPWD specifications, for completing the job in all respects in accordance with the provisions of contract and or to ensure the structural stability and safety of the work during and after construction.
4. The work shall be carried out as and when required by HURL with all safety precautions.
5. The contractor shall ensure all his workers shall have Personal Protective Equipment's (PPE"s) at his cost (not to be charged to the worker) and ensure safety of site by providing Barricades for restricting movement of public to work area. The barricade arrangement shall be approved by Engineer in charge keeping in view the overall circulating pattern of the commuters in the station.
6. The contractor shall ensure safety of his workers and others at site of work and shall be responsible for any consequence arising out of execution of the work.
7. The work shall be carried out as and when required by HURL with all safety precautions. Penalty of Rs.500 will be imposed if personnel found without PPE's or engaged in unsafe work.





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# **HINDUSTAN URVARAK & RASAYAN LIMITED**

(A JOINT VENTURE OF CIL, NTPC, IOCL, FCIL & HFCL)

## **BARAUNI UNIT**

Barauni Urvarak Nagar, Begusarai

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115

[Registered Office SCOPE Minar, Core 4, 9TH Floor, Laxmi Nagar District Center, Delhi-110092]



## **SECTION – V**

**(SOR, TECHNICAL SPECIFICATIONS**

**SCOPE OF WORK)**



**(SCOPE OF WORK AND OTHER CONDITION OF CONTRACT)**

**CIVIL WORKS**

The scope shall consist of but not limited to the followings: -

1. Rehabilitation of Internal & External Plumbing and Electrical works.
2. Structural rehabilitation of Type IV A quarters including finishing and waterproofing work.
3. Rehabilitation of damaged structures/foundations/roads/cables/pipe etc in renovation
4. Rehabilitation of gate/fencing/boundary wall of individual quarters/building and township.
5. Rehabilitation of approach road, drain and sewer.
6. Other Miscellaneous works.
7. Repairing of plaster and painting to whole building.
8. Construction of septic tank with soak pit.
9. Replacement of all sanitary and water supply fixture.
10. Water proofing treatment at terrace.
11. Construction of welded steel wire fencing with steel gate.

**12. Cleaning/removal:-**

(i) Removal of plants/tree grown on wall, slab, wall/slab joint. (ii) Removal of plants grown near plinth/foundation. (iii) Removal of the old brickbat, Coba waterproofing from the RCC roof. (iv) Removal of parapets (along with removal of brickbat Coba). (v) Removal of spelled/cracked/damaged plasters plaster over the wall/ceiling/RCC beams/RCC columns.

**13. Repairing measure**

(A) **Slab:** (i) Apply 75 mm thick fiber-reinforced concrete over the existing slab. For maintaining the slope for the water drainage, the thickness of new slab layer may be reduced but not less than 50 mm. "Or" Apply 75 mm Ferro-reinforced (welded wire mesh) concrete over the existing slab. For maintaining the slope for the water drainage, the thickness of new slab layer may be reduced but not less than 50 mm. A 15 mm cover may be provided for the reinforcement. Use a mesh size of 150 mm with wire diameter of 4 mm.

(B) **RCC beam/column/Ceiling:** (i) After the removal of the damage cover, cement mortar may be used for the RCC Beam/Column. (ii) Epoxy injection grout in concrete/RCC work of approved make. (iii) Epoxy mortar may be used to repair patches on the ceiling. "Or" Cement mortar may be used with steel/fiber wire net to repair patches on the ceiling.

(C) **Wall plastering:** After removal of bulged/spelled plaster, apply cement mortar for plastering the brick walls. *Note: (i) Use M25 grade concrete composed of PPC to avoid plastic shrinkage/thermal cracking. (ii) After cleaning the damage cover/plaster (A & B), apply polymer or epoxy for bonding between old and new concrete and reinforcement.*

The Scope of work shall also include any other item of work require to complete the work in all respects as per the specifications, drawings and instruction of EIC whether specifically mentioned or not in the tender documents.

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

**TECHNICAL SPECIFICATION FOR CIVIL, STRUCTURAL AND OTHER ALLIED WORKS**

**1.0 GENERAL**

1.1 Specifications of materials and workmanship shall be as described in the Central Public Works



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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.

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.



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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

### **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



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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 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. Excavation in ordinary soil means excavation in ordinary hard soil including stiff heavy clay, hard shale, or compact morum, 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 0.50m<sup>3</sup>.

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 0.25m<sup>3</sup>.

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 nonexplosive 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 Morum 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.

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 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 HURL Barauni) 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/m<sup>3</sup>
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 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 / PPC

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 shall be tested (at outside NABL accredited laboratory without any cost to HURL Barauni) 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 HURL Barauni) 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.

#### **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 HURL Barauni) 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.

#### **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 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 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

/ PPC 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 7 days
  2. Spanning over 4.5 m 14 days
5. Removal of props under beams & arches:
  1. Spanning up to 6 m 14 days
  2. Spanning over 6m 21 days

For other types of cements, the stripping time recommended for ORDINARY PORTLAND CEMENT / PPC 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 modulus 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.

### **7.1 Mortar**



Cement and water shall conform 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.

## **8.0 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 HURL Barauni.

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 HURL Barauni or his authorized representative. The whole steel work before being dispatched from the Contractor's shop shall be





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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.

8.1 The HURL Barauni 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 HURL Barauni 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 HURL Barauni or his authorized representative.

## **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 cured 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 Material**

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.

#### **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. 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<sup>2</sup> of surface area to be painted. Maximum allowable contaminant levels and pH range is as follows:

Sodium chloride, less than 50 microgram / cm<sup>2</sup>; Soluble iron salts, less than 7 microgram / cm<sup>2</sup>; 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 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.



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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<sup>2</sup> 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. 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<sup>2</sup>) 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 primed 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.
- 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 DESCRIPTION GENERIC COATING SYSTEM**

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.

## **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 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.

### **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/mm<sup>2</sup>
- Tensile strength : min. 10 N/mm<sup>2</sup>
- Abrasion resistance : as per Amsler 1.5 mm after 3000 revol.
- Bonding (joining) factor : 1
- Adhesion with concrete : min. 2.5 N/mm<sup>2</sup>
- Elongation : 15%

APPLICATION: A) **ON FLOOR DESCRIPTION**

1. Surface preparation- in this case concrete columns, beams, soffitt 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/m<sup>2</sup>

DESCRIPTION

3. Providing and applying structural grade Epoxy Bonding agent, (with bond strength of 3 N/mm<sup>2</sup>) over concrete prior to screed concrete. Bonding agent to be used as per application procedure of manufacturer.

4. Self levelling cementitious 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/mm<sup>2</sup> after 28 days over bonding agent.

5. Providing and applying structural grade Epoxy Bonding agent, (with bond strength of 3 N/mm<sup>2</sup>) 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 screed to cure for 48 hours.

## **B) ON WALLS, SLAB, SOFFITS, BEAMS, COLUMN DESCRIPTION**

1. Surface preparation- in this case concrete columns, beams, soffit 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/m<sup>2</sup>

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/m<sup>2</sup>. Three coat epoxy phenolic IPN solvent containing protective coating with one non pigmented primer coat and two subsequent colour coats with approved shades giving

### **DESCRIPTION**

total dry film thickness of 225 +/- 10 microns over impregnated and cleaned surface.

## **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. 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 M<sup>2</sup> 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 contractor shall cooperate in providing a written undertaking related to the waterproofing work carried out. The undertaking pertains to any work necessitated by defects in the waterproofing system. This obligation extends for a period of 10 years from the date of application of the roof waterproofing treatment. Should any rectification work be required during this period,



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it shall be the responsibility of the applicator. The applicator shall bear the cost associated with addressing any defects or necessary repairs. Importantly, this undertaking is distinct from both the defect liability period and the performance bank guarantee validity period. This shall not be read in equivalence to defect liability period or performance bank guarantee validity period which have been defined separately in clause 24.0 of OCC.

**PREAMBLE TO SCHEDULE OF RATES FOR CIVIL, STRUCTURAL AND OTHER ALLIED WORKS**

**1.00 GENERAL**

1.01 The plans have been evolved tentatively based on information available with HURL Barauni 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. HURL Barauni 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. HURL Barauni reserves the right to change / modify the size and type of sections at any time. HURL Barauni 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 HURL BARAUNI in this regard. In no case, the value of executed value should exceed the awarded value without prior written approval from HURL BARAUNI.

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



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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 HURL Barauni in writing. Subsequent revision in the drawings which become necessary shall be incorporated and revised drawings issued to the 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 HURL Barauni 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 HURL Barauni. Fabrication work shall be taken up by the contractor only after of approval of fabrication drawings by HURL Barauni/ 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 HURL Barauni 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 HURL Barauni 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





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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 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 HURL Barauni 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



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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.

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 HURL Barauni 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).

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, HURL Barauni 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 HURL Barauni.



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.

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 HURL Barauni 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, backfilling 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.

### **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.
- l. Concrete admixtures for workability, if necessary, may be used in R.C.C., if decided by the



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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 or 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/PPC 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 HURL Barauni and nothing extra shall be paid on this account.

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.
- 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





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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.
- 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 HURL Barauni 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 HURL Barauni 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".

#### **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.

#### **CIVIL VENDOR LIST FOR TOWNSHIP AT HURL, BARAUNI**

Approved make

#### **12.0 CEMENT**

- a) ACC
- b) J K CEMENT
- d) JP CEMENT
- e) GUJARAT AMBUJA
- f) ULTRA TECH CEMENT
- i) SHREE CEMENT

#### **13.0 RCC DESIGN MIX – NABL certified lab**

#### **STRUCTURAL STEEL**



/ CS PLATE

- a) SAIL
- b) TATA STEEL
- c) RINL
- d) JINDAL
- e) ESSAR
- f) ISPAT INDUSTRIES

MATERIAL TEST

HOUSE- NABL Certified Lab

CERAMIC TILES

- b) BELL CERAMICS
- c) SOMANY CERAMICS
- d) H&R JOHNSON CERAMICS
- e) KAJARIA CERAMICS
- f) ORIENT CERAMICS

WOOD WORK FLUSH DOOR

- a) SITAPUR PLYWOOD
- b) WOODCRAFT PRODUCTS
- c) KITPLY PRODUCTS

PLY WOOD/BLOCK BOARD

- a) WOODCRAFT PRODUCTS
- b) KITPLY PRODUCTS
- c) GREEN PLY

PARTICLE BOARD (EXTRA GRADE)

- a) BHUTAN BOARD
- b) BEST BOARD
- c) NOVAPAN INDIA LTD.
- d) THE BOMBAY BURMAN TRACING CORPN. LTD.

MDF BOARD/MD PARTICLE BOARD (EXTRA GRADE) VENEEREED/LAMINA TED

- a) NUCHEM LTD.
- b) MANGALAM TIMBER PRODUCTS LTD.
- c) WESTERN BIO SYSTEMS LTD.



**DECORATIVE LAMINATES**

- a) THE BOMBAY BURMAN TRADING CORPN. LTD.
- b) GREENPLY INDUS. LTD.
- c) BAKELITE HYLAM LTD.
- d) RAMMICA INDUSTRIES

**MARINE PLYWOOD**

- a) INDIAN PLYWOOD MFG. CO. LTD.
- b) SWASTIC PLYWOOD

**DOORS & WINDOWS FITTINGS MORTICE LOCKS**

**WITH HANDLES**

- a) GODREJ & BOYCE
- b) EVERITE AGENCIES (P) LTD.
- c) GOLDEN INDUSTRIES

**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

**FASTENERS a) HILTI INDIA PVT. LTD.**

- b) FISCHER

**STEEL/ ALUMINIUM DOORS, WINDOWS & VENTILATOR PRESSED STEEL**

**DOORS WINDOWS & SECTION DOORS WINDOWS/ROLLING SHUTTER**

- a) RAYMUS ENGINEERS
- b) DHIMAN STEEL
- c) RDG ENGINEERING
- d) SUPER STEEL WINDOW CO.
- e) SKS STEEL INDUS. ALMUNIUM / DOORS/ WINDOWS SECTIONS
- a) JINDAL ALUMINIUM LTD.
- b) HINDALCO INDUSTRIES
- c) INDAL FIRE-PROOF  
DOORS(APPROVED)
- a) NAVAIR INTERNATIONAL



b) RDG ENGINEERING PVC DOORS / WINDOWS

a) SINTEX Or APPVD EQUIV.

PVC WATER TANKS a) SINTEX Or APPVD EQUIV.

PLASTERING WATERPROOFING/ COMPOUND IN CEMENT PLASTER

a) STRUCTURAL WATER PROOFING CO. (P) LTD.

b) PIDILITE INDUSTRIES

PLASTIC EMULSION INTERIOR/EXTERIOR

a) ICI INDIA LTD.

b) BERGER PAINTS LTD.

c) ASIAN PAINTS LTD.

d) SHALIMAR PAINTS

e) KANSAI NEROLAC PAINTS LTD.

DRY OILBOUND DISTEMPER

a) ASIAN PAINTS LTD.

b) KANSAI NEROLAC PAINTS LTD. INDUSTRIAL / EXPOXY/ SYNTHETIC ENAMEL PAINTS

a) ICI/AKZO NOBEL INDIA

b) BERGER PAINTS LTD.

c) ASIAN PAINTS LTD.

d) SHALIMAR PAINTS

e) INTERNATIONAL MARINE COATINGS PVT. LTD.

f) KANSAI NEROLAC PAINTS LTD.

g) BOMBAY PAINT WATERPROOF

CEMENT PAINT

a) KILLICK NIXON LTD.

b) RAJDOOT PAINTS WOOD MELAMINE POLISH

a) ASIAN PAINTS

b) SHALIMAR PAINTS WATERPROOFING TRANSPARENT EXTERIOR WALL COATING (OVER PAINTED SURFACE)

a) PIDILITE INDUSTRIES

b) INDUSTRIAL PROD. MFG

c) STRUCTURAL WATERPROOFING CO.(P) LTD.

FIRE PROOF COATING

a) NAVAIR INTERNATIONAL OR APPVD. EQUIV.

SANITARY PLUMBING FITTINGS & FIXTURES SANITARY FITTINGS

WASH BASIN, URINAL ETC.)



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- a) HINDUSTAN SANITARY WARE & INDUS. LTD.
- b) PARRYWARE SANITARY WARE
- c) MADHUSUDAN CERAMICS
- d) NYCER CERAMICS PLUMBING FITTINGS FIXTURES

- a) GEM
- b) PARKO
- c) KINGSTON GLASS/MIRROR SHEET/ FLOAT/ TOUGHENED/ LAMINATION
- a) GUJARAT GUARDIAN LTD.
- b) SAINT GOBAIN
- c) ASAHI FLOAT

GI PIPES

- a) JINDAL
- b) SURYA
- c) PRAKASH

TIMT BAR / REBAR

- a) SAIL
- b) TATA STEEL
- c) RINL





### **OTHER CONDITIONS OF CONTRACT**

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 HURL Barauni to the execution of work to conform to good workmanship and sound engineering practice. The HURL Barauni reserve the right to make any minor changes during the execution without any extra payment.

1.2 The HURL Barauni 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 in the form of BOQ excel sheet.**

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 OCC.

### **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 HURL Barauni and shall be binding on the Contractor.

2.2 The HURL Barauni 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 HURL Barauni, 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 HURL Barauni, confirm that the materials have been tested in accordance with requirements of the specifications.

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

### **3.0 GATE PASSES**

All tools, plant and materials shall be brought by the Contractor to the works site through a



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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 HURL Barauni. 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 HURL Barauni.

#### **4.0 CONSTRUCTION SCHEDULE**

If at any time, the HURL Barauni is of opinion that the Contractor has fallen behind the approved construction schedule, the HURL Barauni may, without any cost to HURL Barauni, 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, levies, BOCW Cess (if any), TPI charges, any other cess personnel & corporate tax etc. except GST. GST shall be paid / reimbursed at actual by HURL Barauni on submission of GST Invoice limited to Maximum 18%.

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

Payment of taxes etc., is the responsibility of the Contractor and shall not be payable by HURL BARAUNI. The Contractor shall indemnify HURL BARAUNI against levy of any taxes, duties, etc., in regard to the contract and in the event of HURL BARAUNI being assessed for any of the said imports, the HURL BARAUNI 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 HURL BARAUNI 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 HURL Barauni 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 HURL BARAUNI**

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

#### **8.0 ROLE OF HURL BARAUNI**

**8.1** The HURL Barauni 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



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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 HURL Barauni 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 HURL Barauni 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 HURL Barauni 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 HURL Barauni 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 HURL Barauni.

## **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 HURL Barauni.

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 HURL Barauni.

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 HURL Barauni 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 HURL Barauni. 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 HURL Barauni.

#### **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 HURL Barauni. 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 HURL Barauni 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 HURL Barauni.

#### **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**

a) The CONTRACTOR shall prepare and submit fabrication drawings in **triplicate** for preliminary **approval** of HURL BARAUNI. Fabrication drawings shall be based on design drawings issued by HURL BARAUNI. 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. 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, HURL Barauni'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 HURL Barauni 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 HURL Barauni 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 HURL Barauni 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 HURL Barauni/ HURL Barauni. 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 Bailout/ 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



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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 HURL Barauni without any additional cost to HURL Barauni.

**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 HURL Barauni. 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 HURL Barauni. 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 Performa of HURL Barauni 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 HURL Barauni in three copies on approved Performa of HURL Barauni for works executed by him progressively

**22.2 MEASUREMENT OF WORKS**

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

**22.3 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. O & M Manuals / Drawings / Other relevant docs. in respect of equipments supplied
- iii. No claim certificate on HURL BARAUNI's prescribed Performa.
- 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 HURL BARAUNI'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, HURL BARAUNI shall be fully entitled to withhold payment of final bill pending finalization 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 HURL Barauni. 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 HURL Barauni. 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, HURL Barauni shall, for any reason whatsoever, not require the whole work thereof as specified in the tender to be carried out, the HURL Barauni 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 the 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 HURL Barauni or his representative, that any work has been executed with unsound, imperfect or unskilful workmanship or with materials of any inferior description or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for, or otherwise not in accordance with the contract, the Contractor shall, on demand in writing from the HURL Barauni 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 HURL Barauni 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 HURL Barauni. 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. HURL Barauni 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 HURL BARAUNI**

The Contractor shall use the materials only after the approval of HURL Barauni, 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.

**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 HURL Barauni 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.

ii) 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.

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

**33.4** 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 HURL Barauni of the layout of such approaches.

**34.2** To determine the acceptable standard of workmanship, HURL Barauni 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 HURL Barauni. On approval, these items shall be



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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.

**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 HURL Barauni, the Contractor shall have to take necessary remedial measures, to the complete satisfaction of HURL Barauni, to make the defective good in order at his own cost without any liability to HURL Barauni.

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 HURL Barauni during the progress of work. The workmanship guarantee period will be 12 months from the date of final completion as a whole, certified by HURL Barauni. 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 HURL Barauni 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 HURL Barauni and the bidder/contractor.
9. Instruction to Bidders

### **36.0 WEATHER CONDITIONS**

HURL Barauni may order Contractor to suspend any work which in the opinion of HURL Barauni 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



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recommendation of the EIC, HURL Barauni/HURL Barauni may grant reasonable extension of Time.

**37.0 TIME SCHEDULE AND PROGRESS REPORTING**

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

1. Together with the Work Order/Contract confirmation, Contractor shall submit to HURL Barauni, 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.
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.
3. The original issue and subsequent revisions of Contractor's time schedule and or Subcontractor's time schedules shall be sent to HURL Barauni in two copies (of which one shall be in Soft copy) and two copies to HURL Barauni.
4. The time schedule network/bar chart shall be updated at least every fortnight.

**37.2 Progress Trend Chart/Monthly Report**

1. Contractor shall report weekly to HURL Barauni the progress of the execution of Work Order/Contract and achievement of targets set out in time bar chart.
2. The progress will be expressed in percentages shown in the progress trend chart.
3. The first issue of the progress trend chart will be forwarded together with the time bar chart along with the Work Order confirmation.
4. The fortnightly reporting will bear the updating of the progress trend chart.
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 HURL Barauni.
  - ii) All the work shall be carried out under the direction of and to the satisfaction of HURL Barauni.
  - 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 HURL Barauni/ HURL Barauni.
  - v) The WORK Order/Contract number shall be shown on all invoices, communications, packing lists, containers and bills of lading etc.

All correspondence from Contractor shall be forwarded to HURL BARAUNI at following addresses

**Hindustan Urvarak & Rasayan Ltd.,  
HURL Barauni, Begusarai, Bihar  
Kind Attention: Mr. Anil Chandrakar (Chief Manager)**



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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**Email: [anilchandrakar@hurl.net.in](mailto:anilchandrakar@hurl.net.in)**

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.

Correspondence for expediting and inspection shall be done directly with inspector with a copy to HURL Barauni at above mentioned address.



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**ELECTRICAL WORKS**  
**ELECTRICAL SOW FOR RENNOVATION WORK**



## **1.1 SCOPE**

- 1.1.1 The scope covers technical requirement of Design, Engineering, Supply, Installation, Testing and Commissioning, delivery FOR site in well packed condition of the electrical equipments and accessories specified herein required for electrical works (Supply & Erection) for **Renovation of Type-IV Quarters (48 No's) at Township** at HURL, Barauni, Bihar
- 1.1.2 This specification covers complete internal electrifications of **Type-IV (48 No's) at Township** including distribution boards, cables, earthing, lightning, 6A/16A switch socket, air conditioner points etc. as specified and mentioned in SOR.
- 1.1.3 The scope of work shall also include digging of earth and refilling for directly buried cables, earth strips, cable protection pipes, earth pits, civil works such as making earth pit inspection chambers with covers, grouting of equipment base plate, channels, supports and foundation bolts, chipping of concrete or in brick work for earth strips, pipes or other minor chipping for foundation preparation, if required, cutting holes in walls light fitting brackets, sealing of cable entries and making good the same after installation of the equipment and levelling, and other minor similar jobs as per directions of Owner / Engineer-in-Charge.
- 1.1.4 All civil work (like cutting, chipping, grouting, making opening in floor / wall etc. for equipment foundation and cabling work) pertaining to electrical equipment are in the scope of work of the contractor.
- 1.1.5 The contractor shall obtain the necessary clearance from local supply authority for complete electrical installation. Wherever service connections are to be obtained from the local supply company, the contractor shall process the application and obtain the power supply. All necessary drawings, calculations, test certificates and record of site tests etc. as required by the Inspector shall be furnished. Any modification / rectification as required by Electrical Inspector shall be carried out free of cost by the contractor. All fees payable to the supply company and Electrical Inspector for such service connections shall be paid by the owner.
- 1.1.6 Wherever service connections are to be obtained from the local supply company, the contractor shall process the application and obtain the power supply. All fees payable to the supply company and Electrical Inspector for such service connections shall be paid by the bidder.
- 1.1.7 This specification shall be read in conjunction with all referred standards, associated drawings, specification sheets, inventory, Schedule of Rates for Electrical Works (Supply & Erection) for **Renovation of Type-IV Quarters (48 No's) at township**
- 1.1.8 Quantities indicated in the Schedule of Rates (SOR) and Inventory is approximate and these may increase or decrease or some items may even be deleted at the time of actual execution. However, the value of total increase or decrease shall be limited to  $\pm 25\%$  of the contract value irrespective of the changes in quantity of individual items.





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- 1.1.9 The contractor shall have valid “A” class licence from the Director of Electrical Safety to the Govt. of Bihar. The contractor must have PF & ESI codes covering all persons hired by him for carrying out the job. He shall engage suitably skilled / licensed workmen of various categories for execution of work supervised by supervisors / engineer of appropriate qualification and experience to ensure suitable quality of work.
- 1.1.10 The contractor shall observe safety rules and take all necessary safety precautions to carry out the internal electrification work.
- 1.1.11 In case of any discrepancies between Technical Specification and SOR in respect of description of equipment / work, the details indicated in the SOR shall prevail
- 1.1.12 This being a renovation job, Bidder must visit the site to understand the nature of job and collect the necessary details from site. Bidder shall also develop the layout based on the details provided and submit for approval during detail engg.

**1.2 INSTRUCTION TO THE BIDDER**

- 1.2.1 NIT covers complete electrifications up to and including main switches, MCBs and distribution boards as specified and as mentioned in SOR.
- 1.2.2 Complete work shall be carried out conforming to the provisions of Indian Electricity Act and relevant Indian standard Specifications (ISS). Wherever these regulations are supplemented by the State Electricity Dept., Electricity Undertakings / Boards, the installation shall also comply with these requirements. Wherever the specifications given in this NIT differs from those of the statutory regulations, these specifications shall be followed.
- 1.2.3 Contractor shall submit the sample of the electrical equipments / items for the approval of Engineer-in-charge before procurement of any of the electrical equipments / items.
- 1.2.4 Bidder shall submit various Layout drawings as per 'Drawings and Documents Schedule' for owner's approval before proceeding with the installation works. Approval of drawings / documents does not relieve the contractor of his responsibilities to meet the intents of specifications. Cutting chases / groove, wherever required, and making good is deemed to be included in the contractor's quoted rates.
- 1.2.5 Location of PCC Room, Meter Distribution Boards, Lighting Distribution Boards, Auxiliary Service Distribution Boards, External Feeder, Power Distribution Boards for AC, Lighting Sub Distribution Boards, Single Phase Switch Socket Sub Distribution Board, switch boards, light fittings, cable routes, conduit routes (Medium Class PVC conduit pipe ISI marked shall be use) earth pits etc. shall be marked at site and approval of Engineer- in-charge obtained before proceeding with the installation work.
- 1.2.6 On completion of works, wiring diagram for complete installation and various Layout drawings as per Drawings and Documents Schedule shall be prepared by the contractor and 4 copies of the same shall be supplied to the owner (M/s HURL)



for their record.

- 1.2.7 All circuits shall be indicated and numbered in wiring diagram and all points shall be given the same number as the circuit to which they are electrically connected. Distribution boards shall also be marked to indicate the circuit number controlled by them.
- 1.2.8 "Loop in" system of wiring shall invariably be followed throughout the installation. Where it is absolutely necessary, junction boxes of approved make may be used as permitted by Engineer-in-charge. Soldered or taped joints are not permitted for joining under any circumstances.
- 1.2.9 Rated Power, Voltage and frequency of supply of current consuming devices and materials used in installation shall be suitable for the power and frequency of the supply to which these are to be connected.
- 1.2.10 Canopy shall be provided for all outdoor equipments.

### **1.3 POWER SUPPLY DISTRIBUTION**

- 1.3.1 For renovation of **Type-IV (48 No's) at Township** power shall be tapped from nearby Substation, Further distribution upto various consumers shall be in the contractor's scope. .
- 1.3.2 For renovation of **Type-IV (48 No's) at Township**, Lighting, 6A/16A switch socket & ACs Load of Geysers, External light shall be fed from 415V power supply connection taken from Bihar State Electricity Board, cable termination at Auxiliary Service Distribution Board and further distribution to various loads shall be in the bidder's scope.

### **1.4 SYSTEM OF INTERNAL WIRING**

- 1.4.1 Wiring shall be FRLS PVC insulated (Sheathed / Unsheathed) stranded copper conductor cable / wire in approved PVC conduit wiring as per approved drawings. Wiring is to be terminated in sunken cast iron or pressed steel terminal boxes for mounting modular type fittings like switches, sockets and regulators, etc. complete with modular base, cover plate etc. Cable for lighting and power circuit shall run separately.

### **1.5 POINT WIRING**

- 1.5.1 Installation is to be carried out on point wiring basis, the supply of following shall be deemed to be included as part of the installation work.
  - a) 650 / 1100 V FRLS PVC insulated copper conductor single core lighting wires of size 1.5/2.5/4 sq. mm as specified for conduit wiring, and PVC insulated 1.5 copper conductor earth wire.
  - b) PVC concealed / surface conduit as specified with all relevant accessories and junction / inspection boxes.
  - c) Ceiling rose or connector (in case of ceiling / exhaust fan points).



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- d) Back plate (in case of suspended light fixtures)
- e) Wiring of each lighting fitting / receptacle unit / ceiling fan / bell point / exhaust fan, etc. shall be considered as one point.

**1.6 SURFACE / CONCEALED CONDUIT WIRING**

- 1.6.1 Supply, routing and laying of PVC conduit of minimum size 20 mm in / on walls / ceiling, from lighting panels up to fittings, receptacles / inspection / junction boxes etc. shall be in the contractor's scope.
- 1.6.2 The Contractor shall closely coordinate his work with that of the Civil Contractor. The contractor shall prepare detailed shop drawing and submit for the approval to the owner/ consultant well before commencing the work. The shop drawings shall show setting out details for all components such as conduits and cable routes indicating the number and size of wires in each section of conduit.
- 1.6.3 The layout of conduits shall be such that any condensation or sweating inside the conduit is drained out. Suitable precaution shall be taken to prevent entry of insects inside the conduit. No cable or wire shall be installed until the inside of conduit has been cleaned.
- 1.6.4 Suitable junction / inspection boxes according to requirements shall be provided to permit periodical inspection and to facilitate replacement of wires, when required. The boxes shall be mounted flush with the wall or ceiling in case of concealed wiring and shall be on surface for surface wiring. Junction boxes with minimum 75 mm depth shall be used in roof slabs and depth of boxes in other places shall be as per IS: 2667.
- 1.6.5 Pull boxes shall not be located in a conspicuous manner. Number and location of pull boxes shall be clearly indicated on shop drawings and shall be got approved by the owner / Engineer-in-charge before commencing the work.
- 1.6.6 The chases in the wall shall be neatly made and with ample dimensions to permit the conduit to be fixed in the manner desired.
- 1.6.7 For concealed wiring all the cuttings and chasings in the brick work / RCC work / Block work shall be carried out using electrically operated Hilti or Fishcher make casing tool. Further all the drillings and cuttings in the RCC work shall be carried out using core cutting machine. The rate shall include all these and no separate rates towards the same shall be paid to the contractor.
- 1.6.8 Fixing of standard bends of elbows shall be avoided as far as practicable and all curves maintained by bending the conduit pipe itself with a long radius which will permit easy drawing in of conductors. All threaded joints of conduit pipes shall be treated with some approved preservative compound to secure protection against rust. Open conduit ends shall be properly protected to prevent the ingress of dirt and rubbish.
- 1.6.9 Provisions shall be made at expansion joints, where they occur in the building structure. PVC pipe with coupling to be installed to prevent damage to structure / conduits and finishes. Continuity through all such joints shall be maintained.



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- 1.6.10 All conduits shall be kept clear of other services, except where intentionally earthed or bonded. Conduits shall be fixed to prevent contact with same at the following minimum spacing.
- a) 150 mm away from hot water services.
  - b) 50 mm away from all other services.

**1.7 CONDUIT CAPACITY**

- 1.7.1 Maximum number of PVC insulated cables conforming to IS: 694 that can be drawn in one conduit shall be as follows:

Nominal Sectional Conductor in sq. mm	Cross Area of Conductor in sq. mm	Size of Conduit							
		20 mm		25 mm		32 mm		38 mm	
		S	B	S	B	S	B	S	B
1.5		5	4	10	8	18	12	-	-
2.5		5	3	8	6	12	10	-	-
4		3	2	6	3	10	8	-	-
6		2	-	5	4	8	7	-	-
10		2	-	4	3	6	5	8	6

Note:

1. The above table shows the maximum capacity of conduits for a simultaneous drawing of cables.
2. The columns headed 'S' applies to runs of conduit which have distance not exceeding 4.25 m between draw in boxes and which do not deflect from the straight by an angle of more than 15°. The columns headed 'B' apply to runs of conduit which deflect from the straight by an angle of more than 15°.

**1.8 MATERIALS**

- 1.8.1 The cable shall be of PVC insulated and of approved make / grade ISI marked. All materials for fittings / accessories, cable etc. to be incorporated in this work shall strictly comply with latest appropriate Indian Standards. If Indian standards have not been issued relevant current British Standards may be used. Aluminium link clips of width 6 mm to 8 mm shall be acceptable without any price adjustment.
- 1.8.2 The rates for point wiring (power / light) are with the provision of stranded copper conductor of solid drawn copper conductor.

**1.9 CONNECTORS**

- 1.9.1 Connectors of appropriate rating shall be provided inside the box for fan and utility fittings. The wiring shall be done in such a way that wires from connectors to the fan are not visible. In situations where ceiling rose is proposed for fan and tube light fittings, the connector need not be provided.

**1.10 LIGHTING WIRES**

- 1.10.1 The wires for wiring in lighting system shall be 650 / 1100 V, PVC insulated, unarmoured with stranded copper conductors, unless otherwise specified. The wires shall conform to IS: 694.



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1.10.2 The minimum area of conductors shall be 1.5 sq. mm for light point/fan point/exhaust fan point/call bell point and main circuit from DB to SB shall be 2.5 sq mm & SB to Sb will be 2.5 sq mm & DB to Power Point/ AC Point /Geyser point should be 4 sq. mm for light/power plug.

1.10.3 The PVC insulation shall be coloured red, yellow, blue for R, Y, B phase and black for neutral.

**1.11 CEILING ROSES**

1.11.1 Ceiling rose shall be of bakelite and shall comply with IS-371 specification for ceiling roses having two or three terminal plates and of outside diameter not less than 63.5 mm. The flexible cord shall be fixed to ceiling rose in such a way that no weight is carried by the clamping screws. The flexible cord shall be of 23 / 0076 dia. cord with copper conductor.

**1.12 OPERATING REQUIREMENTS**

1.12.1 All equipment and accessories shall be suitable for trouble free and continuous service at their rated capacity in the specified ambient and system conditions.

**1.13 REFERENCE STANDARDS**

1.13.1 All electrical equipment and installation shall comply with the requirements laid down in the relevant Indian Standard Specifications and statutory acts / rules / regulations. In the absence of ISS, relevant British Standards shall be applicable. All Specifications, publications mean the latest edition

**1.14 TESTS & INSPECTION**

1.14.1 Electrical installation work shall be subjected to inspection by owner / his authorised representative, statutory bodies like Electrical Inspector. The contractor shall carry out without extra cost to owner rectifications / modifications desired by the above authorities to make the installation conforming to I.E. Rules etc.

1.14.2 The owner may reject any portion of the work considered defective or of poor workmanship and the contractor shall make good these defects without extra cost to owner.

1.14.3 Guarantee / Warrantee Certificate for all electrical equipments / appliances / components shall be handed over to the owner / Engineer-in-charge.

**1.15 ERECTION, TESTING & COMMISSIONING**

1.15.1 The contractor shall undertake erection of all equipment in accordance with good engineering practices in conformity with statutory regulations and Code of Practice and to the entire satisfaction of the owner.

1.15.2 Contractor shall prepare SLD of the entire distribution system and Lighting Distribution Board, various layout drawings (e.g. point layout, conduit layout etc.) and submit to the owner for approval. Contractor shall also supply 'as built drawings' for complete installation.

1.15.3 The contractor shall arrange all the necessary erection tools, tackles, testing and measuring instruments and shall supply erection materials and consumables.



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- 1.15.4 The contractor shall clear the site after commissioning of the equipments / system and obtain the Site Clearance Certificate from owner's Engineer-in-charge.

**1.16 DRAWINGS AND DOCUMENTS**

- 1.16.1 The bidder shall supply the drawings and documents as per Annexure-I 'Drawings & Documents Schedule' under Section 2.0
- 1.16.2 The Contractor shall be responsible for preparation and submission of two sets of drawings viz.
- (1) "AS BUILT" (2) Material Reconciliation and Deviation Statement

**1.17 CO-ORDINATION WITH OTHERS**

- 1.17.1 The contractor shall co-ordinate with owner's other contractors / agencies as required.

**1.18 HANDING OVER TO OWNER**

- 1.18.1 The contractor shall hand over the complete installation as a whole. Minor works not specified or mentioned in the scope or SOR but required to complete the job as a whole will have to be done by the contractor without extra cost. Any equipment / installation shall not be deemed as handed over to Owner until the same is complete in all respect and is accepted in writing by the Owner / Engineer-in-charge.

**1.19 SPARE PARTS**

- 1.19.1 Spares mentioned in respective Engineering Standard shall not be supplied.
- 1.19.2 Commissioning spares as required shall be supplied without any extra cost to the owner.

**1.20 SCHEDULE**

- 1.20.1 Bidder shall furnish bar chart for complete scope of their works.

**1.21 DEVIATIONS**

- 1.21.1 Clause-wise deviations, if any, from this specification shall be clearly indicated in the offer with reasoning



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**EQUIPMENT SPECIFICATION**





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**2.1 GENERAL**

- 2.1.1 Equipment to be supplied by the contractor shall conform to relevant Indian Standards, Engineering Standards, Specification Sheets & Drawings enclosed.
- 2.1.2 Equipment shall also comply with the requirement of Statutory Acts, Rules & Regulations.
- 2.1.3 Make of the equipment / components shall be as specified elsewhere in this specification. Make of the equipment / components not indicated shall be subject to owner/ consultant's approval.
- 2.1.4 Drawings & Documents for various equipments as indicated in respective Engineering Standards shall be furnished. For other equipments, GA drawings & descriptive catalogues shall be furnished.

**2.2 EQUIPMENTS**

**2.2.1 SWITCHBOARDS**

- 2.2.1.1 The switchboards shall consist of an assembly of a series of floor mounting, identical, metal clad, cubicle type panels placed side by side to form a compact assembly and shall be extensible on either side.
- 2.2.1.2 Horizontal bus-bars shall run in a separate compartment through the entire length of the board and shall be of same cross-section throughout. Stepped bus-bars shall not be acceptable.
- 2.2.1.3 The bus-bars shall be rigidly supported at equal intervals to withstand the stresses due to full short circuit and also to take care of thermal expansion
- 2.2.1.4 Suitable arrangement for DC and auxiliary AC power for each switchboard is to be provided by the vendor. Spare power pack with inside and outside isolation shall be provided. DC Voltage shall be 220V DC and AC Auxiliary Voltage shall be 240V AC. Power pack shall have the battery back-up of 30 minutes.
- 2.2.1.5 LOTO locking system to be provided for safety purpose while taking clearance for maintenance work. For this necessary Hasps and locks shall be provided in the switchboards.
- 2.2.1.6 Name plate shall be of Aluminium / black Perspex with white engraving and of minimum 3 mm thick.
- 2.2.1.7 Vendor to submit the schematic diagram for all the switchboards along with the bid and for owner/consultant approval before commencement of manufacturing. Schematic Diagram attached is suggestive only.

**A. 415V Main Power Distribution Board (MPDB)**

- 2.1.1.1 Rated short circuit breaking capacity for 415V MPDB shall be minimum 50 KA for 1 sec.
- 2.1.1.2 The incoming circuit breaker feeders shall be in single tier formation MCCB.
- 2.1.1.3 The main bus bars of MPDB shall have heat shrinkable insulated sleeves suitable for rated voltage and shall be made of high conductivity aluminium alloy. At joints of



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these busbars removable shrouds shall be provided.

- 2.1.1.4 Bus bars shall be of uniform cross section and supported on non-hygroscopic FRP insulators with adequate clearances and creepage distance to prevent flash over due to effect of dust/moisture.
- 2.1.1.5 Sufficient bus supports shall be given to give adequate mechanical strength during short circuits.
- 2.1.1.6 A continuous ground bus shall be provided at the bottom in the MPDB for grounding.
- 2.1.1.7 All feeders of MPDB shall be provided with draw out type Feeders.
- 2.1.1.8 Busbar clearances shall conform to relevant Indian Standard/IEC for equipment voltages up to and including 500 V AC.
- 2.1.1.9 The draw out modules shall be standardized and it shall be possible to interchange any module with a module of same size. The components to control the equipment like switch, starter, fuse, auxiliary relay etc. shall be wired as a unit on the individual module. Safety shutter shall be provided to prevent direct access to live parts when the chassis is removed.
- 2.1.1.10 The entire draw out construction should be designed for safe operation during placement or removal of chassis. An earthing arrangement shall be provided which will make contact first before the power contacts are made and break last.
- 2.1.1.11 The door shall be interlocked so that it cannot be opened unless the isolating switch on that module is OFF. However, it shall be provided with a door defect mechanism for intentional opening when on line for testing and inspection purpose.
- 2.1.1.12 MPDB should be IP rated Outdoor Type .
- 2.1.1.13 Provisions shall be made to manually close.
- 2.1.1.14 The switchboards shall be suitable for extension at both the ends
- 2.1.1.15 Suitable shutter arrangement shall be provided to protect the person from accidental contact with live bus in trolley chamber.
- 2.1.1.16 FRP supports shall be used for bus bars with adequate clearances and creepage distance to prevent flash over due to effect of dust moisture.
- 2.1.1.17 Protective relays for incoming and outgoing feeders shall be microprocessor based numerical type. Drawout type relays shall be used. Protective relays shall be mounted on the front of the switchgear panel.
- 2.1.1.18 All meters shall be digital multifunctional meters. Additionally analog type ammeter & voltmeter shall be provided separately for various feeders.
- 2.1.1.19 A continuous ground bus shall be provided at the bottom of the switchgear and in cable connection side for grounding the switchgear, breaker trolley as well as to ground the cable glands.
- 2.1.1.20 Every enclosure door that provides access to live parts operating at 240 V AC and above shall be mechanically interlocked with a circuit interrupting device on the supply side such that when the door is open, the equipment is de-energised.



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- 2.1.1.21 MPDB shall have separate sections of bus bars for indoor and outdoor lighting. Outdoor bus sections shall be connected by means of contactor operated through photo-cells and astro- timer.
- 2.1.1.22 Manual by-pass circuit for outdoor lighting shall be wired up to a switch located in electrical control room/shift office, so that outdoor lighting can be switched ON or OFF manually to override the automatic switching.
- 2.1.1.23 All outdoor lighting fixtures including shall receive power from outdoor lighting bus
- 2.2.2 **AUXILIARY SERVICE DISTRIBUTION BOARD (ASDB) / POWER DISTRIBUTION BOARD (PDB)/FLOOR MOUNTED FEEDER PILLAR / EXTERNAL LIGHTING FEEDER**
- 2.2.2.1 Boards shall be provided with incoming and outgoing feeders. Boards shall also conform to the specification sheet.
- 2.2.2.2 The enclosure shall be fabricated out of 2.0 mm thick cold rolled sheet steel having dust, vermin and weatherproof construction conforming to IP54 as per IS: 13947 suitable for wall / structure mounting. 4 nos. holes suitable for 12 mm bolts shall be provided outside the enclosure for fixing the DB.
- 2.2.2.3 The cut out on the enclosure shall be lined with gaskets. The external cover shall be flushed with the main cover. Continuous neoprene gasket shall be provided to make the board completely dust and weatherproof.
- 2.2.2.4 All external hard ware of diameter less than 8 mm shall be of stainless steel and those of diameter 8 mm and above shall be of mild steel cadmium plated or zinc passivated.
- 2.2.2.5 Boards shall have bottom entry arrangement both incoming & outgoing cables heavy-duty double compression type aluminium cable glands suitable for 1.1kV XLPE-A-FRLS PVC outer- sheathed cables.
- 2.2.2.6 Three phase and neutral bus bar system of adequate size shall be provided to which all outgoing MCCB/MCBs and incoming MCCB shall be connected.
- 2.2.2.7 The internal control wiring shall be carried out by means of single core PVC insulated 2.5 sq. mm stranded copper conductor cables.
- 2.2.2.8 Individual earth terminals shall be provided for the earth conductor of the outgoing cables beside the phase and neutral terminals.
- 2.2.2.9 Suitable label inscription consisting of black Perspex with engraving for the board and circuit nos. of all outgoing feeders shall be provided. The label inscription of the board shall contain description and code no.
- 2.2.2.10 Two earthing terminals outside the board shall be provided.
- 2.2.2.11 The board shall be complete with terminal block, cable glands, cable lugs and other accessories as required.
- 2.2.2.12 DB shall have separate sections of bus bars for indoor and outdoor lighting. Outdoor bus sections shall be connected by means of contactor operated through photo-cells and astro- timer.



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2.2.2.13 Manual by-pass circuit for outdoor lighting shall be wired up to a switch located in electrical control room/shift office, so that outdoor lighting can be switched ON or OFF manually to override the automatic switching.

2.2.2.14 All outdoor lighting fixtures including shall receive power from outdoor lighting bus.

**2.2.3 LIGHTING SUB DISTRIBUTION BOARD / SINGLE PHASE SWITCH SOCKET SUB DISTRIBUTION BOARD**

2.2.3.1 LSDB shall be provided with incoming and outgoing feeders as indicate having IP-55 degree of protection.

2.2.3.2 The enclosure for LSDB shall be fabricated out of 2.0 mm thick cold rolled sheet steel having dust, vermin and weatherproof construction conforming to IP54 as per IS: 13947. 4 nos. holes suitable for 12mm bolts shall be provided outside the enclosure for fixing the LSDB.

2.2.3.3 The miniature circuit breakers (MCBs) shall be so mounted inside the enclosure that their operating knobs project outside for ease of operation. The cut out for the knobs on the enclosure shall be lined with gaskets. For further protection against ingress of dust, the portion where the knobs have protruded out shall be provided with another external cover, internally hinged at the top, gravity operated and with a knurled knob at the bottom. The external cover shall be flushed with the main cover. Continuous neoprene gasket shall be provided to make the board completely dust and weatherproof.

2.2.3.4 All external hard ware of diameter less than 8 mm shall be of stainless steel and those of diameter 8 mm and above shall be of mild steel cadmium plated or zinc passivated.

2.2.3.5 The LSDB shall have top entry arrangement for outgoing cables and bottom entry for incoming cable provided with heavy-duty double compression type aluminium cable glands suitable for  
1.1 KV XLPE-A-FRLS PVC outer-sheathed cables.

2.2.3.6 Three phase and neutral bus bar system of adequate size shall be provided to which all outgoing and incoming MCBs shall be connected.

2.2.3.7 The internal wiring shall be carried out by means of single core PVC insulated 2.5 sq. mm stranded copper conductor cables.

2.2.3.8 Individual earth terminals shall be provided for the earth conductor of the outgoing cables beside the phase and neutral terminals.  
Suitable label inscription consisting of black perspex with engraving for the board and circuit nos. of all outgoing feeders shall be provided. The label inscription of the board shall contain description and code no. as indicated in specification sheet. The circuit nos. of outgoing feeders shall be serially indicated as 1L, 2L ..... 17L, 18L.

2.2.3.9 Two earthing terminals outside the board shall be provided.



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2.2.3.10 The board shall be complete with terminal block, cable glands, cable lugs and other accessories as required.

2.2.3.11 For detailed specification refer Engineering Standard of Sheet Steel Distribution Board (ES: 8080).

**2.2.4 PRE-WIRED DISTRIBUTION BOARDS**

2.2.4.1 Pre-wired distribution boards shall be concealed single door housed in purpose made metal cases conforming to relevant Indian standards. The sub-distribution boards shall not be mounted at a height exceeding 180 cm from finished level.

2.2.4.2 Pre-wired distribution Boards shall be phase segregation type equipped with rigidity fixed Miniature Circuit Breakers (MCB) complying with specific number of relevant code in the phase leads with overload and short circuit protection. The (MCB) shall have adequately sized terminals for the outgoing leads. Pre-wired distribution boards shall have adequately sized terminals or clamps for the incoming conductors. Pre-wired distribution boards shall have an earth bus bar with the necessary number of terminals for connecting the earth continuity conductors associated with the various circuits supplied from the board.

2.2.4.3 Each Pre-wired distribution board shall have a circuit pasted or otherwise permanently fixed inside the cover stating the designation and details of the circuits controlled, and rating of miniature breakers. Non-flammable insulating barriers shall be provided between poles and phases and all live parts protected with non-flammable insulating shields to prevent accidental contact while operating the miniature breaker.

**2.2.5 LIGHTING FIXTURES**

2.2.5.1 All lighting fixtures shall be LED type.

2.2.5.2 The fixtures shall be complete with all accessories including the driver, lamps and all accessories. The lighting fixtures shall also conform to the specification sheet (attached in this specification).

2.2.5.3 The fixtures shall be provided with cable glands and a terminal block suitable for termination of copper conductor up to 2.5 sq. mm size.

2.2.5.4 The fixture shall be so designed that it shall be possible to maintain or replace different accessories without difficulty, including replacement of lamps.

2.2.5.5 Decorative type light fittings shall be provided in conference halls, meeting rooms, Senior Executive Rooms and Reception Area.

**2.2.6 JUNCTION BOXES**

2.2.6.1 Junction boxes shall be used for looping of lighting cables in the lighting circuit of fluorescent fixtures. Junction boxes shall be made of cast aluminium having IP55 degree of protection as per IS: 2147.

2.2.6.2 Junction boxes shall be liberally dimensioned having minimum internal dia. of 120 mm.



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2.2.6.3 The junction boxes shall be 4 way, dome cover type, suitable for mounting on surface or wall complete with mounting accessories, 6 nos. 16 A terminals fitted on DMC moulded terminal block with shorting links, 3 nos. cable glands suitable for 3x2.5 sq. mm<sup>2</sup> copper conductor XLPE-A-FRLS PVC cable, one no. threaded plug and two external earthing terminals.

2.2.6.4 Cable glands & plugs shall be of hose proof, single compression type and shall be of rolled aluminium.

**2.2.7 MINIATURE CIRCUIT BREAKERS (MCB)**

2.2.7.1 MCBs shall have silver tungsten contact rewirable connections suitable for flush and surface mounting and shall be suitable for mounting on Din-Rail. MCB and distribution boards shall be as per approved make of list.

2.2.7.2 All MCBs shall be ISI marked.

2.2.7.3 All wiring connections required to be made with MCBs shall be carried out by providing necessary thimbles / lugs duly crimped.

2.2.7.4 MCBs shall be hand operated, air break, quick make, quick break type conforming to applicable standards.

- a) The MCB shall be provided with overload / short-circuit protective device for protection under overload and short circuit conditions. The switch action shall be trip free to inhibit closing under fault conditions. All brass parts shall be electroplated and all steel parts cadmium plated and all contacts silver plated. The minimum breaking capacity of MCBs shall be 10KA r.m.s. at 415V / 240V AC
- b) Miniature circuit breakers shall be SP, DP, TP or 4P and of the current rating all as specified elsewhere or approved. Each miniature circuit breaker shall be provided with spring-washer at each cable termination. All breakers shall be in accordance with the relevant standards.
- c) The instantaneous magnetic tripping of the MCBs shall be in accordance with the latest edition of the I.E. Regulations. The magnetic tripping of miniature circuit breaker supplying socket outlets shall be 2.7 to 4 times their rated current. The magnetic tripping of the miniature circuit breakers supplying lighting circuits shall be 7 to 10 times their rated current.

**2.2.8 CAST IRON / MILD STEEL BOXES**

2.2.8.1 The boxes having various fittings such as switches, sockets, fan regulators etc. shall be of cast iron / MS of required size and flush mounting type (Refer clause 6.52 of IS-782). Average thickness of cast iron boxes should not be less than 2.5 mm and that of MS boxes not less than 2 mm thick. The cast iron / MS boxes shall be embedded in the wall and need not be fixed to wooden plugs. The contractor may at his discretion provide galvanized screws without any extra cost.

**2.2.9 EXHAUST FANS**





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2.2.9.1 The metallic exhaust fans shall be of 250mm sweep, domestic type, suitable for operating on 240V, 1 phase, 50 Hz supply and shall be complete with self opening louvers and standard mounting accessories such as frame etc.

**2.2.10 TERMINAL BOXES**

2.2.10.1 In concealed conduit wiring, the terminal point for power / light socket outlets, switching etc. shall terminate in recessed cast iron or galvanized mild steel boxes fitted flush with wall surface. All terminal boxes shall be properly earthed and connected to earth dolly.

**2.2.11 MODULAR TYPE SWITCHES / SOCKETS**

2.2.11.1 Modular type switches and modular type sockets shall be ISI marked and shall be approved.

**2.2.12 HT POWER, LT POWER & CONTROL CABLE**

2.2.12.1 All HT power cables shall be made of stranded aluminium conductor with XLPE insulation, PVC inner sheathed, armoured, PVC outer sheathed FRLS type, conductor screen, insulation screen and construction as per IS: 7098 (Part 2) and as specified in the specification Sheet (attached in this specification). HT cables shall be of earthed / unearthed type as specified in the specification Sheet.

2.2.12.2 All LT power cables shall be with stranded aluminium / copper conductor with XLPE insulation, PVC inner sheathed, armoured, PVC outer sheathed FRLS type and construction as per IS: 7098 (Part 1) and as specified in the specification Sheet (attached in this specification).

2.2.12.3 All control cables shall be stranded copper conductor with XLPE insulation, PVC inner sheathed, armoured, PVC outer sheathed FRLS type and construction as per IS: 7098 (Part 1) and as specified in the specification Sheet (attached in this specification).

2.2.12.4 All control cables cores shall be identified with numerical core numbers printed on core instead of colours.

2.2.12.5 All cables shall be armoured and shall have extruded inner and outer sheath. Cables shall be in continuous lengths without any joints

**2.2.13 EARTHING & LIGHTNING**

2.2.13.1 Complete earthing installation shall be done as per IS: 3043 and Lightning shall be done as per relevant latest IS/IEC.

2.2.13.2 Earthing rings/grid shall be provided around the bungalows. Minimum size of main grid shall be 50mmX6mm.

2.2.13.3 Earthing grid/ring shall comprise of buried GI earth strips and GI pipes/electrodes. All these earth electrodes shall be inter-connected.

2.2.13.4 Individual electrical equipment shall be earthed by GI strip. Earth buses shall be provided for earthing groups of electrical/non-electrical equipment to earthing grid/rings.

2.2.13.5 All equipment rated above 250 V shall have two external earth connections and





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those rated up to 250 V shall have one external earth connection.

2.2.13.6 All GI conductors shall meet the galvanizing requirement as per IS.

2.2.13.7 Surplus soil shall be carried away to distance exceeding 50 m and the site left clean and tidy.

2.2.13.8 Portion of earth wire between earth electrode and Meter Dist. Bd. shall be enclosed in 15 mm bore galvanized pipe light grade. The rate against respective item of earthing of shall be deemed to include the cost of the aforesaid pipe.

2.2.13.9 Pipes carrying gas / water etc. shall not be used as means of earthing on installation.

**2.2.14 MOUNTING STRUCTURES**

2.2.14.1 Switch sockets, cable trays, Distribution Boards, Feeder Pillar etc shall be mounted / supported on suitable structure fabricated out of standard sections of mild steel, i.e. channels, angels, flats etc conforming to IS: 266.

**2.3 PAINTING**

2.3.1 The equipment surface to be painted shall be pre-treated to remove all dust, scale and foreign adhering matter by suitable treatment.

2.3.2 All metal surfaces shall be painted with two coats of suitable anti-rust paint followed by two coats of anticorrosive epoxy paints.

2.3.3 All paints shall be carefully selected to withstand tropical heat and extremes of weather. The paint shall not scale off, crinkle or be removed by abrasion due to normal handling.

2.3.4 Unless otherwise specified, the finishing shade shall be light gray having No.631 as per IS-5.

**2.4 TESTING**

2.4.1 All equipment shall be routine tested as per relevant standards in presence of owner representative at manufacturer's works before despatch. In addition, the equipment shall be inspected at site for final acceptance.

2.4.2 The following tests as specified in IS-732, code of practice for electric wiring and fittings in building shall be complied with before the complete installation is taken over. The contractor shall carry out the tests in the presence of Engineer-in-charge. Electrical wiring test sheet shall be signed both by the contractor's representative and the Engineer-in-charge. All testing equipment shall be arranged by contractor without any extra cost.

2.4.3 Insulation resistance shall be measured by 500 volts megger. The insulation resistance in mega ohm of the installation shall not be less than 50 divided by the number of points on the circuit and the resistance of the whole installation shall not exceed one ohm and resistance including earth mass as 5 ohm.

2.4.4 Testing Polarity of Switches A test shall be made to verify that all non linked single pole switches have been fitted in the same conductor throughout and that such conductor has been connected to another or phase conductor or to the non-earthed



conductor of the supply.

## **2.5 DRAWING & DOCUMENTS**

2.5.1 All drawings and documents shall have the following descriptions written boldly:

- Name of Client.
- Enquiry / Order Number with Project/Plant name.
- Equipment Code No. and Description.

2.5.2 At the time of handing over of the installation, the vendor shall supply as built drawings taking into consideration the actual execution carried out at site.

2.5.3 The vendor shall furnish a Bill of Materials covered in their offer. However, this shall be treated for information only and shall not absolve them from his obligation to supply the required items and quantities for making the plant complete as per intent of the specification.

2.5.4 The Contractor shall be responsible for preparation and submission of two sets of drawings viz.

- (1) "AS BUILT"                      (2) Material Reconciliation and Deviation Statement

2.5.5 Drawings and documents shall be submitted as per Annexure-I

2.5.6 In case the panel or distribution board of the same make is not available, all assembled equipment shall remain in accordance with the approved make list.

2.5.7 All supplied items shall be accompanied by test certificates / warranty certificates, etc, to be provided by the bidder.

2.5.8 All electrical works shall be carried out in accordance with CPWD specifications.

2.5.9 Defect liability period shall be 12 month from the date of certified final completion of work.

## **2.6 SPARES**

2.6.1 Spare for commissioning as required shall be supplied without any extra cost.

2.6.2 Spares mentioned in respective Engineering Standard shall not be supplied.

## **2.7 MAKE OF ELECTRICAL ITEMS**

2.7.1 Make of electrical items / components shall be as per Annexure-II. Make of equipment / components not indicated shall be subject to owner's approval.

## **2.8 DEVIATIONS**

2.8.1 Clause wise deviations, if any, shall be clearly indicated.

## **2.9 CELLING FAN**

### **2.9.1 CEILING FANS BLDC TYPE**

2.9.2 Ceiling fans shall be of 1200 mm / 600 mm sweep suitable for operating on 240V, 1 phase, 50Hz supply and shall be complete with standard mounting accessories such as suspension rods, top and bottom caps etc. The fans shall be of approved shade



and supplied with appropriate electronic speed regulators (modular type). The ceiling fans shall conform to relevant Indian standards. Technical specification.

## **2.10 TECHNICAL SPECIFICATION – BLDC CEILING FAN**

### **2.10.1 Scope of Supply**

Design, manufacture, routine testing, supply, transportation, unloading, installation, testing and commissioning of energy efficient BLDC type ceiling fans with Remote & Regulators complete with all accessories required for satisfactory and continuous operation.

### **Applicable Standards**

The ceiling fans shall conform to latest editions (including amendments) of the following standards:

- IS 374 : 2019 – Ceiling Fans and Regulators
- BIS Certification – Mandatory
- BEE Star Labelling – Minimum 5 Star
- ROHS Compliance
- Insulation class-B 3 nos. metal (Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body. Power Factor not less than 0.9, Service Value CM/M/W) minimum THD (Total Harmonic Distortion) less than 10%, remote (preferably mobile app based) for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 °C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply Ceiling Fan compliant to IS 374:2019 fan i/cm external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required
- In case of conflict, relevant IS standards shall prevail.

### **General Requirements**

Type: BLDC (Brushless Direct Current) Ceiling Fan Sweep: 1200 mm

Mounting: Ceiling mounted, down-rod type

Application: Offices, residential quarters, control rooms and institutional buildings Duty: Continuous

### **Electrical & Motor Parameters**

Parameter	Requirement
Motor Type	Permanent Magnet BLDC Motor
Rated Voltage	230 V AC $\pm 10\%$ , Single Phase
Frequency	50 Hz
Operating Voltage Range	140 V to 280 V AC
Power Consumption	$\approx 30$ W at maximum speed
Power Factor	$\approx 0.90$
Maximum Speed	$\approx 350$ RPM



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Duty	Continuous
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**Performance Parameters**

Air Delivery: ≥ 220 CMM

Service Value: ≥ 6.0 CMM/W

Noise Level: 45 dB

Energy Saving: Minimum 50% compared to conventional induction fans

**Construction Details**

Number of Blades: Minimum 3, aerodynamically designed and dynamically balanced

Blade Material: Aluminium / ABS, corrosion resistant

Motor Housing: Die-cast aluminium / powder-coated steel Finish: Epoxy / powder-coated, suitable for tropical conditions Colour: As approved by Engineer-in-Charge

**Control & Functional Features**

Remote control (RF / IR) with minimum 5 speed levels Compatibility with wall-mounted controller Timer / sleep mode facility Memory backup for speed retention after power failure Inverter compatible



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**ANNEXURE-II**

**MAKE OF EQUIPMENTS / COMPONENTS**

Sl. No.	ITEM	MAKE
1.	LV Switchboard	Schenider C&S Electric Ltd. Elecmech Corporation GE Power Controls India Pvt. Ltd. Intrelec Larsen & Toubro Ltd. Siemens Ltd.
2.	Meters	Alstom Limited (Areva T&D) Secure IMP Power Ltd. Jaipur Metals & Electrical Ltd. M.B. Control & Systems Pvt. Ltd. (Only for Multifunctional Meter) Meco Instruments Mehru Electricals (Formerly Automatic Electric Limited) Prok Devices Private Limited Rishabh Instruments Pvt. Ltd. Seahorse Industries Ltd.
3.	Prewired MCB-DB (SP/TP)	HAVELLS L&T HPL Protection Technologies /ABB Schneider Electric Siemens Ltd.
4.	Floor Mounting Type Distribution Board	Controls & Switchgear Co. Ltd. Elecmech Corporation Schenider Intrelec ABB Universal Industrial Products Vidhyut Control (India) Pvt. Ltd. L&T Siemens Ltd.
5.	Wall Mounting Type Distribution Board	Controls & Switchgear Co. Ltd. Elecmech Corporation L&T Havells India Ltd. Indo Asian Fusegear Ltd. Intrelec Legrand India Ltd. Reunion Electrical Manufacturers (P) Ltd.
		Baliga Lighting Equipments Limited



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6.	Industrial Type Sw. Socket & Plug	Caldyne Automatics Ltd.
		Crompton Greaves Ltd
		Cyclo Electric Devices & Services Co.
		FCG Flameproof Control Gears Pvt. Ltd. (Formerly CEAG Flame
		FCG Power Industries Ltd.
		Flameproof Equipments Pvt. Ltd.
		Legrand India Ltd.
7.	Hoseproof Junction Boxes	Baliga Lighting Equipments Limited
		Bhartia Industries Ltd. (Divn. BCH)
		FCG Flameproof Control Gears Pvt. Ltd.
		FCG Power Industries Ltd.
		Flameproof Equipments Pvt. Ltd.
8.	HT Power, LT Power, Control & Earthing Cables (XLPE-A FRLS PVC/ PVC-A-FRLS PVC)	Ravin Cables Ltd.
		KEC International Ltd. (Formerly RPG Cables Limited)
		KEI Industries Ltd.
		POLYCAB
		Torrent Cables Ltd.
		Universal Cables Ltd.
9.	Industrial Cable Gland	Baliga Lighting Equipments Limited
		Comet Brass Products
		Comet Industries
		Dowell's Electricals
		Electromac Industries
		FCG Flameproof Control Gears Pvt. Ltd.
		Gland-Mech. Industries
		Power Engg. Co.
		Quality & Precision Indl. Equipment
		S J Metal Industries (Jainson)
10.	Cable Lugs	Dowell's Electricals
		Forward Engg. Industries
		KSE Electrical Pvt. Ltd.
		MG Electrica
		Power Engg. Co.
		S J Metal Industries (Jainson)
		Usha Martin Industries Ltd. (Isma Divn.)
11.	Heat Shrinkable End Termination Kit	Raychem RPG Ltd.
12.	Epoxy based Termination / Straight Through Jointing Kits	Birla 3M Ltd.
		Yamuna Power & Infrastructure Limited
		Mahindra Engineering & Chemical Products Ltd.
		Raychem RPG Ltd.
		Adhunik Switchgears (P) Ltd.



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13.	MCB/ELCB/RCCB	Havells India Limited
		HPL Electric & Power Pvt. Ltd.
		L&T
		Indo Asian Fusegear Ltd.
		Legrand India Ltd.
		SCHENIDER/ C&S/LEGRAND/ABB/SIEMENS
		Standard Electricals Ltd.
14.	MCCB	Crompton Greaves Ltd.
		GE Power Controls India Pvt. Ltd.
		Havells India Ltd.
		Larsen & Toubro Ltd. (El. Products Divn.)
		Siemens Ltd.
		Spaceage Switchgears Limited
		Standard Electricals Limited
15.	Fuse	Larsen & Toubro Ltd. (El. Products Divn.)
		Siemens Ltd.
		Alstom Power
		Havells India Ltd.
16.	Contactor	Larsen & Toubro Ltd. (El. Products Divn.)
		Siemens Ltd.
17.	Timers	ABB India Limited
		Alstom Power
		Alstom Limited (Areva T&D)
		Bhartia Cutler Hammer
		Siemens Ltd.
18.	Terminal Blocks	Elmex / Connectwell
		Larsen & Toubro Ltd. (El. Products Divn.)
		Siemens Ltd.
19.	Copper Wires-600/1100 Volts (Flexible Cable used for wiring)	Anchor Electricals Pvt. Ltd.
		Finolex Cables Ltd.
		Havells India Ltd.
		KEI.
		Plaza Cable Industries Ltd.
		Polycab Wires & Cables
		TC Communication Pvt. Ltd.
20.	Telephone Wire & TV Cables	Cord Cable Industries Ltd.
		Delton Cables Ltd.
		Finolex Cables Ltd.
		Plaza Cable Industries Ltd.
		TC Communication Pvt. Ltd.
21.	PVC Conduit Pipes	A.K.G.
		Finolex Industries Ltd.
		Kalinga Cables & Conduit Co.
		Plaza Cable Industries Ltd.
		Polypack





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		Prakash Industries Ltd.
22.	Wall Fan / Ceiling Fan	Bajaj Electrical Ltd. Crompton Greaves Ltd. Usha/ HAVEELS
23.	Exhaust Fan	Bajaj Electrical Ltd. Crompton Greaves Ltd. Usha/ HAVEELS
24.	Modular Switch/Socket	Anchor Electricals Pvt. Ltd. Crabtree SSK/ Clipsal
25.	Lighting Fittings & Accessories / LED Lamp	Bajaj Electrical Ltd. Crompton Greaves Ltd. Havells India Ltd. Keselec Schreder Private Ltd. Philips India Ltd. Surya Roshni Ltd. Wipro Lighting
26.	Electric Call Bell	Anchor Electricals Pvt. Ltd. MDS Kinjal
27.	Earthing & Lighting Protection Material	Anand Electric Trading Co. Bharti Exports Controls & Switchgear Co. Ltd. Jamna Metal Company Jayant Metal Mfg Co. Mahavir Industrial Corporation Metalite Industries Metropolitan Industries Premier Power Products (Calcutta) Pvt. Ltd. Rukmini Electricals & Components Pvt. Ltd. Sadhana Engineering Corporation Sai Galvanisers & Fabricators Pvt. Ltd. Stealite Engg. Co.
28.	GI Pipes	Bharti Exports Indian Tube Co. (Tata Div. Of Tubes & Pipes) Jindal Pipes Ltd. Meghdyot Enterprises Rukmini Electricals & Components Pvt. Ltd. Steelcraft

**\*NOTE :** Items not covered above shall be subject to Owner approval



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**ERECTION, TESTING & COMMISSIONING SPECIFICATION**



### **3.1 SCOPE OF WORK**

- 3.1.1 The scope of work shall include storage, handling, transportation, unpacking, checking, reporting of damages / defects, assembling, erection, installation, including fabrication, alignment, levelling, grouting, welding, bolting, painting (wherever specified), etc., testing and commissioning of various electrical equipment supplied by the contractor, earthing system, fabrication & installation of steel structural etc. as per drawings & documents, specifications, standards & codes, prevalent rules & regulations and best engineering practices.
- 3.1.2 The scope shall also include obtaining approval from statutory authorities, as required.

### **3.2 SCOPE OF ERECTION**

- 3.2.1 The scope comprises of erection / installation, testing and commissioning of electrical equipment / items as indicated in SOR.
- 3.2.2 Laying of cables in excavated / RCC trenches and on cable trays as required.
- 3.2.3 Supply of single / double compression / FLP aluminium cable glands and crimping type tinned copper cable lugs, shall be provided by the electrical contractor for which unit rates shall be quoted.
- 3.2.4 Excavation and back filling of cable trenches/direct buried cables.
- 3.2.5 Termination of power, control and lighting cables.
- 3.2.6 Fabrication with supply of MS material, consumable and hardware of frames, supports, cable racks etc. as required.
- 3.2.7 Supply, laying & connection of the complete earthing system including supply of GI earth electrode as per sketch given, GI earthing strips, flexible earthing conductors etc.
- 3.2.8 civil works such as digging of earth and refilling for directly buried cables, earth strips, cable protection pipes, earth electrode pits, ground mounted lighting pole foundations, civil works such as making earth pit inspection chambers with covers, grouting of base plate, channels, supports and foundation bolts, including chipping of concrete or in brick work for earth strips, pipes and other minor chipping for foundation preparation, if required, cutting holes in walls for racks, risers, light fitting brackets, sealing of cable entries and making good the same after installation of the equipment and levelling and other minor similar jobs shall be in contractor's scope.
- 3.2.9 Straight - through jointing of cables (wherever required)
- 3.2.10 Making / providing canopies / rain hoods.
- 3.2.11 All hardware required for successful commissioning, whether specifically mentioned or not in the specification.
- 3.2.12 Concrete foundations for pedestals, lighting poles, grouting of equipments etc., including supply of grouting materials.



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- 3.2.13 Removal of materials / scraps to the scrap yard and stores etc. as per instructions of Owner / Consultant.
- 3.2.14 Supply and installation of any other item not specifically mentioned but found necessary by the engineer-in-charge for satisfactory completion of job.
- 3.2.15 For the erection of high mast crane of appropriate capacity shall be used by the contractor.
- 3.2.16 All letter writing on switchboards, transformer, danger boards, sign etc shall be done by the contractor.  
Any work not included in this tender but may be required, as decided by engineer-in-chief, such as site modification of panel wiring, mounting of additional equipment etc. for which extra payment shall be made as per the man-day-rates to be quoted for various categories of workmen.
- 3.2.17 "AS BUILT" drawings with all site modifications shall be prepared by making the changes on owner / consultant's drawings.
- 3.2.18 All major civil engineering works pertaining to electrical equipment as per Technical Specification of Civil enclosed elsewhere in the tender.

**3.3 CODES AND STANDARDS**

- 3.3.1 The design, manufacture, testing, installation of the equipment shall comply with the latest issue of all relevant Indian Standards and codes of practices and all applicable Statutory Acts & Regulations.
- 3.3.2 The contractor shall have valid "A" class licence from the Director of Electrical Safety to the Govt. of Bihar. The contractor must have PF & ESI codes covering all persons hired by him for carrying out the job. He shall engage suitably skilled / licensed workmen of various categories for execution of work supervised by supervisors / engineer of appropriate qualification and experience to ensure suitable quality of work.
- 3.3.3 The contractor shall observe safety rules and take all necessary safety precautions to carry out the internal electrification work.

**3.4 GENERAL PROCEDURE FOR ERECTION**

- 3.4.1 The general procedure governing "Transfer of equipment and materials to Contractor", erection and final acceptance of owner / consultant are given below:

**3.4.1.1 Storage of equipment at site**

- a. All equipment and materials shall be properly stored by the contractor at site in the designated storage area provided by the owner. Contractor shall arrange to draw the necessary equipment / materials in the sequence required for erection and transport the same from contractor's store to erection point.
- b. The contractor shall keep proper record of the materials supplied by him / owner.
- c. The contractor shall ensure that all the materials drawn / supplied by him are stored



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indoor / under shade. However, if a package is temporarily stocked outdoor due to unavoidable reasons, this shall be ensured that the storage area is dry, hard and well-drained.

- d. Goods must not be placed directly on the floor / ground but shall be kept on blocks, 60 mm to 120 mm above the floor level such that the bottom is well ventilated.
- e. In case of outdoor storage, the contractor at his own cost shall provide waterproof PVC sheets/ tarpaulin to cover all goods so as to protect them from rain etc. These sheets / tarpaulin shall be removed for inspection once in a week and if found moist or mouldy, shall be dried in direct sunlight.
- f. In addition to the above, the equipment manufacturer's storage instructions, if any, shall be strictly followed.

**3.4.1.2 Contractor's inspection at site**

On receipt of any material (supplied by the contractor) at site, contractor shall fully unpack and inspect all equipment received for completeness, signs of damages, defect etc. in the presence of owner's representative. Any damage / short supply detected shall be recorded immediately. The contractor shall be required to make good / replace / repair the defective / damaged items at no extra cost to the owner.

**3.4.1.3 Handling and cleaning**

- a. The contractor shall be responsible for proper handling and cleaning of all materials / equipment drawn / supplied by him until owner / consultant finally accepts the erected equipment.
- b. Equipment shall be handled with care by experienced riggers under guidance of competent supervisors and as per rigging marks given on cases. Dragging on floor shall be avoided and crane / suitable rollers shall be used for moving the equipment at any times.
- c. The contractor shall be fully responsible for the safe keeping of equipment issued to him till these are erected, tested, commissioned by him and accepted by owner / consultant.

**3.4.1.4 Transportation**

This involves transportation of various electrical equipments / materials from contractor's store to erection site. When transporting the equipment, it shall be loaded on suitable trailer / trucks as per capacity and size of equipment, and shall be properly supported on the trailers / trucks by means of ropes / stoppers to avoid damage or tilting due to heavy jerks and vibration. Precautions, if any, displayed on equipment shall be strictly observed.

**3.4.1.5 Erection Requirements**

- a. All work shall be carried out as per drawings supplied. Placing on foundation, aligning, grouting, connecting, fixing danger notice plate / board on equipment as specified,



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meggering, labelling and painting shall form part of erection requirements.

- b. Fixing of supporting frames / pedestals, grouting, cutting and dressing holes in walls / ceiling and any other minor civil work necessary for installation and levelling of electrical equipment are included in electrical erection scope.
  - c. The scope of erection also includes cable dressing / clamping / minor rerouting, minor relocation of fittings, internal cleaning of equipment, overhauling and minor repairs.
  - d. Fabrication of clamps from the materials specified and clamping of cables on racks, trays etc. fixing of single core cables in tri-foil formation in aluminium clamps, earthing of cable armour and lead sheath, wherever necessary (and as per the details given by Consultant) fall under erection scope of work.
  - e. Marking of cables by fixing / grouting the cable marks / number tags at every 25 metres along entire route of cables are included in the scope of work. The tags shall be made of Aluminium Strips.
  - f. The contractor shall without any extra cost, touch up with paint all electrical equipment which are damaged / scratched during handling, erection or repair. The paint used shall match exactly the painted surface of the equipment on which touch-up is done, and shall be epoxy based.
  - g. The descriptions given above are only to give a preliminary idea about the scope of work and they do not limit the entire scope to these descriptions only. Hence all other parts of the tender document shall be read in conjunction with the referred standards, associated drawings, specification sheets and schedule of materials & services to assess actual scope of work.
  - h. The contractor shall undertake erection of all equipment specified herein in accordance with good engineering practices in conformity with statutory regulations and Code of Practice and to the entire satisfaction of the purchaser / owner.
  - i. The contractor shall arrange all the necessary erection tools, tackles, testing and measuring instruments and shall supply all erection materials as required.
- 3.4.1.6 Erection Supervision by OEM Suppliers
- a. For guiding / supervising erection of sophisticated equipment, services of main equipment supplier's engineer may be made available free of cost by the contractor for the electrical equipment. However, this will neither absolve the contractor from his responsibility nor his obligation to provide his own supervisors or technical personnel.
  - b. The contractor shall have to comply with all the directions of Engineer-in-Charge, drawings etc. issued to him within the scope of his contract by supplier's engineer.

### **3.5 SPECIFICATION FOR ELECTRICAL ERECTION**

#### **3.5.1 General**

- 3.5.1.1 These specifications lay down the erection procedures to be followed for each type of equipment, over and above the general "Erection Requirements".



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3.5.1.2 The contractor shall also follow manufacturer's instructions and any other instructions of consultant / Principal / Statutory bodies during erection.

3.5.1.3 Suggestive Erection Drawings shall be supplied to the successful bidder for Lighting, Earthing, Cable Tray Routing, etc. These drawings may be suitably modified, if required, to suit site requirement with the approval of owner / consultant.

3.5.1.4 As-Built Drawings shall be prepared by the bidder and supplied to owner/ consultant.

**3.5.2 Switch Boards**

**3.5.2.1 Handling**

- a. As far as possible lifting of switchboards shall be done by making use of eyebolts provided. It shall be ensured that before lifting, all eyebolts are fully tightened and that panel supports, nuts and bolts are intact and tight.
- b. If lifting arrangement is not provided/ not feasible and final positioning by sliding is unavoidable, packing base shall be retained as long as possible and rolled on suitable pipes. Dragging of panel directly on floor by crowbars shall be avoided.
- c. Maximum care shall be taken to avoid any damage to insulator, bushings, meters and protective equipment.

**3.5.2.2 Erection**

- a. Check the foundation according to the drawings. Ensure that all pockets have been rightly made. Fix the datum level, and level the foundation by chipping in such a way that the prescribed point of cubicle base plate is flushed with finished floor.
- b. Check the individual cubicle for any deformity and ensure that all faces are straight. Any dent on sheet steel frame shall be rectified before placing on foundation.
- c. Wherever separate base frames are supplied, level the foundations in both directions (lateral and transverse) and ensure that these have been correctly levelled throughout. In case of runner rails, check the rails for level in both the directions and ensure that they are parallel to each other. Wherever base frame is fixed to cubicle, place the cubicle on foundation ensuring that holding down bolts are directly over the foundation pockets.
- d. Obtain correct level of panel with respect to floor/ existing bus-bar by putting shims below base frame, shims are to be supplied by the contractor. Measure the level of each frame with reference to datum and ensure that level difference between the two ends of the switchboard base frame is within  $\pm 2$  mm.
- e. Cubicle shall be so adjusted that front face of all the panels are in one plane, all sides are plumb and corresponding horizontals on all panel faces (e.g. minimum lines, door edges, inter cubicle joints) line up in the same horizontal line (s). Match the cubicles and adjust properly. Provide gasket between edges, if required; so that no inter-panel gaps are seen.
- f. Bolt adjacent cubicles and base frame together by drilling new holes, wherever necessary to match holes.





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- g. Grout the foundation bolts with mortar, run grouting mixture under base of the cubicle frame, ram to ensure solidity. After grout has set properly, tighten the foundation bolts.

**3.5.2.3 Bus Connections and Installation of Loose items**

- a. Fix bus bar links and inter panel bus-bar connections with coupling bolts / supporting insulators. Clean the contact surface of bus bars and links and smear with contact grease before bolting.
- b. Wherever recommended, fix shroud on the joints and fill compound, or compound may be put on joint to form smooth homogenous & spherical shaped mass and then wrapped with tape. Simple taping of joints may also be done. Recommendation of manufacturer/ consultant/ Principal shall be followed in this respect.
- c. In case of misalignment of bus bars, adjustments may be necessary. The connecting pieces may have to be re-drilled or re-fabricated.
- d. Check tightness of bus bars bolts connections with torque wrench. Follow vendor's recommendations in this regard.
- e. Install all loose relays, instruments, cable boxes, metering and protective CTs, PTs etc. Before fixing the relays, make sure that they are cleaned and all packing materials have been removed from them and proper operation. Clean the contacts.
- f. Connect all inter-panel bus wiring. Connections of relays and instruments shall be done as per drawings. Check the wiring according to wiring diagram.
- g. Connect all earthing bus bar between the cubicles and it shall be connected at two points by Al / GI strip or cable to the main earthing ring. Fix all glands for incoming and outgoing and control cable connections on the holes provided for the purpose, as per drawings.
- h. Drill holes for fixing cable glands/ cable boxes as per drawings, if such holes are not provided. All spare holes, gaps etc. shall be blanked as per instructions of Principal / Consultant.

**3.5.2.4 Cleaning**

After erection is complete all cubicles, switches, starters, CTs, PT Chambers, Bus bar Chambers etc. should be cleaned by blowing air (preferably hot air). Surface of the insulation shall be cleaned with cloth soaked in CTC / Benzene.

**3.5.2.5 Circuit breakers installation (Air Circuit Breaker)**

- a. Clean the contacts properly with cloth soaked in CTC / Benzene etc. Clean and lubricate the operating mechanism, check and rectify the main insulating contacts and bushings and also secondary contact for any damage/ misalignment. Check the locking mechanism.
- b. Manually close and trip the breaker several times and check contact alignment and pressure. Adjustment, if required, shall be done according to the manufacturer's



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instruction. The arc chute if despatched separately should be fixed properly, only after checking of contact alignment etc. After fixing the Arc Chute, operate manually the breaker and check the contacts make properly. Measure contact resistance with conductor. Check the operation of OFF-ON indicator.

**3.5.2.6 General Checks**

- a. Ensure that all gaskets are in position, replace the same if found damaged.
- b. All opening covers and rear doors shall be bolted with required number of bolts. Take care that no bolt/nut/ washer gets lost during handling and erection.

**3.5.2.7 Check inter-changeability of breakers of same rating.**

**3.5.3 Cable Installation**

**3.5.3.1 General**

- a. All fabrication, cutting, laying, spacing, fixing etc. of cables, trays, supports, hangers etc. shall be as per drawings and instructions of Owner / Engineer-in-Charge.
- b. The contractor shall keep accurate record of cable drums, the drum nos. and actual length of cable taken out of each drum. Each cable length shall be cut from a specific drum as per approved schedule of cable. Lengths of cable runs shown in the cable schedule are calculated lengths only, hence the actual lengths shall be measured at site before laying and cutting the cable. The contractor shall take extreme care to adjust cable runs from drums so that joints in the cable are avoided and wastage reduced to minimum.
- c. For purpose of measurement of cable run for payment the length of cable between and terminations only shall be considered.

**3.5.3.2 Laying**

- a. The cable drums should be properly mounted on jack / cable wheel. Make sure that the spindle is suitable for carrying weight of the drum without bending. Check that spindle is laying horizontal on the bearing so as to prevent the drum creeping to one side or to the other while rotating.
- b. Unroll the cables from the drum in correct direction. Rotate drum only as per arrow mark given in the cable drum. Ensure that the end protection box attached to the flange of the drum is removed and securing rope cut to allow cable and move freely. Rotate the cable drum and simultaneously pull cable steadily and with even pulls and not with unnecessary jerk or strain. In no case the cable shall be allowed to twist or kink since this is likely to spring the armour and fracture the insulation and outer serving of the cable.
- c. Do not drag the cable on floor or hard surface. Use only wooden / steel cable rollers for this purpose.
- d. Cable should not be bent sharply to a small radius. The cable bending radius shall be as large as possible and will not be less than 15 times the outside diameter for XLPE cables and 12 times for PVC cables. At joint termination the individual core of cable shall not be bent with bending radius of less than 15 times the diameter over the



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insulation.

- e. Where cables are laid on the MS racks, trays etc. ensure that trays / racks / supports are fixed properly in an approved manner or according to the drawings. Check from drawings that for horizontal runs of cable, bracket, risers, supports, angles are grouted or fixed in formation as required.
- f. In sub-station where large no. of cables rise to panels/ switchboards, it shall be ensured that these risers do not interfere with cables on racks and rising cables do not interfere with cables on racks and rising cables do not cross the other cables in horizontal runs. Risers are to be properly supported so that weight of cable does not fall on terminations. All cable crossings shall be avoided.
- g. Cable laid in trenches should be sealed at the entry to hazardous area / non-hazardous area as per direction of owner / engineer-in-charge.
- h. Openings in substation basement and floors for entry of cables shall be sealed after the cables are laid.
- i. Cables shall be clamped by taking care to be taken to space clamps at such intervals as to prevent buckling of cables.
- j. The laying of the cable on the racks shall be done in an approved manner and according to the drawings supplied.
- k. Where cables are laid in cable slits, the slits after laying of cables shall be filled with sand & lean cement mixture and plastered so that surface flushes with top of slit.

**3.5.3.3 Directly Buried Cables**

- a. Laying of under ground directly buried cables shall include excavation of earth along the cable route, laying of Hume / GI pipes for road crossing, back filling, ramming, removing of extra earth including supply of bricks, sand etc. as per drawing and instruction of Owner / Engineer- in-Charge.
- b. Where cables are directly laid into ground, trenches should be dug up to such a depth as to ensure that the depth of the top of the entire cable below the ground level is min. 750 mm for medium and low voltage cables, and min.1050 mm for high voltage cables. Before laying of cables at these trenches, bottom of the trench should be properly levelled up and all odd and sharp materials removed. Trench bottom then should be bedded with a 75 mm thick layer of sand. Approval of Owner / Engineer-in-Charge shall be taken for preparation of this bed before laying of cables. Cables shall be laid in the trenches in straight runs. Care shall be taken so that any kinds or bends are not formed. After laying of the cables, bricks shall be placed length wise on both the sides of the cables along the entire length to form trough.
- c. Fill up space between bricks with sand up to height of the bricks. Then place bricks closely width wise on top of the sand layer throughout the length. Fill up loose earth in trench, ram properly to compact, remove extra earth from site. Broken bricks shall not be use for brick working. Only Class-I bricks shall be used.
- d. If new cables are laid to cross existing cables, the new cable shall be laid under



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existing cables at depth of not less than 200 mm from the existing cable. It shall be ensured that the approach of new cable to the crossing is uniform and gradually sloped.

- e. Fix cable markers at 100 Mtrs. apart and at joints on the entire cable route length of the cables. The cable markers shall be made of pre-cast concrete blocks of 300 mm x 350 mm x 350 mm size with markings of "HT CABLE", "LT CABLE", "Depth of Cable", "Arrow Marks" etc. inscribed. These shall be supplied by the contractor at no extra cost and fixed as per directions of the Owner / Engineer-in-Charge. The top of the above concrete slabs shall have a smooth finish with cement only.
- f. Laying of cables under road crossings etc. shall be done in pipes, and pipe ends shall be sealed with bitumen compound and sand as required after cables are laid. Backfilled soil shall be rammed thoroughly to prevent road surface cracking due to settlement of loose soil.

**3.5.3.4 Laying in Readymade Trenches**

- a. RCC slabs / chequered plates lifted from trenches for laying cables shall be put back in position at close of work every day to avoid accident & damage to cables in the trench.
- b. When cables pass through pipes, pipe ends shall be sealed with bitumen compound and sand as required.
- c. Protection pipes shall be provided, whenever cables enter from the floor, trench etc. in the equipment and sealing in and around these pipes shall be done.

**3.5.4 Cable Jointing and Termination**

**3.5.4.1 General**

The scope of work shall include but not limited to the followings:

- a. Soldering / crimping of sockets / ferrules and connections at all joints/ terminations as per specifications. Sockets shall be provided at all terminations except where pressure clamp type terminals are provided.
- b. Glanding of cable and fixing of cable boxes.

**3.5.4.2 Specifications**

- a. HT XLPE cables shall be terminated by use of heat shrink type termination kits.
- b. All LT XLPE power and control cables shall be terminated through compression type gland.
- c. In case of LT XLPE cables, armours shall be suitably earthed in compression type glands. For HT XLPE cables, this shall be done either in glands or by any other suitable means like bonding the armour with suitable wire and connecting same to the earth terminals inside cable box.



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- d. In explosion proof equipment, sealing accessories, where provided in cable box, shall be used for sealing the cable entry to the box and termination.
- e. All lighting and control cables shall be provided with crimped Al / Cu Sockets before termination in junction boxes.

**3.5.4.3 Crimping**

- a. For all power cables, crimping type Al lugs for Al cables and tinned Cu lugs for Cu cables shall be provided. These lugs shall be crimped on the cable conductors by means of special hand/ hydraulic crimping tools. Before crimping the socket inhibiting grease shall be smeared over the conductor. Conductor shall be shaped properly before sliding the socket over it. Crimping shall be done in an approved manner.
- b. All the control cables, which shall be of copper conductor, shall be terminated without any additional lugs in screwed type terminals provided in various equipments.

**3.5.4.4 Jointing**

- a. The jointing shall be done in an approved manner. Care shall be taken not to damage the insulation when opening the cable for jointing.
- b. Before commencing soldering of the socket, conductor shall be thoroughly cleaned and insulation protected. The ferrules shall be thoroughly cleaned. Ferrule and each strand of the cable shall be thoroughly sweated with solder to tin them and fill the conductor gaps to remove all air pockets. Soldering materials of approved quality as per ISS practice shall be used. Taping of the conductors shall be done in an approved manner after crimping / soldering.
- c. Filling up compound and sealing the cable box shall never be done in one operation. After the first pouring of compound, it should be topped up again with compound and then sealed.

**3.5.4.5 STRAIGHT THROUGH JOINTS**

- a. Jointing of XLPE & XLPE cables shall be done with extreme care and manufacturer's instructions shall be strictly followed. Soldering of sockets shall also be done with extreme care as indicated above.

Earth continuity wire shall be plumbed and / or clamped. Compound shall be filled according to the instructions of manufacturers of terminating kit / cable. Joints made inside trench or on rack shall be properly supported. Wherever joints are made inside ground, brick masonry work shall be done around the joint box and filled with sand, and there after covered with earth at no extra cost.

- b. A tent shall be used in all circumstances where jointing work is being done outdoor, for protection against rain and to prevent dust from being blown in to exposed joints



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and jointing materials. Extreme care shall be taken to maintain proper phase sequence while terminating at equipment ends. Records of connection details shall be maintained. Conductors shall be shaped properly while terminating and no sharp bends shall be given. Where numbers of cables are to be connected in parallel, proper tests shall be done before connection, so that no cross connection shall be made. No phase crossings shall be allowed for making the connections.

- c. Cables shall be supported adequately at the entry to cable box / equipment so that load of cable does not come on cable glands.
- d. All cables shall be meggered before and after jointing and insulation values recorded.
- e. While terminating at equipment end, each core shall be properly tagged with numbering ferrules as per nomenclature given in the drawings. Wires should be dressed and clamped neatly, bolting shall be done properly.

**3.5.5 Earthing & Lightning**

**3.5.5.1 General**

- a. Painting of all earth strip joints with anti-corrosive paints shall be carried out as per details given in drawings and instruction of Owner / Engineer-in-Charge.
- b. All electrical equipment rated 415 V and above shall be connected to earth bus by two separate and distinct earth connections. All equipment rated 240 V and below shall be earthed with single earth conductor.

**3.5.5.2 Specifications**

- a. Types and sizes of earthing conductors shall be as indicated in the SOR attached. All earthing installations shall conform to IS-3043 / National building code 2016./ IS / IEC : 62305
- b. Underground conductors shall run at a depth of 600 mm below ground level. Where these conductors run along with cables, they shall be laid at the same depth as cables. Where conductors run on wall, ceilings, they shall be laid on clamps or brackets made out of Al/GI strips.
- c. Wherever, earthing conductor is passing through floor, walls etc. the conductor shall be taken through PVC / GI pipes.
- d. All paints, enamel etc. shall be removed from point of contact before making connections.
- a. Connections between G.I. strips shall be done by welding. For connecting Al conductor / G.I. wire, Al socket shall be crimped on the conductor / wire. At the equipment end, connections shall be done by bolting.
- b. Connection between Al & GI shall be done by bolting. Graphite grease shall be applied on contact surfaces.
- c. Epoxy resin paint or bitumen shall be applied on welded or bolted joints to prevent corrosion and taping done as indicated in the drawing. Connections between Al wires shall be done by crimping back to back Al ferrule.



- d. Earth electrodes - Earth electrodes shall be provided as per drawings / specification. Work includes excavation of earth, installation of electrodes and test links etc., supply and filling of charcoal and common salt, back filling of earth and removal of extra earth as specified earlier. It also includes making brick wall around the electrode and cover as per drawings / specifications. The testing links shall be grouted on brick wall and connections with earth electrode and conductors shall be made. Distance between two electrodes shall not be less than 10 meters and may be located 4 M away from building foundation.
- e. Earth pits for equipment earthing, neutral earthing and lightning protection shall be separate. However, these pits shall be inter-connected.

**3.1.2 Plant / Building Lighting**

3.1.2.1 The electrical installation covered by this specification shall conform to relevant Indian Standards & codes of practices.

3.1.2.2 Erection of light fittings, plug sockets etc.

Fabrication of supports for lighting fittings, sockets, junction boxes / Air condition points / TV points shall be done as per the best practice /relevant drawings / instructions given by the owner / engineer-in-charge. These shall be grouted to walls, ceiling or welded to insert plates, steel structures etc. Insert plates on ceilings shall normally be provided. However, if required, the contractor shall weld such supports to the reinforcement rods after exposing by chipping off concrete at no extra cost. Installation of lighting fittings includes control boxes, where supplied separately and shall be done as per drawings. Before installation, checking of internal parts, assembly of accessories shall be done as per manufacturer's instruction.

3.1.2.3 The explosion-proof fittings shall be earthed through third core of the cable used for wiring. The third pin and body of 16 amps shall be earthed similarly.

3.1.2.4 Installation of explosion proof equipment shall be done strictly following manufacturer's instruction or relevant Standards. Cable termination shall be done as per relevant drawings. No drilling of holes or any change in construction of equipment or part thereof shall be done.

3.1.2.5 Wiring for normal AC supply light points and plugs shall be taken on the same brackets but wiring for emergency DC supply lights shall be taken separately. Drawings for lighting layout give only tentative location of fittings and wiring route shall be decided in consultation with owner / engineer-in-charge. Wiring shall follow shortest possible route and no. of circuit shall be bunched together to the extent possible in the same route.

3.1.2.6 Cable for wiring light points and socket outlets shall normally be laid along wall, ceilings, structures, on suitable brackets made out of M.S. / Al sheets or strips. Connections to the points with fluorescent fixtures in one circuit shall be taken through junction boxes. Junction boxes shall be suitably located for branching off from the circuit to the individual point. Wherever indicated, cables may be laid directly on walls, ceilings etc. by clamping on saddles.





- 3.1.2.7 Wherever indicated, the wire can be drawn through PVC bushings provided in the fittings. Relevant drawings may also be referred to.
- 3.1.2.8 Lamps shall be installed after installation of fittings and wirings.
- 3.1.2.9 All light fittings and corresponding control switches shall be numbered in a permanent way as instructed by owner / engineer-in-charge.

### **3.1.3 ERECTION OF STRUCTURES**

#### **3.1.3.1 Specification**

The fabrication work shall be done as per drawings / specifications / sketches in an approved manner and to the entire satisfaction of owner / engineer-in-charge. The contractor shall take adequate measures to avoid wastage. Scrap quantity shall not exceed 2 % of total quantity used for erection.

#### **3.1.3.2 Erection of racks, risers, supports etc.**

- a. Erection of racks and risers for cable supports shall be done along the cable routes as indicated in the drawings. The contractor before erection shall check the route for any obstruction like process pipe lines, structures, equipment etc. In case of obstructions, the matter shall be brought to the notice of owner / engineer-in-charge in writing and racks shall be re-routed as per his instructions.
- b. As and where indicated in the drawings, supports for racks, risers etc. shall be welded on the steel structure, such as MS beams, pipe trestles, insert plates provided in the RCC column etc. for erection of racks.
- c. Wherever indicated, supports for racks, risers, shall be grouted on walls. The racks, risers etc. shall be installed on such supports and those properly welded.
- d. Opening on walls / floors shall be provided where racks / risers are crossing floors/ walls.
- e. Heavy channels, risers may also be grouted on the floors in addition to supports provided from walls, ceilings, steel structures etc.
- f. As indicated in the drawings, racks and risers shall be erected either in single tier/ multi tier formation.

#### **3.1.3.3 Erection of supports in trench**

- a. Supports and Hangers shall be grouted with rag bolts on the walls of readymade concrete trench.
- b. In existing trench wall, contractor may be required to provide pockets for grouting cable supports at some points. This shall be done without any extra cost to the owner.
- c. In case of requirement of insert plates for support of cable rack, the contractor shall weld such plates to the reinforcement MS rods. This shall be done by chipping the concrete for exposing the reinforcement MS rods and thereafter welding the plates and making good the concrete chipping by plastering.



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- 3.1.3.4 The pipes will have to be bent (wherever required) and fixed / embedded in floor, wall and ground for laying the cables. Neoprene bushes shall have to be fixed at the end of such pipes.
- 3.1.3.5 GI trays of different sizes shall be cut in size and fixed on racks and risers. Fixing of trays shall only be done after erection / welding / painting of the supports as required.
- 3.1.3.6 Erection of support frames for miscellaneous equipments, base channels for transformers and switchboards etc. shall be carried out at no extra cost.
- 3.1.3.7 Dismantling of steel fabrication and re-erecting as required by owner / engineer-in-charge shall have to be carried out by the contractor.
- 3.5.5.3 Dismantling of cable racks and re-erecting as required by owner / engineer in charge shall be carried out by the contractor.

**3.6 GENERAL PROCEDURE FOR TESTING & COMMISSIONING**

- 3.6.1 Before proceeding with the work, contractor shall fully inspect all installed Electrical Equipment for completeness, signs of damages, defects etc. and record all discrepancies noticed. The contractor shall be required to make good / repair / replace the damaged components at no extra cost.

**3.6.2 Testing and Commissioning Requirements**

- a. All works shall be carried out in accordance with the drawings, supplier's instructions / manuals for equipment and as per relevant ISS & Code of Practices.
- b. Before conducting test on any equipment, the contractor shall obtain permission from owner / engineer-in-charge and all tests shall be conducted in their presence.
- c. Results of each test shall be recorded by the contractor immediately after the test on approved performa and counter signed by the owner's authorised representative. The test results shall be furnished in four copies in the form of 'Test Certificates'. Performa for some of the items are given in Appendix-1.
- d. Copies of the record shall be handed over to owner / engineer-in-charge.
- e. The Contractor shall commission all electrical equipment and carry out all pre-commissioning / commissioning tests inclusive of no-load and on-load tests on motors, and shall be responsible for final adjustments of relays, motors, instruments, starters, breakers etc. as per operational data supplied and as per directions of Engineer-in-Charge.
- f. All terminals, cable joints, earth terminals which are opened for testing purposes shall be re-terminated and re-insulated by the Contractor to restore their original state.
- g. Painting

The contractor shall without any extra cost, touch up with paint all electrical equipment which are damaged/ scratched during testing and commissioning work.



The paint used shall match exactly painted surface of the equipment on which touch up is done.

**3.6.3 Cleaning and Regular Maintenance.**

Till the commissioned equipment is finally accepted by owner / engineer-in-charge, Contractor shall be responsible for regular cleaning and maintenance of all electrical equipment. The maintenance job is to be done in consultation with or on advice from the Owner/ Consultant.

**3.7 TESTING & COMMISSIONING SPECIFICATIONS**

**3.7.1** These specifications lay down the testing and commissioning procedures to be followed for each type of equipment, over and above the general requirements laid down in specifications for erection.

Manufacturer's instructions and any other instructions of owner / engineer-in-charge / statutory bodies shall also be followed by the contractor during testing and commissioning.

The contractor shall maintain and furnish the records of all equipments i.e. HT/LT panels, motors, transformers, CT, PT, relays etc. including any special test as per manufacturer's manual.

**3.7.2 Switch Boards**

**3.7.2.1 General Checks**

- a. Check all auxiliary contacts of breakers for proper make / break operation
- b. If necessary, make minor adjustments to circuit breakers mechanism, auxiliary contacts etc. for proper operation of circuit breakers. Proper greasing and lubrication or mechanism shall also be done before final commissioning.
- c. Check for termination of control circuit wiring as per drawing and ensure that the terminals at equipment and panel are mechanically sound.
- d. Ensure proper operation of all test operation switches and push button.
- e. Check wiring of all space heaters, indication lamps bells, buzzers etc.

**3.7.2.2 Insulation resistance test**

- a. Measure the insulation resistance of main bus-bars (Phase to phase & Phase to earth) and circuit breaker with 1000 V Megger (IR values shall generally be not less than 100 MΩ for 11 KV, 50 MΩ for 3.3 KV, 10 MΩ for 415 V).
- b. Control wiring shall be tested with 500 V Megger (IR values shall not be less than 2 MΩ).

**3.7.2.3 High Voltage Test**

The test shall be conducted contacted on switch Gear rated 3.3. KV and above. Test shall be as per relevant Indian Standard. However, for AC high voltage test the value shall be twice the working voltage of the switchgear plus 1000V. This voltage shall be maintained for 1 minute. Each phase shall be tested in turn with remaining



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phases earthed. After high voltage test, a further megger test shall be made to make sure that insulation resistance to earth has not altered appreciably. The reading of second megger test should be consistent with that of the first. (AC test voltage for 1 min. duration shall be 24KV for 11 KV panel and 8 KV for 3.3 KV panel).

**3.7.2.4 Testing of Current Transformer**

- a. Insulation resistance to earth of secondary winding shall be tested with 500 V megger (remove earth connection before test).
- b. Check the polarity of C.T:- Connect zero centre voltmeter in the secondary winding, connect 6 V battery with switch in the primary, close the switch and from the kick of the voltmeter, ascertain the polarity.

**3.7.2.5 Testing of P.T. Insulation**

Testing of H.T. & LT side of P.T. shall be done with 1000 Volts and 500 Volts megger respectively (the value shall not be less than 100 MΩ and 2 MΩ respectively).

**3.7.2.6 Testing of Relays**

- a. Checking of wiring shall be done according to Manufacturer's drawings. Check relay continuity at all taps and also ensure plug bridge contact satisfactory.
- b. Secondary injection test  
Use secondary injection test set incorporating timer. Testing of all protective relays such as but not limited to over current, earth fault, differential, motor protection, under voltage relays etc. shall be done as per the procedure set by the manufacturers of the relays. All time delay relays shall be tested to verify their characteristics for IDMT and instantaneous relay pick up and drop off values shall be noted at various taps. Relays shall be tested at all taps. Errors shall be calculated and compared with permissible limits specified by manufacturers. Adjustment, such as in establishing circuit, shall be done as recommended by manufacturer. After testing, relays shall be set at values given by Consultant.
- c. Timer relay shall be tested and calibrated and set properly.
- d. All auxiliary relays shall be tested for proper operation.

**3.7.2.7 Testing of Instruments**

All indicating and recording instruments like Ammeter, Voltage meter, KWh meter etc. shall be calibrated. Zero error of each instrument shall be corrected.

**3.7.2.8 Operational Test**

Conduct the following operational tests after putting the circuit breaker at test and service position. Check that the fuses of proper rating are put in control circuit as per wiring diagram.

- a. Close and trip the circuit breaker several times with power or manually. In case of motor operated spring charged closing mechanism, check the operation of charging



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- motor. Ensure that it cuts in/ off properly.
- b. Check the indication scheme ON, OFF, trip circuit healthy, auto-trip etc.
  - c. Trip the breaker by operating the protective relays (operate contact manually).
  - d. Check the trip free feature
  - e. Check the anti-pumping feature
  - f. Check operation of voltage selector relay scheme for supply.
  - g. Check annunciation scheme for AC/DC power supply failure.
  - h. Each motor starter shall be tested for correct operation. All operational tests to verify sequence of operation, inter-locking, alarm indication schemes (by simulating the connection) shall be done.
  - i. Bi-metallic type thermal over load relay shall be tested at different settings. Current shall be injected through the thermal elements (three elements can be connected in series) at twice and thrice the set value and tripping time shall be noted. The values shall be compared with the data supplied by manufacturer.
  - j. Single phase prevention relays shall be tested for proper operation.
  - k. Check that fuses of specified ratings are put in various outlets

**Following testing shall also be done**

- a. Wiring check for completeness for all equipment of the Panel.
- b. IR value with 500V Insulation Tester.
- c. Operational check of the Panel by simulation.
- d. All Meters and Indications shall also be checked at site.

**3.7.3 Transformer**

- 3.7.3.1 Final testing before commissioning shall be done in cold condition after drying out the transformer and disconnecting H.V. and L.V. side cables by removing link in disconnecting chamber, cables and also earth connections to neutral.
- 3.7.3.2 At least 1000 Volt megger shall be used for 11 KV winding and manufacturer's test certificates shall be compared for the purpose. 500 Volt megger shall be used for auxiliary power cables and control cable and values shall be preferably more than 2 MΩ.

Polarization Index shall be recorded as below to determine whether drying is necessary or not:-

$$PI = \frac{IR\ 10\ Min}{IR\ 1\ Min}$$

Evaluation of insulation	Base	Drying
condition based	on PI	on PI



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Hazardous	< 1	Mandatory
Bad	1-1.5	Mandatory
Doubtful	1.5 - 2	Recommend
Adequate	2 - 3	No
Good	3 - 4	No
Excellent	> 4	No

**3.7.3.3 Oil Tests**

- Crackle Test: Cleaned Iron piece shall be heated red hot and put in the oil taken in a pot. In case of crackle sound, presence of moisture is indicated.
- Dielectric Strength Test: It shall be done as prescribed in Appendix 'C' of IS: 335. The oil should withstand minimum of 40 KV for 1 minute.

Even oil conditions are found satisfactory in testing after final topping. It is advisable that as an additional precaution, the transformers shall be dried out.

**3.7.3.4 Drying out Procedure**

- Drying out of the transformers shall be carried out in accordance with IS: 10028. Before drying out following points shall be checked:-

- Any oil leakage through bushings and radiators
- Transformer tank is connected to the earth
- Temperature indicators are suitably calibrated and connected

- Precautions when drying :-

Maximum sustained temperature shall not be more than 80°C. Do not leave the transformer unattended during drying out period. Watch the transformer during drying out process and record carefully all observations viz. Oil temperature, winding temperature and insulation resistance of H.V. and L.V. windings. Drying out shall be continued till the insulation resistance value is steady prescribed in Standard Code of practice and IS: 10028 Part-II and steady value remains constant for 12 hours. Within the above period, several samples of oil are to be tested to ascertain dielectric strength. All readings shall be recorded (hourly/ half hourly) for insulation



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resistance and temperature of oil and winding. Sample of transformer oil shall be collected from bottom only. The oil shall be allowed to settle for at least 24 hrs.

In case the insulation value does not improve by the above method, low voltage equal to impedance voltage shall be supplied to HV side for few hours after short-circuiting the LV side. During the process, regular readings of insulation resistance of winding to earth, winding to winding and temperature against time shall be recorded.

If necessary / depending upon the manufacturer's recommendations, a vacuum pressure of 635 mm of mercury shall be applied for removal of air bubble. Hot air shall be released after drying out is done. Vent cocks and screws after release of air shall be closed.

**3.7.3.5 Ratio Test :**

3 phase, 415 volt shall be supplied on HV side for every tap position and reading shall be taken on other side. For every tap changing, supply shall be switched off for off-load changer.

**3.7.3.6 Polarity Test**

3 – phase, 415 volts shall be applied to HV side. One terminal of HV side shall be joined to corresponding terminal of LV side, say A-a. The voltage across A-a, A-b, B-a, B-b, B-c, C-a, C- b, C-c, N-a, N-b, N-c shall be recorded and vector group shall be ascertained.

**3.7.3.7 Phasing for Paralleling Operations**

Two transformers shall be connected on primary side. Terminal 'a' of secondary side shall be connected to bus-bar which corresponds to the equivalent terminal of second transformer. Both transformers shall be at same tap. Then 415 volt, 3 phase supply shall be connected to primary side. Circuit breaker of second transformer shall be closed. The corresponding secondary terminal voltage of two transformers, a1-a2, b1-b2, c1-c2 shall be measured. These voltages shall be zero in case both transformers are of same polarity and phase displacement. Voltmeter of the double reading of voltage of the secondary shall be used for measuring their condition. In case of star connected secondary winding having star joint earthed, secondary terminals need not be connected as stated earlier.

**3.7.3.8 Buchholz Relay Testing**

Air pressure shall be inserted through petcock gently till alarm contacts make. Pressure shall further be increased till trip contact makes. For low oil pressure also check shall be done.

**3.7.3.9 Temperature Indicators**

Temperature indicator shall be calibrated for the alarm contact properly.

**3.7.3.10 Following points shall be checked before commissioning the transformer :-**





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- a. General Inspections
  - i) Assembly of accessories and mounting shall be checked with reference to Drgs.
  - ii) Tightness of all cover bolts, flange etc. shall be checked.
  - iii) Oil leakage through bushings, valve, radiator valve etc. shall be checked.
- b. Oil Level
  - i). Correct level in conservator shall be checked.
  - ii). Oil level in disconnecting chamber and in thermometer pocket shall be checked.
- c. Buchholz Relay

It shall be checked that floats are at normal position and shut off valve between relay & conservator is open.
- d. Breather
  - i). It shall be checked that the protective cover on air passage is removed.
  - ii). Oil level in seal chamber and condition of silica gel shall be checked.
- e. Explosion Vent
  - i). It shall be checked that the diaphragm is intact and no oil visible in gauge glass.
  - ii). Equaliser pipe valve between vent and conservator shall be opened.
- f. Radiator

All the valves between radiator bands and main tank shall be opened.
- g. Thermometer

The connection of C.T. and Heater element for winding temperature indicator shall be checked.
- h. Wiring

Wiring from instruments to marshalling box and to switch board/ control panel shall be checked.
- i. HV and LV Bushing and connections.
  - i). Bushings shall be cleaned and connections shall be checked for outgoing and incoming lines.
  - ii). Gap of arcing horn (HV bushing) shall be checked
  - iii). High pot test and cable and test of transformer shall be completed.
- j. After all checking found O.K., the breaker for incoming of transformer shall be made ON for charging the transformer. It shall be watched for at 24 hrs. without load. Then it can be loaded after finding everything O.K.

3.7.4 **Cables**



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- a. All HT & LT cables shall be tested for insulation resistance with 1000 V megger after termination. IR shall be measured between phases and between phase & earth. The voltage shall be applied for 1 minute.
- b. All HT cables shall be tested for high voltage as per IS: 1255 after making all termination and joints followed by IR test.

**3.7.5 Lighting**

Before energising any lighting circuit, the IR values (phase to phase and phase to earth) shall be recorded for entire wiring installation. The testing shall be done with 500 V megger. After switching on the power supply, load of each circuit shall be measured.

**3.7.6 Earthing**

The continuity of earthing and resistance of each earth pit and grid shall be measured with earth megger.

**3.7.7 Miscellaneous Equipment**

Under this are included, exhaust fans, blowers, limit switches, vibrators, electro-magnets, air pressurisation unit etc. The following tests shall be conducted.

- a. Measurement of insulation resistance
- b. Check up the direction of rotation.
- c. Operational test

**3.8 DOCUMENTATION**

3.8.1 For the purpose of completion certificate, the following documents will be deemed to form completion document:

- a. The technical documents according to which the work was carried out.
- b. Final check-list and completion report.

3.8.2 Three sets of construction drawings showing therein the modifications and correction made during the course of execution signed by Owner / Engineer-in-charge.

3.8.3 Test certificates for the materials purchased by Contractor.

3.8.4 Material appropriation statement for the materials issued by Owner for the works and list of surplus materials returned to Owner's stores duly supported by necessary documents.

3.8.5 No claim certificate by the Contractor certifying that the entire work done by him under the contract has been measured & accepted for the final bill to his satisfaction and that he will have no claim(s) concerning any work(s) or part thereof performed by him under the Contract, to Owner except otherwise indicated in the final bill.

3.8.6 The completion certification shall be issued by Owner within 30 days of the Contractor furnishing documents listed in this clause jointly certified by Owner /



Engineer-in-charge and Contractor's Site Engineer

**3.9 HANDING OVER TO OWNER**

- 3.9.1 The contractor shall hand over the complete installation as a whole. Minor works not specified or mentioned in the scope or SOR but required to complete the job as a whole will have to be done by the contractor without extra cost. Any equipment / installation shall not be deemed as handed over to Owner until the same is complete in all respect and is accepted in writing by the Owner / Engineer-in-charge.
- 3.9.2 The final acceptance of the work shall be after the demonstration of guarantees by the Contractor. Owner shall issue the final acceptance / taking over certificate upon fulfilment of the guarantees.

**3.10 OBLIGATIONS & RESPONSIBILITIES OF CONTRACTOR**

The contractor's obligations and responsibilities shall include but not limited to the following:

- 3.10.1 To deploy skilled, semi skilled and unskilled personnel in requisite numbers and as per scheduled programme so as to complete the WORK as per overall project schedule.
- 3.10.2 To deploy suitably qualified supervisors and engineers in requisite numbers to assure execution of good quality job as per best engineering practices and to the full satisfaction of Owner / Consultants.
- 3.10.3 Safety supervisor shall be deployed at site that monitors safety aspect during the site construction work. Contractor to note that all workers shall use PPE (helmet, safety shoes, hand gloves, goggles, double lanyard safety belt etc. and they shall be medically tested before putting into the job.
- 3.10.4 To prepare detailed planning and execution schedule considering the availability of fronts and materials. This shall be reviewed by Owner / Engineer-in-charge and Contractor shall be required to keep updating the same (as per the instructions of Owner / Engineer-in-charge) to take care of any changes in the availability of fronts and materials and to complete all jobs as per the overall project schedule. Owner / Engineer-in-charge shall in no way be held responsible for such changes.
- 3.10.5 To check for quantity compliance between bill of materials and drawings for cable, structural, earthing materials etc. and intimate Owner / Engineer-in-charge sufficiently in advance regarding discrepancies, if any.
- 3.10.6 To arrange all required tools and tackles, consumables, instruments, erection materials & machineries etc. for handling erection, testing & commissioning of complete electrical installation.
- 3.10.7 To arrange and supply storage tanks for drinking water so as to avoid any inconvenience that may be caused due to interruption in water supply at times.
- 3.10.8 To provide proper storage and security arrangements for his tools, tackles, equipments, materials etc. as well as equipment and materials issued by Owner / Engineer-in-charge to Contractor. Owner / Engineer-in-charge shall not be



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responsible for any loss or damage to items in the custody of Contractor at site for any reason whatsoever.

- 3.10.9 Completion of all repairs arising out of defective work done by Contractor, Owner / Engineer-in-charge may at his discretion require the Contractor to rectify certain defects in materials caused due to bad workmanship of supplier and / or during transportation. For such work of course, the payment modalities shall be settled by mutual agreement before starting such rectification jobs.
- 3.10.10 To maintain all the records for men, materials and execution of job as required by law as well as Owner / Engineer-in-charge.
- 3.10.11 To get his work inspected by Owner / Engineer-in-charge and get approved from statutory agencies such as but not limited to Electrical Inspector, Factory Inspector etc
- 3.10.12 All co-ordination with Statutory Authorities shall be contractor's responsibility. Only statutory fee required for approval shall be paid by the owner.
- 3.10.13 To make arrangements for services such as transport, medical, lighting, canteen etc. for working round the clock.
- 3.10.14 In addition to safety regulations indicated in this enquiry, Owner / Engineer-in-charge may issue certain safety directives, which shall have to be followed meticulously without any reservation.
- 3.10.15 To undertake and execute work and supply as per scope of work, scope of supply and follow Technical Conditions including specification for electrical erection, specification for electrical testing and commissioning and as per schedule of rates
- 3.10.16 Reconciliation of all materials issued by owner / supplied by contractor.
- 3.10.17 Handing over of the completed works to owner / engineer-in-charge as per procedure laid down by HURL.
- 3.10.18 To submit documentation forming part of request for issue of completion certificate.
- 3.10.19 Clearing the site after cleaning the areas where the Contractor executed the job, stored the materials and built his office, fabrication shop etc



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**BoQ Part – A – Civil**

Sr. No.	Item	Line Number	Activity Number/ Material Code	DSR No.	Description of Items	Short Text	UOM	Quantity	Net Rate	Total Amount
1	10	10	11000002260	2.28.1	Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m:All kinds of soil	Surface dressing	M2	<b>12241.50</b>	24.68	₹ 3,02,120.22
2	10	20	11000002261	15.7.4	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge:In cement mortar	Demolishing brick work	Cum	<b>840.00</b>	1489.22	₹ 12,50,944.80
3	10	30	11000002262	15.56	Dismantling old plaster or skirting, raking out joints and cleaning the surface for plaster including disposal of rubbish as directed by Engineer-in charge.	Dismantling old plaster	M2	<b>1980.33</b>	39.50	₹ 78,223.04
4	10	40	11000002263	15.2.2	Demolishing plain cement concrete under floor including disposal of material outside Building premises as directed by Engineer-in-charge:1:4:8 or richer mix.	Demolishing PCC	Cum	<b>195.08</b>	1086.89	₹ 2,12,030.50
5	10	50	11000002264	15.36	Dismantling barbed wire or flexible wire rope in fencing	Dismantling barbed wire	KG	<b>720.00</b>	26.61	₹ 19,159.20



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					including making rolls and stacking within 50 metres lead.					
6	10	60	11000002265	15.42.2	Dismantling C.I. or asbestos rain water pipe with fittings and clamps including stacking th material within 50 metres lead :100 mm dia pipe	Dismantling C.I.	M	<b>1752.00</b>	56.38	₹ 98,777.76
7	10	70	11000002266	15.34.2	Dismantling and stacking within 50 meters lead, fencing posts or struts including all earth work and dismantling of concrete etc. in base of:R.C.C.	Dismantling fencing posts	EA	<b>204.00</b>	179.57	₹ 36,632.28
8	10	80	11000002267	15.23.1	Dismantling of existing tiles/marble floor and wall laid in cement mortar including stacking of serviceable materials as directed. For thickness of tiles 10 mm to 25 mm	Dismantling of existing tiles/marble	M2	<b>6612.00</b>	53.05	₹ 3,50,766.60
9	10	90	11000002268	15.44.1	Dismantling of existing G.I. water supply pipes with all fittings / fixtures / clamps and stacking of serviceable materials as per instruction of Engineer- in charge:15 mm to 40 mm nominal bore	Dismantling of G.I. 15 mm to 40 mm	M	<b>1480.80</b>	108.81	₹ 1,61,125.85
10	10	100	11000002269	15.44.2	Dismantling of existing G.I. water supply pipes with all fittings / fixtures / clamps and stacking of serviceable materials as per instruction of Engineer- in charge: Above 40 mm nominal	Above 40 mm nominal bore	M	<b>1809.60</b>	117.71	₹ 2,13,008.02



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					bore					
11	10	110	11000002270	15.30	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of	Demolishing R.C.C.	Cum	<b>144.00</b>	2567.38	₹ 3,69,702.72
12	10	120	11000002271	15.12	Dismantling doors, windows and clerretory windows (steel or wood) shutter including chowkhats, architravs, holdfasts etc. complete and stacking within 50 m lead:Of area 3 SQM. and below	Dismantling doors, windows 3 SQM.below	EA	<b>1440.00</b>	265.41	₹ 3,82,190.40
13	10	130	11000002272	15.12	Dismantling doors, windows and clerretory windows (steel or wood) shutter including chowkhats, architravs, holdfasts etc. complete and stacking within 50 m lead:Of area be ond 3 SQM.	Of area be ond 3 SQM.	EA	<b>300.00</b>	363.48	₹ 1,09,044.00
14	10	140	11000002273	15.52	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	Dismantling of flushing cistern	EA	<b>192.00</b>	652.87	₹ 1,25,351.04
15	10	150	11000002275	14.82	Dismantling W.C. Pan of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in	Dismantling W.C. Pan	EA	<b>48.00</b>	97.06	₹ 4,658.88





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					Charge.					
16	10	160	11000002276	2.10.1. 2	Excavating trenches of required width for pipes, cables, etc including excavation for sockets and dressing of sides, ramming of bottoms depth up to 1.5 m including getting out the excavated soil and then returning the soil as required in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:Pipes, cables etc exceeding 80 mm dia but not exceeding 300 mm dia	Excavating trenches	M	<b>2287.20</b>	365.94	₹ 8,36,977.97
17	10	170	11000002277	2.30	Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with ½ tonne roller, or wooden or steel rammers, and rolling over 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead upto 5 m and lift upto 1.5 m	Banking excavated earth	Cum	<b>960.00</b>	476.46	₹ 4,57,401.60
18	10	180	11000002278	2.27	Supplying and filling in plinth	filling in plinth	Cum	<b>1080.00</b>	1894.9	₹ 20,46,556.80



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					with sand under floors, including watering, ramming, consolidating and dressing complete	with sand			6	
19	10	190	11000002279	4.17	Making plinth protection 50mm thick of cement concrete 1: :6 (1 cement : 3 coarse san : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size , well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth	Making plinth protection	M2	<b>1320.00</b>	597.68	₹ 7,88,937.60
20	10	200	11000002280	2.31	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared	Clearing jungle	M2	<b>12241.50</b>	12.71	₹ 1,55,589.47
21	10	210	11000002281	2.34.1	Supplying chemical emulsion in sealed containers including delivery as specified:Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	Supplying chemical emulsion	L	<b>960.00</b>	176.15	₹ 1,69,104.00
22	10	220	11000002282	2.35	Diluting and injecting chemical emulsion for POST- CONSTRUCTIONAL anti-termite	Diluting and injecting chemical	M	<b>960.00</b>	28.32	₹ 27,187.20



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					treatment (excluding the cost of chemical emulsion) Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc. With chlorpyrifos/ Lindane E.C. 20% with 1% concentration	emulsion				
23	10	230	11000002283	2.60	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge:All kinds of soil	Earth work in excavation by mechanical m	Cum	<b>1712.31</b>	180.14	₹ 3,08,455.52
24	10	240	11000002284	15.60	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	Disposal of building rubbish	Cum	<b>1712.31</b>	192.33	₹ 3,29,328.58
25	10	250	11000002285	6.1.2	Providing brickwork of class designation 75 in cement mortar	Providing brickwork	Cum	<b>1200.00</b>	5838.01	₹ 70,05,612.00



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					1:6 (1cement: 6 coarse sand) as per instruction of Engineer-in-charge.					
26	10	260	11000002286	6.13.2	Half brick masonry with bricks of class designation 75 in plinth and super structure in cement mortar 1:4 ( 1 cement : 4 coarse sand)	Half brick masonry	M2	<b>2700.00</b>	892.63	₹ 24,10,101.00
27	10	1350	11000002287	4.1.8	Providing and laying plain cement concrete, machine mixed and mechanically vibrated in foundations, plinth, unde floors, etc., including all necessary cost of ce tring and shuttering :1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	PCC 1:4:8	Cum	<b>80.58</b>	5546.7 3	₹ 4,46,955.50
28	10	280	11000002288	4.1.6	Providing and laying plain cement concrete, machine mixed and mechanically vibrated in foundations, plinth, unde floors, etc., including all necessary cost of ce tring and shuttering :1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 40 mm nominal size derived from natural sources)	PCC 1:3:6	Cum	<b>720.00</b>	5848.5 3	₹ 42,10,941.60



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29	10	290	11000002289	4.1.3	Providing and laying plain cement concrete, machine mixed and mechanically vibrated in foundations, plinth, unde floors, etc., including all necessary cost of ce tring and shuttering :1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	PCC 1:2:4	Cum	<b>360.00</b>	6457.8 3	₹ 23,24,818.80
30	10	300	11000002290	5.1.2	Providing and laying in position specified grade of reinforce cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size de rived from natural sources)	RCC 1:1.5:3 plinth	Cum	<b>120.00</b>	7333.8 0	₹ 8,80,056.00
31	10	310	11000002291	5.2.2	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, ab tments, posts and struts etc. above plinth level up to floor five level, excluding cost	RCC 1:1.5:3 V floor	Cum	<b>168.00</b>	8930.3 4	₹ 15,00,297.12



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					of centering , shuttering, finishing and reinforcement :1:1.5:3 (1 cement : 1.5 coarse sand(zon -III) : 3 graded stone aggregate 20 mm nominal size)					
32	10	320	11000002292	5.22.6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	Steel reinforcement	KG	<b>5400.00</b>	78.61	₹ 4,24,494.00
33	10	330	11000002293	5.9.1	Centering and shuttering including strutting, propping etc. and removal of form for :Foundation , footings, bases of columns, etc. for mass concrete	shuttering Foundation	M2	<b>3360.00</b>	270.01	₹ 9,07,233.60
34	10	340	11000002294	5.9.3	Centering and shuttering including strutting, propping etc. and removal of form for :Suspended floors, roofs, landings, balconies and access platform	shuttering Suspended floors	M2	<b>240.00</b>	672.12	₹ 1,61,308.80
35	10	350	11000002295	13.1.1	12 mm cement plaster :1:4 (1 cement : 4 coarse sand)	1:4 (1 cement : 4 coarse sand)	M2	<b>3261.71</b>	258.53	₹ 8,43,249.89
36	10	360	11000002296	13.1.2	12 mm cement plaster :1:6 (1 cement : 6 coarse sand)	1:6 (1 cement : 6 coarse sand)	M2	<b>9516.00</b>	247.26	₹ 23,52,926.16
37	10	370	11000002297	13.16.1	6mm thick cement plaster to	6mm thick	M2	<b>5400.00</b>	221.88	₹ 11,98,152.00



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					ceiling of mix 1:3 (1 cement: 3 fine sand).	cement plaster to ceiling of m				
38	10	380	11000002298	13.44.1	Finishing walls with water proofing cement paint of required shade :New work (Two or more coats applied @ 3.84 kg/10 sqm)	cement paint New work	M2	<b>643.75</b>	85.58	₹ 55,092.13
39	10	390	11000002299	13.41	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :New work (two or more coats) over and including water thinnable riming coat with cement priemer	OBD New work	M2	<b>29104.67</b>	142.53	₹ 41,48,288.62
40	10	400	11000002300	13.90.1	Distempering with 1st quality acrylic distember (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade : Old work (one or more coats) sqm	acrylic distember Old work	M2	<b>960.00</b>	49.80	₹ 47,808.00
41	10	410	11000002301	13.98	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade:	plastic emulsion paint old work	M2	<b>3000.00</b>	79.66	₹ 2,38,980.00
42	10	420	11000002302	13.99	Painting with synthetic enamel paint of approved brand and manufacture of required colour	enamel paint old work	M2	<b>1200.00</b>	75.89	₹ 91,068.00





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					to give an even shade :One or more coats on old work					
43	10	430	11000002303	13.111.2	Finishing walls with Acrylic Smooth exterior paint of required shade :Old work (One or more coat applied @ 0.90 ltr/10 sqm).	Finishing walls with Acrylic Old work	M2	<b>12624.00</b>	65.54	₹ 8,27,376.96
44	10	440	11000002304	13.61.1	Painting with synthetic enamel paint of approved brand and manufacture to give an even Shade :Two or more coats on new work	enamel paint new work	M2	<b>5952.00</b>	115.26	₹ 6,86,027.52
45	10	450	11000002305	13.91	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	Removing dry OBD	M2	<b>40985.74</b>	18.28	₹ 7,49,219.33
46	10	460	11000002306	14.1.2	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 SQMeters and under, including cutting the patch in proper shade, raking out joints and prepring and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge:With cement mortar 1:4 (1cement: 4 coarse	Repairs to plaster	M2	<b>12600.00</b>	419.11	₹ 52,80,786.00



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					sand)					
47	10	470	11000002307	13.26	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to repara the surface even and smooth complete.	plaster of paris putty of 2 mm	M2	<b>41076.00</b>	187.90	₹ 77,18,180.40
48	10	480	11000002308	11.41.2	Providing and laying vitrified floor tiles in different sizes (thickness to specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	vitrified floor tiles	M2	<b>4080.00</b>	1242.13	₹ 50,67,890.40
49	10	490	11000002309	11.38	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make,	Ceramic glazed floor tiles	M2	<b>643.75</b>	970.67	₹ 6,24,868.81



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					in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sq.m including pointing the joints with white cement and matching pigments etc., complete.					
50	10	500	11000002310	11.46.2	Providing and laying Vittrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm	Vitrified tiles	M2	<b>708.00</b>	1285.8 4	₹ 9,10,374.72



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51	10	510	11000002311	8.31	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	ceramic glazed wall tiles	M2	<b>1800.00</b>	932.44	₹ 16,78,392.00
52	10	520	11000002312	17.2.1	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V. C . flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures	W.C. pan	EA	<b>48.00</b>	4858.00	₹ 2,33,184.00



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					complete, including cutting and making good the walls and floors what ever required :W.C. pan with ISI marked white solid plastic seat and lid					
53	10	530	11000002313	17.7.4	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:White Vitreous China Wash basin size 550x400 mm with a single 15 mm C.P. brass pillar tap	Wash basin	EA	<b>96.00</b>	1472.6 9	₹ 1,41,378.24
54	10	540	11000002314	17.10.1 .2	Providing and fixing water closet squattig pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled devic (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:Kitchen sink with drain board 510x1040 mm bowl depth 225 mm	Kitchen sink	EA	<b>48.00</b>	5854.8 0	₹ 2,81,030.40
55	10	1170	11000002504	17.1.1	Providing and fixing water closet	Indian WC	EA	<b>12.00</b>	5069.1	₹ 60,829.68



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					squattig pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled devic (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with intgral type foot rests	pan Orissa			4	
56	10	1180	11000002315	8.2.2.1	Providing and fixing 18 mm thick gang saw cut, mirror polished,pre moulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4(1cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all	Granite upto 0.50 s m	M2	<b>144.00</b>	4102.89	₹ 5,90,816.16



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					levels:Granite of any colour and shade:Area of slab upto 0.50 s m					
57	10	570	11000002316	8.2.2.2	Providing and fixing 18 mm thick gang saw cut, mirror polished,pre moulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4(1cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels:Granite of any colour and shade:Area of slab over 0.50 s m	Granite over 0.50 s m	M2	<b>12.00</b>	3880.18	₹ 46,562.16
58	10	1360	11000002317	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	mirror	EA	<b>96.00</b>	1237.31	₹ 1,18,781.76
59	10	590	11000002318	17.34.1	Providing and fixing toilet paper holder :C.P. brass	toilet paper holde	EA	<b>48.00</b>	596.93	₹ 28,652.64
60	10	600	11000002319	17.71	Providing and fixing PTMT liquid	Liquid soap c	EA	<b>96.00</b>	128.28	₹ 12,314.88





**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					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 less than 105 gms.	container				
61	10	610	11000002320	17.73.2	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:600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	PTMT towel rail	EA	<b>96.00</b>	526.39	₹ 50,533.44
62	10	1190	11000002321	18.7.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.0 m spacing. This includes joining of pipes fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge:15 mm nominal outer dia pipes	15 mm nominal outer dia pipes	RMT	<b>240.00</b>	224.38	₹ 53,851.20
63	10	630	11000002322	18.7.2	Providing and fixing Chlorinated	20 mm	M	<b>2100.00</b>	285.05	₹ 5,98,605.00



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					Polyvinl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.0 m spacing. This includes joining of pipes fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge: 20 mm nominal outer dia pipes	nominal outer dia pipes				
64	10	640	11000002323	18.7.3	Providing and fixing Chlorinated Polyvinl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.0 m spacing. This includes joining of pipes fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge: 25 mm nominal outer dia pipes	25 mm nominal outer dia pipes	M	<b>2520.00</b>	358.22	₹ 9,02,714.40
65	10	1200	11000002324	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931	Providing and fixing C.P. brass angle va	EA	<b>540.00</b>	438.71	₹ 2,36,903.40
66	10	660	11000002325	18.50.1	Providing and fixing C.P. brass long nose bib cock of approved	15 mm Long body bib cock	EA	<b>192.00</b>	626.96	₹ 1,20,376.32



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					quality conforming to IS standards and weighing not less than 810 gms:15 mm nominal bore (Long body bib cock)					
67	10	670	11000002326	18.49.1	Providing and fixing C.P.brass bib cock of approved quality conforming to IS:8931 :15 mm nominal bore (short body bib cock)	15 mm short body bib cock	EA	<b>240.00</b>	380.71	₹ 91,370.40
68	10	680	11000002327	18.52.1	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931:15 mm nominal bore	brass stop cock	EA	<b>96.00</b>	521.48	₹ 50,062.08
69	10	690	11000002328	18.22.2	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :150 mm diameter	brass shower rose	EA	<b>48.00</b>	166.68	₹ 8,000.64
70	10	1210	11000002329	12.41.1	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes:75 mm dia	PVC rain water 75 mm dia	M	<b>180.00</b>	186.76	₹ 33,616.80
71	10	710	11000002330	12.41.2	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for	100 mm diameter	M	<b>216.00</b>	280.36	₹ 60,557.76



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					thermal expansion, (i) Single socketed pipes:100 mm diameter					
72	10	1370	11000002331	12.42.4 .1	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 382, leaving 10 mm gap for thermal expansion:Single tee without door 75x75x75 mm	Single tee without door 75x75x75 mm	EA	<b>60.00</b>	108.90	₹ 6,534.00
73	10	730	11000002332	12.42.4 .2	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 382, leaving 10 mm gap for thermal expansion:Single tee without door 110x110x110 mm	Single tee without door 110x110x110 mm	EA	<b>192.00</b>	167.25	₹ 32,112.00
74	10	740	11000002333	12.42.3 .2	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 382, leaving 10 mm gap for thermal expansion:Single tee	Single tee with door 110x110x110 mm	EA	<b>288.00</b>	180.14	₹ 51,880.32



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					with door 110x110x110 mm					
75	10	750	11000002334	12.42.3 .1	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 382, leaving 10 mm gap for thermal expansion:Single tee with door75x75x75 mm	Single tee with door75x75x75 mm	EA	<b>96.00</b>	124.11	₹ 11,914.56
76	10	760	11000002335	12.42.5 .1	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 382, leaving 10 mm gap for thermal expansion:Bend 87.5° 75 mm bend	Bend 87.5° 75 mm bend	EA	<b>96.00</b>	80.49	₹ 7,727.04
77	10	770	11000002336	12.42.5 .2	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 382, leaving 10 mm gap for thermal expansion:Bend 87.5° 100 mm bend	Bend 87.5° 100 mm bend	EA	<b>288.00</b>	115.74	₹ 33,333.12



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78	10	1220	11000002337	14.28.1	Providing and fixing brass curtain rods of wall thickness 1.25 mm with two brass brackets fixed with brass screws and wooden plugs etc. wherever necessary complete:20 mm dia	brass curtain rods	M	<b>480.00</b>	258.83	₹ 1,24,238.40
79	10	1230	11000002338	17.28.1.2	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete:Flexible pipe 32 mm dia or 40 mm dia	P.V.C. waste pipe	EA	<b>144.00</b>	89.13	₹ 12,834.72
80	10	1240	11000002339	18.48	Providing and placing on terrace (at all floor levels) poly thylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank:Circular Tank of capacity 1000Lit	Circular Tank of capacity 1000Lit	L	<b>36000.00</b>	8.51	₹ 3,06,360.00
81	10	1250	11000002340	18.62.2	Providing and fixing PTMT Ball cock of approved quality, colour and make complete with epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball:20 mm nominal bore, 120 mm long, weighing not less than 198 gms	20 mm nominal bore, 120 mm long, weighing	EA	<b>72.00</b>	195.97	₹ 14,109.84
82	10	1260	11000002341	18.58	Providing and fixing CP grating of approved quality and colour.Jalli of approved make for traps.	Jalli	EA	<b>192.00</b>	29.11	₹ 5,589.12



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83	10	1270	11000002343	9.21.2	Providing and fixing ISI marked flush door shutters conforming to IS: 2202, core of block construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:30 mm thick non-decorative type including ISI marked stainless steel butt hinges with necessary screws.	30 mm thick non-decorative type	M2	<b>120.00</b>	1650.1 1	₹ 1,98,013.20
84	10	840	11000002344	9.9.2.2	Providing and fixing glazed shutter for doors, windows and clerestory windows using 4 mm thick float glass panes including ISI marked butt hinges bright finished of required size with necessary screws. 30 mm thick: Kiln seasoned and chemically treated hollock wood	30 mm thick Kiln seasoned	M2	<b>120.00</b>	2539.7 6	₹ 3,04,771.20
85	10	1280	11000002345	9.1.3	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length ( hold fast lugs or dash fastener shall be paid for separately):Kiln seasoned and chemically treated hollock wood	Kiln seasoned and chemically treated hol	M3	<b>24.00</b>	65058. 92	₹ 15,61,414.08





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86	10	1290	11000002346	9.51.1	Providing and fixing fly proof galvanized M.S. wire gauge to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia 0.63 mm all complete. With 2nd class teak wood beading 62X19 mm	With 2nd class teak wood beading 62X19 m	M2	<b>600.00</b>	1021.3 9	₹ 6,12,834.00
87	10	870	11000002347	9.21.3	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 25 mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. Piano hinges IS: 3818 marked with necessary screws	25 mm thick (for cupboard)	M2	<b>600.00</b>	<b>1604.5</b> 6	₹ 9,62,736.00
88	10	880	11000002348	9.7.8	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts	Fly proof stainless	M2	<b>120.00</b>	1334.1 5	₹ 1,60,098.00



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					excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick :Fly proof stainless steel grade 304 wire gauge with 0.5 mm dia. wire and 1.4mm wide aperture with matching wood beading					
89	10	1300	11000002349	10.25.2	Steel work welded in built up sections/ framed work, including cutting,hoisting, fixing in position & applying priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gatesand similar works	Steel work railing	KG	<b>7800.00</b>	124.77	₹ 9,73,206.00
90	10	1310	11000002350	22.50	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc. by applying cement slurry mixed with Armourcrete of M/s The Structural water proofing Company Pvt. Ltd. or Tapecrete of M/s CICO Engineering Service consisting of applying: a)First layer of slurry of cement @ 0.488 Kg/SQM mixed with Armourcrete	water proofing treatment sunken portion	M2	<b>264.00</b>	452.96	₹ 1,19,581.44



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					or Tapecrete @ 0.253 Kg/SQM. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 Kg/SQM mixed with Armourcrete or Tapecrete @ 0.126 Kg/SQM. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. (The rate includes reparation of surface , treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.					
91	10	910	11000002351	14.89	Providing and fixing APP (Atactic Polypropylene Polymer) modified prefabricated five layer 2 mm thick water proofing membrane , black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87 - 0.89 kg/ litre and viscosity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using Butane torch and sealing all joints etc., and preparing the surface complete. The vital	Providing and fixing APP	M2	<b>2400.00</b>	390.88	₹ 9,38,112.00



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					physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/ 5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacture of membrane including 2mm (for corrugated roof sheets)					
92	10	1320	11000002352	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	Making khurras 45x45 cm	EA	<b>96.00</b>	233.76	₹ 22,440.96
93	10	1330	11000002353	13.18	Neat cement punning.	Neat cement	M2	<b>2280.00</b>	59.45	₹ 1,35,546.00



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						punning.				
94	10	1340	11000002354	19.32	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	With common burnt clay F.P.S. (non modul	EA	<b>24.00</b>	24576.19	₹ 5,89,828.56
95	10	950	11000002355	18.77	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	Cutting holes up to 15x15 cm in R.C.C. f	EA	<b>240.00</b>	330.64	₹ 79,353.60
96	10	960	11000002356	9.89	Providing and fixing chromium plated brass night latch of approved quality including necessary screws etc. complete.	Providing and fixing chromium plated bra	EA	<b>48.00</b>	751.95	₹ 36,093.60
97	10	970	11000002357	18.74	Providing and fixing unplasticised P.V.C. connection pipe with PTMT Nuts, collar and bush of approved quality and colour. 15 mm nominal bore with 45 cm length	Providing and fixing unplasticised P.V.C	M	<b>240.00</b>	94.61	₹ 22,706.40
98	10	980	11000002358	9.101.1	Providing and fixing aluminium	Providing and	EA	<b>624.00</b>	31.13	₹ 19,425.12



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					hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete. Single rubber stopper	fixing aluminium hanging f				
99	10	990	11000002359	9.68.3	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete. 200 mm weighing not less than 120 gms	Providing and fixing oxidised M.S. casem	EA	<b>2784.00</b>	39.63	₹ 1,10,329.92
100	10	1000	11000002360	9.114.2	Providing and fixing magnetic catcher of approved quality in cupboard / ward rob shutters, including fixing with necessary screws etc. complete. 9.114.2 Double strip (horizontal type)	9.114.2 Double strip (horizontal type)	EA	<b>384.00</b>	29.94	₹ 11,496.96
101	10	1010	11000002361	17.60.2.2	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors : Sand Cast Iron S&S as per IS: 1729	Sand Cast Iron S&S as per IS: 1729	EA	<b>60.00</b>	1136.69	₹ 68,201.40
102	10	1020	11000002362	12.43.2	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of	110 mm	EA	<b>1380.00</b>	271.37	₹ 3,74,490.60



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					50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1: 4 (1 cement : 4 coarse sand) and making good the wall etc. complete.110 mm					
103	10	1030	11000002363	9.100.1	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :125 mm	125 mm	EA	<b>3072.00</b>	52.65	₹ 1,61,740.80
104	10	1040	11000002364	9.100.2	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :100 mm	100 mm	EA	<b>1536.00</b>	46.69	₹ 71,715.84
105	10	1050	11000002365	9.97.3	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :200x10 mm	200x10 mm	EA	<b>156.00</b>	79.61	₹ 12,419.16
106	10	1060	11000002366	9.97.4	Providing and fixing aluminium tower bolts, ISI marked, anodised	150x10 mm	EA	<b>156.00</b>	66.24	₹ 10,333.44





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					(anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :150x10 mm					
107	10	1070	11000002367	9.97.5	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :100x10 mm	100x10 mm	EA	<b>2304.00</b>	51.42	₹ 1,18,471.68
108	10	1080	11000002369	9.90.3	Providing and fixing special quality chromium plated brass cupboard locks with six levers of approved quality including necessary screws etc. complete. Size 65 mm	Size 65 mm	EA	<b>384.00</b>	281.54	₹ 1,08,111.36
109	10	1090	11000002371	Non - DSR	Providing & fixing 1.5 M high fencing with M.S.angles posts of standard design placed every 2.5 M apart, embedded in cement concrete block 45x45x60 cm of mix 1:5:10 (1 cement:5 fine sand:10 graded stone aggregate 40 mm nominal size) corner end and every 10 th post to be strutted, provided with G.I.wire	1.5 M high fencing	M	<b>400.00</b>	821.20	₹ 3,28,480.00



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					chain links of size 50 mm x 50mm (mesh) and not less than 10 gauge thickness fixed with G.I. staples including necessary earth work in excavation and backfillin complete in all respect.					
110	10	1100	11000002372	9.76	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	mortice latch	EA	<b>156.00</b>	634.63	₹ 99,002.28
111	10	1110	11000002373	Non - DSR	Renewing glass panes, with putty and nails wherever necessary including racking out the old putty:Float glass panes of nominal thickness 4 mm (weightnot less than 10kg/sqm)	Float glass panes	M2	<b>120.00</b>	825.91	₹ 99,109.20
112	10	1120	11000002374	17.33	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	glass shelf with edges round off,	EA	<b>96.00</b>	826.09	₹ 79,304.64
113	10	1130	11000002375	10.25.1	Steel work welded in built up sections/ framed work, including cutting, hosting, fixing in position and applying a priming coat of approved steel primer usin	Steel work Staircase	KG	<b>12.00</b>	89.65	₹ 1,075.80



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					structural steel etc. as required. In stringers, tr ads, landings etc. of stair cases, including use of chequered plate wherever required, all complete					
114	10	1140	11000002376	12.12	Boring, Supply, Installation, testing & Commissioning of Borewell with submersible pump all accessories. 2 HP, Dia-6", with depth of 200ft (Boring a bore of depth 200 feet approx., dia. of bore: 6 "Minimum 5mm thick PVC pipe ISI marked with sufficient filter length. Pea-gravel along the PVC pipe to be provided. Submersible pump Single phase A.C. supply complete with GI wire of suitable size, copper wire all accessories in all respects. 2 HP (Kirloskar, KSB, CRI, Crompton) with starter panel of suitable capacity Supply assembling, lowering, and fixing in vertical position in bore well, GI Pipe steel Screwed and socketed /plain ended casing pipes of required dia, including required fittings & accessories, all complete, for all depth, as per direction of Engineer In charge. Supply and fixing of Flange with	Boring hole	EA	<b>2.00</b>	46448	₹ 92,895.66



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					provision of crossing of cable, NRV, gate valve with flanged ends, resting clamps for holding of lowered pipes, bore cover plate with suitable size hole for lowered pipe, holding wire for holding of pump, Supply and fixing of tee, Elbow, Reducer, nipple etc. Supply, installation, testing & commissioning of panel.)					
115	10	1150	11000002377	Non - DSR	Supply of submersible pump with capacity of 2 HP with all accessories. (Kirloskar, KSB, CRI, Crompton) with starter panel of suitable capacity includes 1 HP Submersible with motor, Starter panel & 100 meter, 4sq.mm CU flexiable cable. Submersiable Specification:- Nos of Stages forsubmersible pump-15, Pump shaft-Stainless steel grade X 04 Cr 12 / X 12 Cr 12 / X 20 Cr 13 of IS 6603,Cast iron grade FG 200 of IS 210,Single Phase,240 ±10%Volts,50Hz,Type of motor,ISI Marked to IS:9283Numbers of poles of motor-2,Motor rating-1.5 kiloWatt,Maximum current at ratedvoltage and frequency-9 A,	Submersible pump of 2 hp	EA	<b>4.00</b>	22326	₹ 89,305.96



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					Discharge capacity (LPS)-0.33, Discharge Head- 70 meter,,BEE Energy Star Rating-3 Star,Motor Speed -1950RPM Starter Spec:- Starter Rating -1 HP,Single Phase/230v/50Hz,T A,Overload Relay Range-8.9-13.5 A, Ammeter & Voltmeter - Digital,Run Capacitor CapacityMFD 34 mfd,Start Capacitor Capcity(MFD)-200-250 mfd, Cu cable specification:Cable Type : THREE CORE FLATCABLES WITH PVCINSULATION ANDSHEATHED withmultistrand fl exibleCopper Conductor, Size of Cable (Sqmm) :4, Number of cores-3,Material of conductor Copper(EC grade),Shape of conductor-Stranded, Length- 100 meter					
116	10	1160	11000002378	Non - DSR	Any DSR items	Any DSR Items	LS	<b>1.00</b>	100000 0	₹ 10,00,000.00
<b>Part A Civil Total</b>										<b>₹ 7,55,23,192.73</b>



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**BoQ Part – B – Electrical**

Sr. No	Item	Line Number	Service Code/ Material No	DSR No.	Long Text	Short Text	Qty	UOM	Rate	Net Value
1	20	10	2000001931	1.8.1	<b>INTERNAL WIRING:</b> Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required & as per attached technical specification. <b>Group A</b>	1.5 sqmm point wiring - Group A	1800	P	₹ 870.67	₹ 15,67,207.37
2	20	20	2000001932	1.9	Supply & providing point wiring for twin control light point with 1.5 sq. mm FRLS PVC insulated copper conductor single core wire in recessed medium class PVC conduit including cutting the wall and making good the same in case of recessed conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core wire etc. as required inclusive of the cost for providing circuit wiring from	1.5 sqmm Twin control point wiring	480	P	₹ 1,277.51	₹ 6,13,204.73



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					Dis tribution board to switch boards with 2x 2.5 sq. mm alongwith 1 no. 2.5 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.,					
3	20	30	2000001933	1.14.1	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required as per attached technical specification. <b>2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire</b>	Wiring for circuit for 2 X 1.5sqmm	7000	RMT	₹ 204.30	₹ 14,30,074.53
4	20	40	2000001934	1.14.2	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required as per attached technical specification. <b>2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire</b>	Wiring for circuit wiring - 2 X 2.5sqmm	17400	RMT	₹ 241.12	₹ 41,95,528.28
5	20	50	2000001935	1.14.3	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required as per attached technical specification. <b>2 X 4 sq. mm + 1 X 4 sq. mm earth</b>	Wiring for circuit wiring - 2 X 4 sqmm	16990	RMT	₹ 292.85	₹ 49,75,589.65





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					<b>wire</b>					
6	20	60	2000001937	1.21.1	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.as per attached technical specification. <b>20 mm</b>	Supplyin g & fixing PVC conduit - 20 mm	7200	M	₹ 112.23	₹ 8,08,066.64
7	20	70	2000001938	1.21.2	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.as per attached technical specification. <b>25 mm</b>	Supplyin g & fixing PVC conduit - 25 mm	2400	M	₹ 127.14	₹ 3,05,129.33
8	20	80	2000001939	1.21.3	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.as per attached technical specification. <b>32 mm</b>	Supplyin g & fixing PVC conduit - 32 mm	1200	M	₹ 161.33	₹ 1,93,599.30
9	20	90	2000001941	1.24.8	Supplying and fixing following modular type switch/ socket on the existing switch box/ cover including	Supplyin g & fixing Bell Push	55	EA	₹ 122.75	₹ 6,751.42



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					connections etc. as required. <b>Bell Push</b>					
10	20	100	2000001942	1.25	Supply and fixing of fan Regulator		250	EA	₹ 323.54	₹ 80,885.58
11	20	110	2000001943	1.26	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required as per attached technical specification.	Supply & fixing modular blanking Plate	220	EA	₹ 35.07	₹ 7,715.91
12	20	120	2000001944	1.27.1	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required. as per attached technical specification. <b>1 or 2 Module (75 mmX75 mm)</b>	Supply & fixing 1 or 2 Module (75X75 mm)	750	EA	₹ 261.29	₹ 1,95,966.68
13	20	130	2000001945	1.28.1	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required & as per attached technical specification. <b>1 or 2 Module</b>	Supply & fixing modular Base & Cover Plate	750	EA	₹ 116.62	₹ 87,461.64
14	20	140	2000001946	1.31	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.as per attached technical specification.	SI of 5/6A Switch+socket with GI box	1020	EA	₹ 418.24	₹ 4,26,602.37
15	20	150	2000001947	1.32	Supplying and fixing suitable size GI	SI of	370	EA	₹ 513.81	₹ 1,90,109.60



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					box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 A & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.as per attached technical specification.	15/16A Switch+s ocket with GI box				
16	20	160	2000001948	1.56	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providng and fixing 2 Nos. 3 pin 5/6 A modular socket outlet and 2 Nos. 5/ 6 A modular switch, connections etc. as required as per attached technical specification. (For light plugs to be used in non residential buildings).	SI of 2no 5/6A Switch+s ocket with GI box	370	EA	₹ 592.72	₹ 2,19,307.32
17	20	170	2000001949	1.24.2	Supply & fix ing 6A 2-way switch (modular type) complete with GI box, modular base, cover plate etc.	SI of 6A 2-way switch with GI box	420	EA	₹ 129.77	₹ 54,502.41
18	20	180	2000001950	1.57	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 25A modular socket outlet and 25A modular switch/MCB connections etc. as required.as per attached technical specification.	SI of 25A MCB+So cket with GI box	250	EA	₹ 637.44	₹ 1,59,359.93
19	20	190	2000001951	2.4.3	<b>DISTRIBUTION BOARDS</b>	SI of	50	EA	₹ 5,231.92	₹ 2,61,595.79



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					<p>Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required as per attached technical specification.. (But without MCB/RCCB/ Isolator)</p> <p><b>Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required as per attached technical specification.. (But without MCB/RCCB/ Isolator) - 8 way (4 + 24), Double door</b></p>	MCB DB - 8way				
20	20	200	2000001952	2.10.3	<p>Supplying and fixing 5 amps to 32 amps rating, 240 volts, 10KA, 'C' Curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as</p>	SI of Double pole MCB(5-32 A) in MCB DB	1200	EA	₹ 575.19	₹ 6,90,223.59



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					required as per attached technical specification. <b>Double pole</b>					
21	20	210	2000001953	2.11	Supplying and fixing 5 amps to 32 amps rating, 240 volts, 10KA, 'C' Curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required as per attached technical specification. <b>Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.</b>	SI of Blanking Plate in MCB DB	60	EA	₹ 11.40	₹ 683.91
22	20	220	2000001954	2.15.3	Supplying and fixing following rating, four pole, 415 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required as per attached technical specification. <b>63 amps</b>	SI of 63Amp 4-pole RCCB 30mA in MCB DB	54	EA	₹ 2,518.19	₹ 1,35,982.46
23	20	230	2000001955	18.8.7	Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required. <b>100 mm dia</b>	SI of 100mm dia GI pipe	200	M	₹ 1,506.36	₹ 3,01,271.37



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24	20	240	2000001956	18.8.8	Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required. <b>150 mm dia</b>	SI of 150mm dia GI pipe	100	M	₹ 2,082.42	₹ 2,08,242.00
25	20	250	2000001957	14.14.4	Providing,fixing and laying of following dia hume Pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement :2 fine sand) including trenching (75 cm deep) and refilling etc as required. <b>300 mm dia</b>	SI of 300mm Dia Hume pipe	50	M	₹ 999.56	₹ 49,978.08
26	20	260	2000001958	Non - DSR	SUPPLY AND FIXING OF BULK HEAD / WELL GLASS FITTINGS - Wall/Bracketmounted bulk head lighting fix tures complete with bracket, 9W LED bulb eco friendly, having S 900 lumen output, CCT- 6500K, luminous efficacy S 100 lm/watt, CRI>80, life S 40000 burning hours, PF>0.95 and THD<10%, no UV radiation etc. suitable for outdoor installation. - Bulk Heads type FXC 101/PL-S 9W	SI of 9W Bulkhead Light	270	NO	₹ 616.02	₹ 1,66,325.40
27	20	270	2000001959	1.41	Installation , Testing, commissioning of pre-wired fluorescent fitting / compact fluorescent fitting / LED tubelight/ Tube light fitting of all	ITC of LED fittings	1,400.00	NO	₹ 180.62	₹ 2,52,871.55



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					types, complete with all accessories and tube etc directly on ceiling / wall, including connection with 1.5 sqmm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.					
28	20	280	2000001960	19.1	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required	SITC of Ceiling fan	200.00 0	NO	₹ 2,393.69	₹ 4,78,737.40
29	20	290	2000001961	1.50.1	Installation of exhaust fan in the existing opening, Including making good the damage, connection	ITC of Exhaust Fan upto	200	NO	₹ 394.56	₹ 78,912.76





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					testing, commissioning etc as required - Upto 450 mm Sweep	450 mm				
30	20	300	2000001962	1.38	Supplying and fixing call bell / buzzer suitable for single phase, 230 volts, complete as required.	SI of 230V Call bell / buzzer	50	NO	₹ 86.80	₹ 4,340.20
31	20	310	2000001964	Non - DSR	<b>EXTERNAL LIGHTING FEEDER PILLAR</b> Design, Supply, Installation, Testing and Commissioning at site of weatherproof Lighting Sub Distribution Board made of CRCA sheet steel IP-55 execution having minimum thickness 2.0 mm suitable for wall/structure mounting and same shall be suitable for DIN rail mounting MCBs/MCCBs/ RCCBs etc. with provision of both (top & bottom) entry with 3 nos. LED phase indicating lamps in incomers. Required nos. of suitable Elmex/phoenix/ connectwell terminals , crimping ty pe Cu lugs and double compression rolled aluminium cable glands for Incomer and outgoing cable feeders including power and control cable glanding and terminations, handling, transportation from owner's s tore/s torage yard to erection site; unpacking, inspection; dressing of foundation as required; on frame	SITC of 9 way LSDB	3	NO	₹ 30,965.22	₹ 92,895.66



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					<p>works/supports grouted or welded to columns/structures; mounting in position and connecting of loose components and accessories ; drilling of gland plates with required holes or enlarging existing holes for cable entries; fix ing of cable glands and terminal supplied loose; plugging of all unused cable entries in the board/panels to make the same dust and vermin proof, making good of wall/column broken or chipped by cement plastering; minor repair and touch painting work; operational and functional checking; supply of fix ing bolts , nuts and washers and other necessary hardwares and civil masonry materials; all work, labour and materials complete as per drawings &amp; documents, specifications, codes and standards and directions of Engineer-in-Charge. Further please note that termination shall also include drilling, tapping of cable insulation, crimping of lugs to the conductor &amp; connection of the lugs to equipment terminal.</p> <p><b>415V Hose proof and weatherproof industrial type sheetsteel enclosed, 9 way Lighting Distribution Board (LSDB) with</b></p>					
--	--	--	--	--	--	--	--	--	--	--



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					timer for outdoor lighting with IP-55 degree of protection having 1 no, 63A 4P MCCB, 3 nos 63A DP ELCB in phase and 9 nos.16A DP MCBs outgoing as per technical specifications, standards etc.					
32	20	320	2000001965	7.6.1	<b>CABLE LAYING</b> LT (PVC / XLPE / Armoured / Unarmoured / Power / Control / Signalling) Cables LT cables: upto 35sqmm	Laying of LT Cables: upto 35sqmm	6000	M	₹ 24.55	₹ 1,47,303.81
33	20	330	2000001966	7.6.2	<b>CABLE LAYING</b> LT (PVC / XLPE / Armoured / Unarmoured / Power / Control / Signalling) Cables LT cables: above 35sqmm upto 95 sqmm	Laying of LT Cables: above 35 - 95 sqmm	6600	M	₹ 39.46	₹ 2,60,412.10
34	20	340	2000001967	7.6.3	<b>CABLE LAYING</b> LT (PVC / XLPE / Armoured / Unarmoured / Power / Control / Signalling) Cables LT cables: above 95sqmm upto 185sqmm	Laying of LT Cables: above 95 - 185 sqmm	3900	M	₹ 55.24	₹ 2,15,431.83
35	20	350	2000001970	9.1.26	<b>CABLE TERMINATION</b> End termination and subsequent testing of XLPE insulated single core/multi core armoured cables of 11KV/1.1KV grade, Al/Cu cable., including supply of termination kits, glands & lugs, all labour and consumable materials to make	ET of 3.5X150 sq. mm	20	EA	₹ 611.14	₹ 12,222.71



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					<p>installation complete in all respect. The rate shall include drilling, taping of cable insulation, crimping of lugs to the conductor, connection of the lugs to equipment terminal, supply and fixing of supports &amp; clamps for HT cables, G.I. nuts, screws, bolts, washers and other necessary hardware, PVC tape of required grade for taping, making cable entries dust and vermin proof, earthing etc. as per instruction of manufacturer, approved drawings, specifications and directions of engineer-in-charge.</p> <p><b>1.1KV Grade, XLPE Insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables Stranded Cu/Al Conductor cables.</b></p> <p>3.5X150 sq. mm (Al)</p>					
36	20	360	2000001972	9.1.22	<p><b>CABLE TERMINATION</b></p> <p>End termination and subsequent testing of XLPE insulated single core/multi core armoured cables of 11KV/1.1KV grade, Al/Cu cable., including supply of termination kits, glands &amp; lugs, all labour and consumable materials to make installation complete in all respect. The rate shall include drilling, taping of cable insulation, crimping of lugs</p>	ET of 3.5X50 sq. mm	100	EA	₹ 362.12	₹ 36,212.19



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					to the conductor, connection of the lugs to equipment terminal, supply and fixing of supports & clamps for HT cables, G.I. nuts, screws, bolts, washers and other necessary hardware, PVC tape of required grade for taping, making cable entries dust and vermin proof, earthing etc. as per instruction of manufacturer, approved drawings, specifications and directions of engineer-in-charge. <b>1.1KV Grade, XLPE Insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables Stranded Cu/Al Conductor cables.</b> 3.5X50 sq. mm (Al)					
37	20	370	2000001973	9.1.33	<b>CABLE TERMINATION</b> End termination and subsequent testing of XLPE insulated single core/multi core armoured cables of 11KV/1.1KV grade, Al/Cu cable., including supply of termination kits, glands & lugs, all labour and consumable materials to make installation complete in all respect. The rate shall include drilling, taping of cable insulation, crimping of lugs to the conductor, connection of the lugs to equipment terminal, supply and fixing of supports & clamps for	ET of 4X16 sq. mm	100	EA	₹ 270.93	₹ 27,093.38



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					<p>HT cables, G.I. nuts, screws, bolts, washers and other necessary hardware, PVC tape of required grade for taping, making cable entries dust and vermin proof, earthing etc. as per instruction of manufacturer, approved drawings, specifications and directions of engineer-in-charge.</p> <p><b>1.1KV Grade, XLPE Insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables Stranded Cu/Al Conductor cables.</b></p> <p>4CX16 Sq.mm. (Al)</p>					
38	20	380	2000001974	Non - DSR	<p><b>CABLE TERMINATION</b></p> <p>End termination and subsequent testing of XLPE insulated single core/multi core armoured cables of 11KV/1.1KV grade, Al/Cu cable., including supply of termination kits, glands &amp; lugs, all labour and consumable materials to make installation complete in all respect. The rate shall include drilling, taping of cable insulation, crimping of lugs to the conductor, connection of the lugs to equipment terminal, supply and fixing of supports &amp; clamps for HT cables, G.I. nuts, screws, bolts, washers and other necessary hardware, PVC tape of required</p>	ET of 3X2.5 sq. mm	60	EA	₹ 154.83	₹ 9,289.80



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					grade for taping, making cable entries dust and vermin proof, earthing etc. as per instruction of manufacturer, approved drawings, specifications and directions of engineer-in-charge. <b>1.1KV Grade, XLPE Insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables Stranded Cu/Al Conductor cables.</b> 3CX2.5 Sq.mm. (Cu)					
39	20	390	2000001976	9.4.23	Supplying and making of straight through joint with heat shrinkable kit including ferrules and other jointing materials for following size of PVC sheathed/XLPE aluminium conductor cable of 1.1 KV grade as per requirement. <b>3.5X150 sq. mm (Al)</b>	Supply & Straight Joint of 3.5X150 sqmm	4	EA	₹ 3,978.96	₹ 15,915.83
40	20	400	2000001977	5.2	Supply, Installation, Testing & Commissioning ,Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	SITC of 4.5m 40mm Dia GI Earth Electrode	30	EA	₹ 6,010.52	₹ 1,80,315.65
41	20	410	2000001978	5.9	Supply & fixing of 25mm x 5mm GI strip on surface / recess / under ground for earth connection as	SI of 25 x 5 mm GI Strip	600	M	₹ 126.26	₹ 75,756.25





**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					required.					
42	20	420	2000001979	5.12	Supply and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	SI of 6 SWG GI wire	750	M	₹ 251.64	₹ 1,88,733.01
43	20	430	2000001980	Non - DSR	Providing Earthing with GI strip of the following sizes including supply and laying of GI strip and connecting consumables, all complete with labour and materials as per direction of Engineer-in-Charge. <b>50 X 6 MM GI STRIP</b>	SI of 50 X 6 MM GI Strip	1000	M	₹ 125.05	₹ 1,25,050.00
44	20	440	2000001981	Non - DSR	Providing Earthing with GI strip of the following sizes including supply and laying of GI strip and connecting consumables, all complete with labour and materials as per direction of Engineer-in-Charge. <b>75 X 10 MM GI STRIP</b>	SI of 75 X 10 MM GI Strip	100	M	₹ 269.00	₹ 26,900.00
45	20	450	2000001983	Non - DSR	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Supply and Structural steel work	4700	KG	₹ 50.53	₹ 2,37,491.00
46	20	460	2000001984	Non - DSR	Supply, Fabrication and Installation of 8mm thick chequered plate in flooring, steps, covers over cable trenches in switch board room, painting with one coats of bitumen paint in the 50% thinner with two coats of black bitumen paints	Supply, Fabrication & Installation of 8MM Chequered Plate	600	KG	₹ 40.25	₹ 24,150.00



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					including supply of all consumables and paints.					
47	20	470	2000001985	2946	Supplying and spreading of approved quality fine dry river sand in cable trenches including the cost of all material, transport, load and lift charges, labour, tools and tackles, consumables etc., as per drawings, specification and directions of Site Engineer / Engineer-in-Charge.	Supply & spreading of Sand	680	M3	₹ 789.13	₹ 5,36,606.75
48	20	480	2000001986	2945	Supply and laying of approved quality 75 mm thick second class brick flat soling with sand filling in the interstices, in cable trenches for protection including the cost of all brick and sand, labour, load and lift charges, tools and tackles etc., as per drawings, specification and directions of Site Engineer / Engineer-in Charge.	Supply & Laying of Brick	25000	NO	₹ 4.73	₹ 1,18,369.14
49	20	490	2000001987	Non - DSR	Supply and making cable route marker with cement concrete (1:2:4) (1: cement, 2 coarse, 4: graded stone aggregate 20 mm nominal size) of size 60cm x 60 cm at the bottom and 50 cm x 50 cm at the top with a thickness of 10 cm including incscription duly engraved as required.	SI of cement cable route marker	60	NO	₹ 317.66	₹ 19,059.60
50	20	500	2000001988	14.6	Excavating Trenches by Mechanical /	Earth	2000	M3	₹ 1,065.32	₹ 21,30,644.45



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					Manual means of required width for pipes, cables etc including excavation for sockets and dressing of sides, ramming of bottoms for depth upto 1.5m, including getting out the excavated soil and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering etc and disposing of surplus excavated soil as directed, within a lead of 50m. - all kinds of soil - Pipes, cables etc	Excavation for all kinds of soil				
51	20	510	2000001989	14.3	Filling available excavated earth (excluding rock) in trenches, Plinth, sides of foundation etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, Lead upto 50m and for all lift upto 1.5m	Backfilling of Excavated Earth	1700	M3	₹ 223.59	₹ 3,80,096.45
52	20	520	2000001990	Non - DSR	Supply and installation of shock hazard chart as per IE Rules 1956 (Clause-44) complete with frame and glass including necessary clamps, bolts, rawl plugs, etc. breaching and making good the wall if required. All complete with labour and materials as per	SI of shock hazard chart	2	EA	₹ 389.57	₹ 779.14
53	20	530	2000001991	Non - DSR	Supply & fixing MV danger notice plate of 200 mm x 150mm, made of	SI of MV danger	5	EA	₹ 141.65	₹ 708.25



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					mild steel sheet of at least 2mm thick & vitreous enamelled white on both sides and with inscription in signal red colour on front side as required.	notice plate				
54	20	540	2000001992	Non - DSR	Supply of First aid box containing material as prescribed by St. John Ambulance brigade OR Indian Red Cross complete as required.	SI of First Aid Box with required materi	2	EA	₹ 895.89	₹ 1,791.78
55	20	550	2000001993	Non - DSR	Supply and laying of 2 meter by 1 meter rubber mat of 3mm thickness suitable for 11kV as per IS 15652:2006 and as per direction of Engineer-in-Charge.	SI of 11kV insualated rubber mat	15	EA	₹ 1,235.42	₹ 18,531.30
56	20	560	2000001994	Non - DSR	Supply & fixing of 1nos. Dos & don't chart and other accessories.	Supply & fixing of Dos & don't chart	2	NO	₹ 247.72	₹ 495.44
57	20	570	2000001995	Non - DSR	Supply & fixing of fire extinguisher co2 type 4.5 Ltr capacity slunder and other accessories.	SI of fire extinguisher co2 type 4.5 Ltr	5.000	NO	₹ 1,734.05	₹ 8,670.25
58	20	580	2000001996	Non - DSR	<b>METER DISTRIBUTION BOARD/ Distribution Board</b> Supply & installation of Wall mounted Meter Distribution Board complete with 63A Fuse, Meter and 63A Isolator suitable for installation	SI of Meter Distributi on Board	52	NO	₹ 6,193.04	₹ 3,22,038.08



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
(A JOINT VENTURE OF CIL, NTPC, IOCL, FCIL & HFCL)

					of 3 phase, 4 Wire, 415V, two no. earthing stud provided house service type (18.5KW) Meter for Type IV quarters					
59	20	590	2000001997	Non - DSR	Supply, unloading, Handling, Storage, transporation within site, Erection, Installation, testing and commissioning etc. of following floor / wall mounted Distribution Boards/Sub distribution board having minimum IP-55 protection, Aluminium Bus Bar with Color Coded Heat Shrinkable Sleeves, storage, handling, site trasporation from store to site of installation, including supply and fabrication of epoxy painted MS frame, operational and functional checking, drilling of gland plates with requisite holes, supply & fix ing ofsuitable double compression nickel plated brass/rolled Al cable glands & suitable lugs, termination ofall power and control cables, shrouding,plugging ofall unused cable entries and other holes found in the boards to make the same dust and vermin proof with all labour and consumable materials to make installation complete of following Distribution	SITC of 12 way, 250A I/C MCCB MPDB	5	NO	₹ 3,71,582.65	₹ 18,57,913.25



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
(A JOINT VENTURE OF CIL, NTPC, IOCL, FCIL & HFCL)

					Boards as specified in Technical Specification attached SLD, data sheets, drawings, specifications and directions of engineer-in-charge <b>415V, 3Ph &amp; N, IP55 Hose proof and weatherproof industrial type wall/structure/floor mounted sheetsteel enclosed, Main Power Distribution Board (MPDB)/Feeder Pillar box (FPB) , IP-55 degree of protection, cubical type, Auminium bus bar with colour coded heatshrinkable sleeve having 1 no. 250 4P MCCB I/C with R,Y, B indication lamps with 12 nos 63A TPN MCCB Outgoing Feeders as indicated in feeder details with ammeter &amp; Voltmeter as per Technical specifications (For type 4 quarters)</b>					
60	20	600	2000001998	Non - DSR	Supply, installation, testing and commissioning of BEE 5 Star 3lts Geyser including with 16A 3 pin plug Top	SITC of BEE 5 Star 3ltrs Geyser	48.000	NO	₹ 2,477.22	₹ 1,18,906.56
61	20	610	2000001999	Non - DSR	Supply, installation, testing and commissioning of BEE 5 star 25lts Geyser including with 16A 3 pin plug Top	SITC of BEE 5 Star 25ltrs Geyser	48.000	NO	₹ 5,883.39	₹ 2,82,402.72
62	30	30	M7400000003	Non - DSR	Supply of High quality LED tube batten complete with 1X20W tube	1X20W LED	1100	NO	₹ 143.09	₹ 1,57,399.00



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					(T8) eco friendly, having S 2000 lumen output, CCT- 6500K, IP-20, luminous efficacy S 100 lm/watt, CRI>80, life S 40000 burning hours, PF>0.95 and THD<10%, no UV radiation etc. suitable for ceiling/wall mounted	TUBE BATTEN( T5)				
63	40	40	M7400000026	Non - DSR	Supply of Wall mounted high quality LED tube batten complete with single 10W tube (T8) eco friendly, having S 900 lumen output, CCT- 6500K, IP-20, luminous efficacy S 100 lm/watt, CRI>80, life S 40000 burning hours, PF>0.95 and THD<10%, no UV radiation etc.	1x10W LED tube light (T8)	380	NO	₹ 136.08	₹ 51,710.40
64	50	50	M7401000013	Non - DSR	Supply of 240VAC 1 phase 100W outdoor light with LED lamp in weatherproof & hose proof light Min IP55, fixture complete with driver ,cable glands and other accessories, suitable for 3 X 2.5mm2 (Cu) cable and stopping plug for outdoor area.	100W FLOOD LIGHT SAFE AREA	55	NO	₹ 1,978.63	₹ 1,08,824.65
65	60	60	M1607070004	Non - DSR	Supply of 250 mm sweep single phase exhaust fan with guards / louvres, along with necessary brackets	DOMESTIC EXHAUST FAN 250MM	200	NO	₹ 617.73	₹ 1,23,546.00
66	70	70	M7200020011	Non - DSR	<b>1.1KV grade LT cable (Power/Control)</b> Supply of 1.1 kV grade (UE) , Al/Cu	3.5CX15 OSq.mm. (Al)	2000	M	₹ 391.85	₹ 7,83,700.00





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					conductor, XLPE insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables conforming to IS 7098 (Part-I) amended upto date & as per technical specification of following sizes: <b>3.5CX150Sq.mm. (Al)</b>					
67	80	80	M7200020043	Non - DSR	<b>1.1KV grade LT cable (Power/Control)</b> Supply of 1.1 kV grade (UE) , Al/Cu conductor, XLPE insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables conforming to IS 7098 (Part-I) amended upto date & as per technical specification of following sizes: <b>3.5CX50 Sq.mm. (Al)</b>	3.5 C X 50 Sq.mm. (Al) armoured	6000	M	₹ 155.33	₹ 9,31,980.00
68	90	90	M7200020002	Non - DSR	<b>1.1KV grade LT cable (Power/Control)</b> Supply of 1.1 kV grade (UE) , Al/Cu conductor, XLPE insulated, PVC inner sheathed, armoured, FRLS PVC outer sheathed cables conforming to IS 7098 (Part-I) amended upto date & as per technical specification of following sizes: <b>4CX16 Sq.mm. (Al)</b>	4C x 16 mm2 (Al) Armoured Cable	1000	M	₹ 76.32	₹ 76,320.00
69	100	100	M7200090001	Non - DSR	<b>1.1KV grade LT cable (Power/Control)</b> Supply of 1.1 kV grade (UE) , Al/Cu conductor, XLPE insulated, PVC inner	3C x 2.5 mm2 (Cu) armoured	1000	M	₹ 73.97	₹ 73,970.00



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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					sheathed, armoured, FRLS PVC outer sheathed cables conforming to IS 7098 (Part-I) amended upto date & as per technical specification of following sizes: <b>3CX2.5 Sq.mm. (Cu)</b>	d cable				
70	110	110	M2105050001	Non - DSR	Supply of floor mounting stand for keeping 4No of fire bucket 1500mm length, 900mm height made out of 40x40x6mm angle iron welded with 4 hooks and duly painted with one coat of red lead and two coats of enamel paint as per direction of Engineer-in-Charge.	SUPPLY FIXING SAND BUCKET	5	NO	₹ 930.19	₹ 4,650.95
<b>Part B Electrical Total</b>										<b>₹ 2,79,30,514.58</b>

Sr. No	Description	Amounts
1	Civil Total	₹ 7,55,23,192.73
2	Electrical Total	₹ 2,79,30,514.58
<b>Total</b>		<b>₹ 10,34,53,707.31</b>



**HINDUSTAN URVARAK & RASAYAN LIMITED, BARAUNI**  
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Validate Print Help

Percentage BoQ

Tender Inviting Authority: Chief Manager, C&M, HURL - Barauni.

Name of Work: Renovation of Old HFCL 48 Nos. Type IV Quarters at Township, HURL Barauni

Contract No: HURL/BR/CC/25-26/2027

Name of the Bidder/ Bidding Firm / Company :						
<b>PRICE SCHEDULE</b>						
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only )						
NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Estimated Rate in Rs.	TOTAL AMOUNT Without Taxes in Rs.	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
10	Renovation of Old HFCL 48 Nos. Type IV Quarters at Township, HURL Barauni					
10.10	Civil Works (Refer Section-V of NIT for detailed BoQ)	1.00	LS	7,55,23,192.73	7,55,23,192.73	INR Seven Crore Fifty Five Lakh Twenty Three Thousand One Hundred & Ninety Two and Paise Seventy Three Only
10.20	Electrical Works (Refer Section-V of NIT for detailed BoQ)	1.00	LS	2,79,30,514.58	2,79,30,514.58	INR Two Crore Seventy Nine Lakh Thirty Thousand Five Hundred & Fourteen and Paise Fifty Eight Only
Total in Figures					10,34,53,707.31	INR Ten Crore Thirty Four Lakh Fifty Three Thousand Seven Hundred & Seven and Paise Thirty One Only
Quoted Rate in Figures					-	INR Zero Only
Quoted Rate in Words		INR Zero Only				

# HINDUSTAN URVARAK & RASAYAN LIMITED

(A JOINT VENTURE OF CIL, NTPC, IOCL, FCIL & HFCL)

## BARAUNI UNIT

Barauni Urvarak Nagar, Begusarai

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115

[Registered Office SCOPE Minar, Core 4, 9TH Floor, Laxmi Nagar District Center, Delhi-110092]



## SECTION – VI

### ***FORMS AND PROCEDURES (NIT)***

## **INDEX**

<b>Annexure</b>	<b>Description</b>
1	Techno-Commercial Proposal Bid Form
2	Format for Electronics Payment
3	Tender Acceptance Letter & Letter of authorization to submit bid
4	No deviation Certificate
5	Certificate from CEO/MD/ Legally Authorized Signatory
6	Acceptance to Fraud Prevention Policy of HURL
7	Certificate related to Restrictions on procurement from a Bidder of a country which shares a land border with India
8	Format of Bank Guarantee for Bid Security
9	Format of Performance Bank Guarantee
10	Bank Guarantee Verification Checklist
11	Format for Contract Agreement
12	Work orders subject to tender for qualification
13	Bid Security Declaration Form
14	Self-Certification under Preference to “MAKE IN INDIA” Policy.
15	DECLARATION OF GST (A&B).
16	Proforma of NO DEMAND CERTIFICATE

## TECHNO-COMMERCIAL PROPOSAL BID FORM

(To be Submitted on the Letter Head of Bidder)

**Bidder's Techno-Commercial Proposal Ref. No.:**

Bidder's Name &amp; Address :

Date:

Person to be contacted :

Designation :

Tel. No(s). :

Mobile No. :

Fax No(s). :

E-mail address:

To

Manager (C&amp;M),

HURL Admin Building Office,

Hindustan Urvarak &amp; Rasayan Limited, Barauni,

(A JV of CIL, NTPC, IOCL, FCIL &amp; HFCL)

P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.

Dear Sirs,

1.0 Having examined the Bidding Documents bearing No. .... Dated..... including its subsequent amendments and clarifications, if any, issued by Owner, the receipt of which is hereby acknowledged, we the undersigned, offer to complete the work under the above-named Package in full conformity with the said Bidding Documents and hereby furnish our Techno-Commercial Proposal.

2.0 We have understood the instructions and the terms & conditions mentioned in the Bidding Documents furnished by you and have thoroughly examined the specifications laid down by you in the Bidding Documents and are fully aware of the nature of consultancy services required.

**Attachments to the Bid form (Techno-Commercial Bid):**

In line with the requirement of the Bidding Documents we enclose herewith the following Attachments to the Bid Form (Techno-commercial) Bid:

Table 1 : Attachments to the Bid form	
Sr. No	Documents
1	Power of Attorney as per requirement mentioned in NIT.
2	Signed, Stamped and Scanned copy of proof for payment of Earnest Money Deposit (EMD) / <del>MSE Certificate with applicable annexure form for exemption.</del>
3	Signed, Stamped and Scanned copy of Certificates like Registration certificate, GST No, PAN No, PF, etc.

4	Signed, Stamped and Scanned copy of Format for Electronics Payment (Enclosed as Annexure-2 to Forms and Procedures i.e., Section VI)
5	Signed, Stamped and Scanned copy of Tender Acceptance Letter (Enclosed as Annexure-3 to Forms and Procedures i.e., Section VI)
6	Documents as required in accordance with Qualifying Requirements / Pre-Qualification Criteria (PQC) i.e., <u>Clause 7</u> of NIT
7	Signed, Stamped and Scanned copy of No deviation Certificate (Enclosed as Annexure-4 to Forms and Procedures i.e., Section VI)
8	Signed, Stamped and Scanned copy of Certificate from CEO/MD/ Legally Authorized Signatory, in the format as enclosed as Annexure-5 to Forms and Procedures i.e., Section VI.
9	Acceptance to Fraud Prevention Policy of HURL, for which the bidder has to submit Signed, Stamped and Scanned copy of Form of Acceptance of Fraud Prevention Policy of HURL. (Enclosed as Annexure-6 to Forms and Procedures i.e., Section VI).
10	Certificate related to Restrictions on procurement from a Bidder of a country which shares a land border with India” i.e. (Enclosed as Annexure-7 to Forms and Procedures i.e., Section VI).
11	Work orders subject to tender for qualification as per Annex – 12 with clearly mentioning Purchase order details relevant to tender based on which PQC can be achieved. Not to be mentioned as “As Attached”/ “mentioned in Bid”/ etc.
12	Declaration of GST (annexure -15) Signed, Stamped and Scanned copy of Declaration of GST (Enclosed as Annexure-15 to Forms and Procedures i.e., Section VI).
13	Signed, Stamped and Scanned copy of Bid Security Declaration Form (Enclosed as Annexure-13 to Forms and Procedures i.e., Section VI).
14	Signed, Stamped and Scanned copy of GCC, SCC & Scope of Work (i.e. Section-V) of tender document.
15	Any Other Document asked for in the Bidding Document

### 3.0 COMPLIANCE TO THE PROVISIONS OF THE BIDDING DOCUMENTS

3.1 We have read all the provisions of the Bidding Documents and confirm that notwithstanding anything stated elsewhere in our bid to the contrary, the provisions of the Bidding Documents, are acceptable to us and we further confirm that we have not taken any deviation to the provisions of the Bidding Documents anywhere in our bid.

We have furnished our compliance to the provisions of the Bidding Documents and its subsequent Amendment(s)/Clarification(s)/Addenda/Errata by furnishing “NO DEVIATION CERTIFICATE”.

We hereby confirm that any deviation, variation or additional condition etc. or any mention, contrary to the provisions of Bidding Documents and its subsequent Amendment(s)/Clarification(s)/Addenda/Errata (if any) found anywhere in our bid proposal, implicit or explicit shall stand unconditionally withdrawn, without any cost implication whatsoever to the Owner, failing which our bid security shall be forfeited.

3.2 We further declare that additional conditions, variations, deviations, if any, found in the bid, shall not be given effect to.

3.3 We further declare that we have read and understood all sections (I to VI) of the tender document, endorse all the sections and submitting the bids.

4.0 We undertake, if our bid is accepted, to commence the work immediately upon your Notification of Award to us.

5.0 We agree to abide by this bid for a **period 90 days** from the date of opening of Techno-Commercial bids as stipulated in the Bidding Documents and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

6.0 Until a formal Contract Agreement is prepared and executed between us, the bids, together with your written acceptance thereof in the form of your Notification of Award shall constitute a binding contract between us.

7.0 We understand that you are not bound to accept our bid or any other bid you may receive.

8.0 We, hereby, declare that only the persons or firms interested in this proposal as principals are named here and that no other persons or firms other than those mentioned herein have any interest in this proposal or in the Contract to be entered into, if the award is made on us, that this proposal is made without any connection with any other person, firm or party likewise submitting a proposal, is in all respects for and in good faith, without collusion or fraud.

9.0 We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.

10.0 We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

11.0 We hereby declare that we have completed Annexure-12 - Tender Qualification form and provided clear details of the purchase order number and ATO information for verification and evaluation of the prequalification criteria. We acknowledge that failure to provide the mentioned details may lead to the rejection of our bid, and we understand that no claims will be entertained in such a case.

Dated this. \_\_\_\_ day of

Thanking you,

Date :

Place : \_\_\_\_

Yours faithfully,

(authorized signatory Name).

(Designation)

Company Seal



**Format For Electronics Payment**

Bidders are required to submit the following details on the company's letter head for online transfer of amount to their account:

1.	Contractor Name / Company Name	
	Address:	
	Phone No.	
	E-mail ID	
2. a	Name of the Bank	
b.	Address of the Branch	
c.	Telephone No.	
d.	9 Digit Code number of the Bank and Branch appearing on the MICR Cheque issued by the Bank	
e.	11 Digit NEFT/IFSC Code of the Bank Branch	
f.	Account Type (SB/CC/CA)	
g.	Bank Account No.(as appearing on the Cheque)	
h.	Permanent Account Number (PAN) Under Income Tax Act.	
i	GST Registration Number	
j.	Name of Authorized Signatory	
k.	Contact Person Name	

**# Attach Cancelled cheque as supporting to Annexure -2**

We hereby declare that the particulars given above are correct and complete

Authorized signatory of the bidder

Name

Designation

Date

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

Date:

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference 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 from Page No. to (including all documents like annexure(s), schedule(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 have 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. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.
6. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,  
(Signature of the Bidder, with Official Seal)

**DECLARATION FOR “NO DEVIATION”****(To be submitted on the Letter Head of the Bidder duly signed by Authorized Signatory)**

1. With reference to our Bid Proposal No. .... dated ..... For ...(Name of Package to be mentioned)....., 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 & Financial Bid and we declare that we have not taken any deviation / exceptions in this regard.

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 Financial Bid, implicit or explicit, shall stand unconditionally withdrawn, without any cost implication whatsoever to the Owner, failing which the Bid Security shall be forfeited.

Yours faithfully,  
(Signature)

Date:

Name & Designation.....

Place:

Name of the Company.....

(Seal of Company) .....

**PROFORMA OF CERTIFICATE**  
**(TO BE SUBMITTED BY CEO/MD/ LEGALLY AUTHORISED SIGNATORY OF THE BIDDING**  
**COMPANY ON COMPANY'S LETTER HEAD IN ORIGINAL)**

Ref.

: Date:

To  
Manager (C&M),  
HURL Admin Building Office,  
Hindustan Urvarak & Rasayan Limited, Barauni,  
(A JV of CIL, NTPC, IOCL, FCIL & HFCL)  
P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.  
Sub:

Bidding Doc. No.

Dear Sir,

I, Mr. .... (CEO of the company / MD of the company/ Authorized Signatory), hereby certify that the data and documents furnished by M/s..... in respect of Techno-Commercial Evaluation are true and correct including the contents thereof.

I further, confirm that if at any point of time the declarations given in bid are found to be incorrect, HURL shall have the full right to terminate the contract and take any action as per provisions of contract including forfeiture of EMD/Security Deposit.

Yours faithfully,  
(Signature)

Date Name & Designation.....

Place Name of the Company.....

(Seal of Company) .....

**(FORM OF ACCEPTANCE OF FRAUD PREVENTION POLICY OF HURL)****(To be submitted on the Letter Head of the Bidder duly signed by Authorized Signatory)**

Ref. :

Date:

To  
 Manager (C&M),  
 HURL Admin Building Office,  
 Hindustan Urvarak & Rasayan Limited, Barauni,  
 (A JV of CIL, NTPC, IOCL, FCIL & HFCL)  
 P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.

Sub: **FORM OF ACCEPTANCE OF FRAUD PREVENTION POLICY OF HURL**

Bidding Doc. No.

We have read the contents of the Fraud Prevention Policy of HURL displayed on its website <http://www.hurl.net.in> and undertake that we shall strictly abide by the provisions of the said Fraud Prevention Policy of HURL.

-----  
 Date : (Signature of Authorized Signatory) .....

Place : (Printed Name) .....

(Designation).....

(Company Seal) .....

**Model Certificate For Tenders For Works involving possibility of sub-contracting**  
**(TO BE SUBMITTED BY AUTHORISED SIGNATORY OF THE BIDDING COMPANY ON BIDDERS**  
**LETTER HEAD IN ORIGINAL)**

**Bid Ref No. : .....**

Bidder's Name and Address:

To,  
 Manager (C&M),  
 HURL Admin Building Office,  
 Hindustan Urvarak & Rasayan Limited, Barauni,  
 (A JV of CIL, NTPC, IOCL, FCIL & HFCL)  
 P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.

**Dear Sir,**

We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries as per the guidelines dated 23.07.2020 & 24.07.2020 issued by Department of Expenditure (DOE), Ministry of Finance; We hereby certify that we/our collaborator/ JV partner/ Consortium member/ Assignee is not from such a country and are eligible to be considered. We further certify that we will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. We hereby certify that we fulfill all the requirements in this regard.

Yours faithfully,

(Signature)

Date

Place

Name & Designation.....

Name of the Company.....

(Seal of Company) .....

Note: - Bidders not furnishing this aforesaid declaration shall be considered to be from such Countries.

**Bid Security Form****Bank Guarantee**

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

Bank Guarantee No...

Date...

To:

Manager (C&M),  
HURL Admin Building Office,  
Hindustan Urvarak & Rasayan Limited, Barauni,  
(A JV of CIL, NTPC, IOCL, FCIL & HFCL)  
P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.  
Dear Sirs,

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

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 up to ... .(@).....

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.

Notwithstanding anything contained herein:

1. Our liability under this bank guarantee shall not exceed [Bid security amount]
2. This bank guarantee shall be valid up to [expiry date]

3. We are liable to pay the guaranteed amount or any part under this bank guarantee only and only if you serve upon us a written claim or demand on or before [claim expiry date of guarantee]”.

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

(Signature)  
(Name)  
(Designation with Bank Stamp)

Authorized Vide Power of Attorney No...

Date...

NOTE:

1. (\*) The amount shall be as specified in the Bid Data Sheets.  
(\*\*) This shall be the date of opening of Techno-commercial bids.  
(#) Complete mailing address of the Head Office of the Bank to be given.  
(@) This date shall be forty-five (45) days after the last date of bid validity.
2. The Bank Guarantee shall be from a Bank as per relevant provisions of ITC clause of the Bidding Documents.
3. The Stamp Paper of appropriate value shall be purchased in the name of Bidder/Bank issuing the Guarantee.
4. While getting the Bank Guarantee issued, Bidders are required to ensure compliance to the points mentioned in relevant Form of Bank Guarantee Verification Check List enclosed in Section-VII of bidding document. Further, Bidders are required to fill up this Form and enclose the same with the Bank Guarantee.
5. HURL Bank details required for the purpose of issuance of Bank Guarantee are

Bank: SBI  
Current account no 41288344914,  
IFSC Code- SBIN0004803.



**Performance Security Form**

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

Bank Guarantee No.....

Date.....

To,

Manager (C&M),  
HURL Admin Building Office,  
Hindustan Urvarak & Rasayan Limited, Barauni,  
(A JV of CIL, NTPC, IOCL, FCIL & HFCL)  
P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.

Dear Sirs,

In consideration of the .....[*Owner's Name*]..... (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 .....[*Bidder's Name*]..... with its Registered /Head Office at ..... (hereinafter referred to as the 'Bidder', 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 Notification of Award No. .... dated..... and the same having been unequivocally accepted by the Bidder, resulting into a Contract bearing No..... dated ..... valued at ..... for ..... and the Bidder having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to .....(\*).....% ( ..... percent) of the said value of the Contract to the Owner.

We .....[*Name & Address 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, on demand any and all monies payable by the Bidder to the extent of .....(\*)..... as aforesaid at any time up to .....(@)..... [*days/month/year*] without any demur, reservation, contest, recourse or protest and/or without any reference to the Bidder. Any such demand made by the Owner on the Bank shall be conclusive and binding notwithstanding any difference between the Owner and the Bidder 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 be enforceable till ninety (90) days after expiry of its validity.

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 Bidder. 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 Bidder, 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 Bidder 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 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 Bidder and notwithstanding any security or other guarantee that the Owner may have in relation to the Bidder's liabilities.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted 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 .....[Bidder's Name]..... on whose behalf this guarantee has been given.

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

**WITNESS :**

.....	(Signature).....
(Signature)	
.....	
(Name)	(Name).....
.....	.....
(Official Address)	(Designation with Bank Stamp)

Attorney as per Power  
of Attorney No.....  
Dated.....

**Notes :** 1. (\*) This sum shall be ten percent (10%) of the Contract Price (Including GST).

(@) This date will be ninety (90) days beyond the completion date for work/Defect Liability period as specified in the Contract.

2.The stamp papers of appropriate value shall be purchased in the name of guarantee issuing Bank.

3.While getting the Bank Guarantee issued, the Bidder is required to ensure compliance to the points mentioned in relevant Form of Bank Guarantee Verification Check List. Further, the Bidder is required to fill up this Form and enclose the same with the Bank Guarantee.

4.The Bank Guarantee shall be from any Scheduled / Commercial Bank recognized by Reserve Bank of India.

**BANK GUARANTEE VERIFICATION CHECKLIST**

1. Bank Guarantee No.
2. Issuing Bank
3. Amount of BG
4. Nature of BG & No. Pages
5. Validity of BG
6. Package Description
7. Party & Contracts Ref.
8. Bank Reference

**CHECK LIST**

S.No.	Details of Checks	Yes/No
a)	Is the BG on non-judicial stamp paper of appropriate value, as per Stamp Act?	
b)	Whether date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of stamp paper under the Signature of Stamp vendor? (The date of purchase of stamp paper should be not later than the date of execution of BG and the stamp paper should be purchased either in the name of the executing Bank or the Bidder on whose behalf the BG has been issued).	
c)	In case the BGs from Banks abroad, has the BG been executed on Letter Head of the Bank, whether adhesive Stamp of appropriate value has been affixed thereon.	
d)	Has the executing Officer of BG indicated his name, designation and Power of Attorney No. / Signing Power No. etc. on the BG?	
e)	Is each page of BG duly signed/initiated by executant and whether stamp of Bank is affixed thereon? Whether the last page is signed with full particulars including two witness under seal of Bank as required in the prescribed proforma?	
f)	Does the Bank Guarantees compare	

verbatim with the Proforma prescribed  
in the Bid Documents?

g) In case of any changes in contents of text,  
whether changes are of minor/clerical nature  
(which in no way limits the right of HURL in  
any manner)?

h) In case of deviations in text of BG, which materially  
affect the right of Owner, whether the changes  
have been agreed based on the opinion by  
Legal Department or BG is considered acceptable  
on the basis of opinion of Law Department already  
available on the similar issue.

i) Are the factual details such as Bid  
Document No./Specification No. /  
NOA / LOA / Contract No., Contract  
Price, Percentage of Advance, Amount  
of BG and Validity of BG correctly  
mentioned in the BG?

j) Whether overwriting / cutting if any on  
the BG have been properly authenticated  
under signature & seal of executant?

k) Whether the BG has been issued by  
a Bank in line with the provisions of  
Bidding / Contract Documents?

l) In case BG has been issued by a Bank  
other than Scheduled / Commercial Bank  
recognized by Reserve Bank of India,  
is the BG confirmed by a Bank in India  
acceptable as per Bidding /  
Contract Documents?

-----  
Date : Signature.....

Place :

Printed Name of Authorized Person having Power of Attorney.

(Designation) .....

(Common Seal) .....

**Note:** The Bidder is required to fill up this form and enclose along with the Bank guarantee.

**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 *[country of Owner]* 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 *[country of Contractor]* 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 following documents shall constitute the Contract between the Owner and the Contractor,  
and each shall be read and construed as an integral part of the Contract:

- a) This Contract Agreement and the Appendices hereto
- b) Letter of Award .. Ref. No
- c) Amendment to the NIT document.
- d) Instruction to Bidders
- e) Special Conditions of Contract
- f) General Conditions of Contract
- g) Technical Specifications and Drawings
- (f) The Bid and Price Schedules submitted by the Bidder

**1.2 Order of Precedence**

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1(Contract Documents) 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 aggregate of: *[amount of foreign currency in words]*, *[amount in figures]*, and *[amount of local currency 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, imp leader 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**

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 Bidder 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 Bidder

[Signature]

[Title]

in the presence of \_\_\_\_\_

CONTRACT AGREEMENT

dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

BETWEEN

["the Owner"]

and

["the Bidder"]

# TENDER QUALIFICATION FORM

## (MUST BE FILLED)

THE TENDER SHALL NOT BE EVALUATED IF THE FORM IS NOT FILLED. UDIN AND PURCHASE ORDER DETAILS SHOULD BE CLEARLY MENTIONED. ONLY ORDERS MENTIONED IN THE FORM SHALL BE EVALUATED AND OTHER ORDERS MAY NOT BE EVALUATED EVEN IF THEY ARE ATTACHED. HURL RESERVES THE RIGHT TO REJECT THE BID IF THIS FORM IS NOT FILLED.

To,

HURL Barauni, Begusarai , Bihar – 851115

Tender No. :

Bidder's Name :

In order to meet the PQC and qualification criteria of the subject tender, we submit the below supporting documents:

In order to meet the PQC of above tender No, we submit below supporting documents:					
Details of Annual Turnover (ATO)		FY	UDIN No.		Turn over (INR)
Annual Turnover during		2021-22			
Annual Turnover during		2022-23			
Annual Turnover during		2023-24			
Annual Turnover during		2024-25			
Average ATO for the Preceding 3 Financial Years					
Sl.	Description of items	PO No.	PO Date	PO value in INR	Actual Supplied value in INR
1					
2					
3					
4					
5					
6					
7					



8					
9					
10					

VERY IMPORTANT:

**Note to Annexure -12:**

1. Bidders shall clearly mention the details in above table in line with the supporting documents and any vague reply like “attached” / “as per supporting” etc. written in above **form such bids shall be liable to reject**. NO CLAIMS SHALL BE ENTERTAINED IF THE DATA IS NOT FILLED PROPERLY AS MENTIONED IN ANNEXURE -12.
2. Bidders must submit all requisite documents mentioned above in support of their meeting the PQC requirement.
3. **Bidders can submit a maximum of 10 Purchase orders with their completion certificates** and the details of the same should be clearly mentioned in the annexure -12. The bidder shall be obligated to furnish an amended copy of the work order in the event that the executed value specified in the completion certificate surpasses the original order value. Failure to comply with this requirement shall grant HURL the right to disqualify the order, and no claims shall be entertained with respect to such occurrences.
4. No work order copies other than mentioned above will be accepted for PQC, technical and financial evaluation at the stage of tender evaluation and shortfall query/clarification. HURL Reserves the right to reject the bid if the document
5. The shortfall shall only be raised for the attached orders. If the bidders fail to attach the purchase orders even after filling out the data in Annexure-12, HURL reserves the right to reject them, and no shortfall may be raised for such instances. Additionally, no claims from the bidders shall be entertained in such cases.

Yours Faithfully,

(Signature of the Bidder with Official Seal)

**Bid Security Declaration Form****(On Bidders Letter Head)**

To,  
 Manager (C&M),  
 HURL Admin Building Office,  
 Hindustan Urvarak & Rasayan Limited, Barauni,  
 (A JV of CIL, NTPC, IOCL, FCIL & HFCL)  
 P.O: Barauni, Distt: Begusarai (Bihar), Pin: 851115.

**Sub:** Bid Security Declaration Form

Tender Reference No: -

Name of Tender/Work: -

Dear Sir,

I/We. The undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.
2. I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We:
  - a. have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
  - b. Having been notified of the acceptance of our Bid by the purchaser during the period of Bid Validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.
3. I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) if I am/ we are not the successful bidder, the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid or any extension thereof.

Signed:

(Insert signature of person whose name and capacity are shown)

in the capacity of

(Insert legal capacity of person signing the Bid Securing Declaration)

Name:

(Insert complete name of person signing the Bid Securing Declaration)

Dated on .....day of .....(Insert date of signing)

Corporate Seal (where appropriate)

Note: To Be signed by person who is legally authorised as assigned in Power of Attorney. In case of a Joint venture, the Bid securing declaration must be in the name of all partners to the joint venture that submits the bid.

**Self-Certification under Preference to “MAKE IN INDIA” Policy**

**CERTIFICATE**

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017, as amended from time to time and as applicable on the date of submission of tender, we hereby certify that we M/s\_\_\_\_\_ (supplier name) are local supplier meeting the requirement of minimum Local content (50%) as defined in above orders for the material against Tender

No \_\_\_\_\_

Details of location at which local value addition will be made is as follows:

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We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rule for which for which a bidder or its successors can be debarred for up two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law. Seal and Signature of Authorized Signatory.

Seal and Signature of Authorized Signatory

**DECLARATION OF GST NON-ENROLMENT**

Dear Sir/Madam,

**Sub:** Declaration of non-requirement of registration under the Central/State/UT/Integrated Goods and Services Tax Act, 2017

I/We..... (Name of the service provider/business entity), do hereby declare that I/we am/are not registered under the Goods and Services Tax Act, 2017 as (select and fill below for the relevant reason)

-I/We deal in/supply the category of goods or services ..... (Describe the nature of the services/goods) which are exempted under the Goods and Service Tax Act, 2017.

-I/We have the annual aggregate turnover below the taxable limit as specified under the Goods and Services Tax Act, 2017.

-I/We are yet to register ourselves under the Goods and Services Tax Act, 2017.

I/We hereby also confirm that if anytime during any financial year I/we decide or require or become liable to register under the GST, I/we undertake to provide all the requisite documents and information.

I/We request you to consider this communication as a declaration for not requiring to be registered under the Goods and Service Tax Act, 2017.

I/We hereby also confirm that ..... (Name of the service recipient) shall not be liable for any loss accrued to me/us, due to any registration default with the GST.

Signature of Authorised Signatory:

Name of the Authorised Signatory:

Name of Business:

Date:

Stamp/Seal of the business entity:

**DECLARATION REGARDING GST  
(To be given on Company Letter Head)**

Date:

To,

Sub: Declaration Regarding GST

Tender Reference No:

Name of Tender / Work: -

Dear Sir,

We hereby submit following declaration with respect to the applicability of GST.

☐ GST (Goods and Service Tax) on transportation activity being under reverse charge mechanism (RCM) shall be deposited by HURL.

☐ GST shall be Charged by the bidder @ \_\_\_\_\_% will be reimbursed by HURL.

*(Please tick in the applicable Box for GST)*

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

Note: -

If the bidder quotes Zero "0" in the Applicable GST rate in the declaration OR doesn't submit the declaration then the GST amount would be deemed to be included in the per unit rate quoted by the bidder in the BOQ.

**PROFORMA OF "NO DEMAND CERTIFICATE" BY CONTRACTOR**  
**(TO BE ISSUED BY THE CONTRACTOR)**

**NAME OF PACKAGE:**

**NAME OF CONTRACTOR:**

**LETTER OF AWARD/ NOA/ CONTRACT NO.:**

**DATED:**

We, M/s ..... (Contractor) do hereby acknowledge and confirm that we have received the full and final payment due and payable to us from HURL (Owner) in respect of our aforesaid LOA/ NOA/ Contract No..... dated ..... including amendments, if any, issued by HURL, to our entire satisfaction and we further confirm that we have no claim whatsoever pending with HURL under the said Contract.

Notwithstanding any protest recorded by us in any correspondence, document, measurement books, and/or final bills etc., we waive all our rights to lodge any claim or protest in future under this contract.

We are issuing this "NO DEMAND CERTIFICATE" in favour of HURL with full knowledge and with our free consent without any undue influence, misrepresentation, coercion, duress, etc.

Date .....

Place .....

Signature .....

Name .....

Designation .....

(Company Common Seal)

**(This certificate shall be accompanied by the Power of attorney of the signatory)**